

Smith-Kem Site

Remedial Investigation Work Plan



Prepared for

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LIMITATIONS

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The interpretations and conclusions contained in this report are based in part on site characterization data collected by others and provided by (GHD, Foster Pepper PLLC, and Shell Oil Products US). Floyd|Snider cannot assure the accuracy of this information.

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List of Acronyms and Abbreviations

Acronym/ Abbreviation	Definition
2,4-D	2,4-Dichlorophenoxyacetic
AO	Agreed Order
AOPC	Area of potential concern
ARAR	Applicable or Relevant and Appropriate Requirement
AST	Aboveground storage tank
bgs	Below ground surface
BNSF	BNSF Railway
BTEX	Benzene, toluene, ethylbenzene, and xylenes
COC	Constituent of concern
COPC	Constituent of potential concern
cPAH	Carcinogenic polycyclic aromatic hydrocarbon
CPM	Cleanup Project Manager
CRA	Conestoga-Rovers & Associates

Acronym/ Abbreviation	Definition
CSM	Conceptual Site Model
CUL	Cleanup level
DDT	Dichlorodiphenyltrichloroethane
Ecology	Washington State Department of Ecology
EIM	Environmental Information Management
FS	Feasibility Study
HASP	Health and Safety Plan
LOQ	Limit of quantitation
McGregor	McGregor Company
MTCA	Model Toxics Control Act
NPRR	Northern Pacific Railroad
PID	Photoionization detector
PLP	Potentially liable person
PQL	Practical quantitation limit
QAPP	Quality Assurance Project Plan
RI	Remedial Investigation
Sage	Sage Earth Sciences, Inc.
SAP	Sampling and Analysis Plan
SEPA	State Environmental Policy Act
SHA	Site Hazard Assessment
Shell	Shell Oil Company
Smith-Kem	Smith-Kem Ellensburg, Inc.
TPH	Total petroleum hydrocarbons
TPH-D	Diesel-range total petroleum hydrocarbons
TPH-G	Gasoline-range total petroleum hydrocarbons
TPH-O	Oil-range total petroleum hydrocarbons
USEPA	U.S. Environmental Protection Agency
UST	Underground storage tank
VCP	Voluntary Cleanup Program
WAC	Washington Administrative Code
Work Plan	Remedial Investigation Work Plan

1.0 Introduction

1.1 BACKGROUND AND OVERVIEW

This document presents the Remedial Investigation (RI) Work Plan (Work Plan) for the Smith-Kem Ellensburg Site (the Site) located at 200 South Railroad Avenue in Ellensburg, Washington (Figure 1.1 and Figure 1.2). The Site is defined by the Model Toxics Control Act (MTCA), Chapter 173-340 Washington Administrative Code (WAC). In this document, the word “Site” is generally used to refer to the area under investigation. It is an objective of the RI/Feasibility Study (FS) to determine the extent of contamination, which will define the “Site,” per the MTCA definition.

Beginning in the mid-1920s, Shell Oil Company (Shell) operated a bulk fuel facility on a portion of the property and continued operations until the early 1970s. In 1948, Shell leased a portion of the property to James R. and Jean Smith, founders of and predecessors to Smith-Kem Ellensburg, Inc. (collectively Smith-Kem), a vendor of agricultural products. Shell sold the property to the Smiths in 1972 and Smith-Kem continued to conduct operations at the Site until March 31, 2015, when the McGregor Company (McGregor) acquired the business and continued operations on the Site.

Between 2007 and 2015, investigations were done by Belsaas & Smith Construction, Inc., Shell, and McGregor to assess whether total petroleum hydrocarbon (TPH) contamination and pesticides were present on-site. Results indicated that soil and groundwater were impacted by TPH, chlorinated pesticides, chlorinated herbicides, and ammonia.

Based on known contamination, Shell and Smith-Kem were named potentially liable persons (PLPs) and entered into an Agreed Order (AO; No. DE 12908) with the Washington State Department of Ecology (Ecology) on February 29, 2016 (Ecology 2016a). The AO Scope of Work requires the PLPs to prepare a RI Work Plan, conduct an RI and FS, and prepare a RI/FS Report in a manner that complies with the requirements of MTCA.

The objective of the RI/FS for this Site is to complete a comprehensive site-wide evaluation that will allow for recommendation of a cleanup alternative that meets MTCA criteria. The PLPs will collect additional data to complete a full characterization of the soil and groundwater at the Site, and will evaluate contaminant migration pathways. Applicable remedial technologies will be evaluated and coordinated to develop remedial alternatives, which will be evaluated against MTCA criteria in the FS phase of the project, and a preferred cleanup alternative will be identified in the RI/FS Report.

1.2 WORK PLAN PURPOSE AND ORGANIZATION

The purpose of this Work Plan is to document the scope, technical approach, and implementation details for completing the RI/FS. The Work Plan complies with MTCA requirements and incorporates existing information collected as part of previous environmental investigation

efforts at the Site. The Work Plan is a specific requirement of the AO between Smith-Kem, Shell, and Ecology. The Work Plan is organized as follows:

- **Section 2.0—Site Description.** Provides information on the location, ownership, historical and future land use, and physical setting of the Site; includes descriptions of local and regional geology, and groundwater use within the Site area.
- **Section 3.0—Summary of Prior Investigations and Known Environmental Site Conditions.** Presents a summary of previous environmental investigations that have occurred at the Site in chronological order and describes the current environmental site conditions based on those previous investigations.
- **Section 4.0—Preliminary Conceptual Site Model.** Presents the preliminary Conceptual Site Model (CSM) for the Site based on existing data, identifies the constituents of concern (COCs) and exposure pathways on the property.
- **Section 5.0—Preliminary Screening Levels and Applicable or Relevant and Appropriate Requirements.** Discusses the basis for selection of preliminary screening levels proposed for the RI and identifies the site-specific Applicable or Relevant and Appropriate Requirements (ARARs).
- **Section 6.0—Data Gaps and Sampling Plan Summary.** Details the approach for collecting supplemental data to fill data gaps in soil and groundwater at the Site, as identified in Section 5.0, and references additional project plans including the Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) in Appendix A, and Health and Safety Plan (HASP) in Appendix B.
- **Section 7.0—Remedial Investigation/Feasibility Study Reports.** Defines the specific tasks of the RI and FS reports that will be completed per MTCA requirements.
- **Section 8.0—Project Team and Responsibilities.** Identifies the project team members, including the technical consultant, subconsultants, and Site owner. This section presents the associated responsibilities for project team members throughout the RI/FS process.
- **Section 9.0—Schedule.** Presents the dates of performance or completion for significant RI/FS tasks in general accordance with the AO schedule.
- **Section 10.0—References.** Presents the sources cited in the Work Plan.

2.0 Site Description

2.1 LOCATION, OWNERSHIP, DEVELOPMENT, AND OPERATIONAL HISTORY

2.1.1 Site Ownership, Location, and Zoning

The Site is located at 200 South Railroad Avenue in Ellensburg, Washington (Figure 1.1 and 1.2). The Site is zoned as “Industrial Heavy” by Kittitas County and is approximately 2 acres in size. The Site is currently owned by Ad Gro, LLC. The Site is bounded by an industrial property to the north and to the south by various light-industrial and/or other commercial type businesses. A BNSF Railway (BNSF) rail yard is located to the east, and residential properties are located to the west of South Railroad Avenue.

2.1.2 Historical Ownership and Operations

The following paragraphs detail the development history and operations conducted at the Site. Figure 2.1 shows the historical site features from the 1928 and 1948 Sanborn maps and previous site investigations. Additional site features summarized below may not be shown on Figure 2.1 due to unknown conditions.

Development at the property began in 1926, when Shell operated a bulk oil facility until the early 1970s. At that time, there was a small warehouse building; two fire hydrants; two oil pumps; two aboveground storage tanks (ASTs) of an unknown volume for storing oil, which were located in a concrete base; and aboveground product lines that extended from the BNSF (formerly Northern Pacific Railroad [NPRR]) rail spur to the original warehouse building where fuel was offloaded. A third AST was installed at a later time; however, the dates are currently unknown. Historical Sanborn maps from 1928 and 1948 confirmed the warehouse building was used for bulk oil products storage in the northern half of the building and vehicle storage in the southern half of the building. Shell used three ASTs at the Site during their period of ownership.

From 1948 until 1972, Shell leased a portion of the property to Smith-Kem. Specifically, Smith-Kem leased a loading dock area on the east side of the warehouse building for its operations. Smith-Kem operated under the Shell brand during that time. The company began providing then-new anhydrous ammonia fertilizers, known as Shell NH₃, to local farmers as well as farmers in the Columbia Basin (Steward 1998).

During the 1950s, anhydrous ammonia tanks were shipped in on railroad cars and then handled manually during transfer at the Site. By the mid-1950s, Smith-Kem began offering residential spraying of lawns and fruit trees to customers in the region.

By the 1970s, Timothy hay (*Phleum pretense*) was an important crop in Kittitas County. New products were being developed as well as technology for the application of nitrogen to local farms. (Steward 1998).

According to Kittitas County historical tax assessor records, Shell sold the property, including all buildings and land improvements, to James R. and Jean Smith of Ellensburg, Washington, on November 30, 1972 (Kittitas County 2015).

Further development occurred on the property in 1976, when the tractor service and machine shop building, consisting of 8,000 square feet, was constructed along the northern property line. Prior to construction, equipment was stored outside and along the west side of the property. Also in 1976, Smith-Kem added its first computerized three-wheel rig with long spray booms to apply fertilizer and crop protection products. The high-flotation machines were used for widespread application. The fertilizer business shifted from performing mostly “wet” application (i.e., anhydrous ammonia) to performing more “dry” application (i.e., pelletized/granular products) starting in 1988. Fertilizer products were custom-mixed in a 5,000-square-foot building. The building was built in 1988 and is located south of the AST bulk tank containment area (Kittitas County 2015).

Between 1991 and 1992, NH₃ liquid product, was transported by truck to customers (Erickson 2016). In 1991, an advertisement was published in the Ellensburg Daily Record indicating that Smith-Kem provided custom seeding with starter fertilizer in the liquid or dry form. Products included Timothy hay, alfalfa, and clover (Smith-Kem 1991).

In April 2015, McGregor acquired portions of the business and continued operations on the Site. McGregor began leasing the property and its associated structures from Ad Gro, LLC on April 1, 2015, and is the current operator on the property. McGregor is currently operating under the name Smith-Kem, but it is a distinct and separate legal entity from the Smith-Kem named as a PLP in the AO.

2.1.3 Historical Operations and Site Use

2.1.3.1 Shell Bulk Oil Storage Operations

As summarized above, Shell operated a bulk fuel storage facility at the Site. Historical documentation suggests that Shell stored oil products (including diesel products) at the facility from 1926 until the early 1970s. Based on historical documentation, Shell’s operations consisted of transferring oil products to the original warehouse building and platforms from the BNSF (formerly NPPR) rail spur via above ground piping runs. The warehouse building and associated ASTs were used for storage of oil products. However, the exact procedure for handling and storage of product is unknown. It should also be noted that the original warehouse building was heated with oil (Kittitas County 2015). Limited available documentation indicate that gasoline may have been stored in ASTs or underground storage tanks (USTs), or used as part of Shell’s former operations. Kittitas Valley Fire and Rescue confirmed that the Fire Marshal’s office did not have any documentation of a gasoline UST being present at the Site. A summary of associated ASTs located on the Site during Shell operations are summarized in Section 2.1.3.4.

2.1.3.2 Pesticide and Herbicide Use and Operations

Chlorinated pesticides were used at the Site during the 1950s and 1960s. Dieldrin, a commonly used insecticide, was used to treat pea crops (Erickson 2016). Pesticide operations were a limited part of the business. Due to the expense associated with pesticide application and limited gross revenue for the business, only 1 to 2 percent of Smith-Kem's operations included the application of pesticides (Erickson 2016). The pesticide business was originally developed as a side venture by Smith-Kem's founders, James and Jean Smith, and included services such as residential spraying and fruit tree applications. These services were offered in the off-season when fertilizer operations were down (Erickson 2016). The full range of pesticides that may have been used is unknown.

From July 1989 until termination of its permit in September 2007, Smith-Kem was registered with the U.S. Environmental Protection Agency (USEPA) as a pesticide-producing establishment. USEPA stated that they issued a corrective action due to reporting violations. USEPA provided reporting forms from years 2004 through 2006, which indicated that Smith-Kem produced and distributed RT Master II and Roundup to customers. Both products are listed as herbicides in the documentation that USEPA provided to Floyd|Snider (Schulze 2016).

Other herbicide products may have been stored and distributed at the Site, in addition to RT Master II and Roundup, including 2,4-Dichlorophenoxyacetic acid (2,4-D), Banvel (dicamba) atrazine, and Blade X. Roundup was the main product line distributed to customers. Herbicides were mainly distributed to support the fertilizer operation at the Site (Erickson 2016).

There are no known adjuvants, solvents, or carriers that were added to pesticides or fertilizer formulations at the Site. The Site was not involved in converting raw products into a finished product or reformulating products, and typically the only modification to products was the addition of water. Adjuvants such as surfactants may have been present in the commercial products, but that would have been an addition made by the manufacturer.

In general, it will be difficult, and likely impossible, to recreate an accurate product list of all herbicides and pesticides that could have been sold on-site, given the duration and nature of the operations.

2.1.3.3 Fertilizer Use and Operations

Smith-Kem began fertilizer operations sales in 1948 with gaseous ammonia and later transitioned to dry fertilizer in the 1980s. Liquid potash, sulfur, zinc, boron, and herbicides were bought directly from the manufacturer and then blended into fertilizer at the Site. Operations, such as dry storage and fertilizer blending, occurred in the "Smith-Kem Bulk Fertilizer" building that was constructed in 1988 (Figure 1.2). The type of fertilizer used at the Site included liquid nitrogen and a limited supply of Solution 32. After fertilizer product was blended, it was loaded into transfer tanks on the beds of trucks to be delivered and applied on agricultural fields. Smith-Kem operated two or three trucks with a single tank, and another two or three trucks with double tanks.

In approximately 1948, pressurized anhydrous ammonia in gas form was shipped via railcar and transferred to a 21,000-gallon AST located on the Site. In the early 1980s, a significant pressurized anhydrous ammonia leak resulted in local evacuations, but no citations were issued for the release.

Since 1988, a designated paved wash area has been in place on the west side of the fertilizer building to collect rinse water, which is later recycled for reapplication to agricultural fields. A polyethylene tank was installed on a cement apron located between the fertilizer building and the scale area for this purpose.

2.1.3.4 ASTs and USTs Associated with Bulk Oil and Fertilizer Plant Operations

Shell originally installed one 12,000-gallon and two 25,000-gallon mild steel ASTs for the storage of diesel fuel (refer to Figure 2.1). A former pump house, located south of the office building, transferred fuel directly from railcars to the ASTs. Once Shell's operations ceased in the early 1970s, Smith-Kem re-purposed the 12,000-gallon AST and one of the 25,000-gallon ASTs for the storage of fertilizer products. In the late 1980s, the steel tanks were replaced with tanks made of fiberglass. Kittitas Valley Fire and Rescue indicated that no spills of hazardous materials had been reported to the Fire Marshal's office for the Site. Fire and Rescue also stated that they have inspection records from 1955 indicating that two 25,000-gallon AST fuel tanks and one 12,000-gallon AST fuel tank were in use (Seemiller 2016).

One 500- to 600-gallon UST was formerly located near the southwestern corner of the office building (the exact location is unknown) and used for the storage of white gas and later for zinc chelates. The tank was decommissioned and removed in the late 1970s.

As the fertilizer operation expanded in the late 1970s to early 1980s, and to comply with Washington State Department of Agriculture and insurance requirements, a 70-foot by 90-foot concrete secondary containment was constructed around the fertilizer tank farm located north of the fertilizer building. Six ASTs containing fertilizer products, an 8,000-gallon diesel AST, and a 2,000-gallon gasoline AST, were also located within the containment area. The diesel and gasoline ASTs were used for refueling equipment (Erickson 2016). These were installed after or concurrent with the secondary containment structure installation.

In February 1995, Smith-Kem submitted a notice of environmental checklist to the City of Ellensburg to install a 21,000-gallon anhydrous ammonia AST at the Site. On February 24, 1995, the City of Ellensburg determined that the proposal would not have a probable significant adverse impact on the environment. A determination of non-significance under the State Environmental Policy Act (SEPA) was subsequently issued by the City of Ellensburg. The tank was used until approximately 2010 and was then removed and sold.

2.1.4 Adjacent Properties

From the 1920s to the 1970s, other companies in support of agriculture and the timber industry were located along the BNSF (formerly NPRR) rail yard corridor. In the 1950s and 1960s, the Ellensburg Lumber Company's planing and saw mill and a former feed and seed warehouse used

for growing seed were located east of the Site across the BNSF (formerly NRR) rail yard. Currently, these properties are occupied by Fred Meyer and a co-op yard. Based on review of Sanborn maps from 1928 and 1948, many other hay, grain, and feed companies, whose operations included loading/offloading areas for hay and grain silos, were located to the north and south along the BNSF (former NRR) rail yard corridor.

From the early period of development at the Site until the late 1960s, much of the properties immediately to the north and east were either vacant and/or developed for residential use. The north adjacent property has remained vacant since early development at the Site. With the exception of a few light industrial businesses developed in the 1980s, these properties to the north are currently used for residential purposes. Residential properties and South Railroad Avenue are present to the west of the Site. To the east of the Site it is primarily commercial. The 2009 City of Ellensburg official zoning map indicates that the land use designation of the property to the west is residential suburban.

The southern properties were developed in the 1960s. In the 1960s and 1970s, C & H Transfer Transportation & Fuel, and later Ellensburg Furniture Transfer Company Warehouse, was located at 204 South Railroad Avenue. Ellensburg Refrigeration and Heating was formerly located at 212 South Railroad Avenue. The south adjacent property at 212 South Railroad Avenue is currently occupied by Habitat for Humanity. The property located south of Habitat for Humanity at 220 South Railroad Avenue has been used as a diesel service truck repair shop since the 1970s until today.

2.2 PHYSICAL SETTING

The Site is located in Ellensburg, Washington within the NE quarter of the SW quarter, Section 02, Township 17 North, Range 18 East, of the Willamette Meridian. The Site surface is covered with compacted gravel. The Site surface is relatively flat and the approximate Site elevation is approximately 1,500 feet above mean sea level. The general topography of the area slopes slightly toward the south. The nearest bodies of surface water include Mercer Creek, located approximately 450 feet to the west of the Site, and Wilson Creek, located approximated 200 feet southeast of the Site.

2.2.1 Geology

The Site is located in the Kittitas Valley, in the eastern foothills of the Cascade Mountains. The geology in the vicinity of the Site is characterized by Quaternary valley-fill deposits of glacial drift, alluvial sediments, and loess up to 1,000 feet thick overlying Columbia River basalt flows and older bedrock.

Soils borings advanced on the Site and in the vicinity have encountered shallow soils consisting of unconsolidated gravel and cobbles with varying amounts of sand and silt. Driller's water well logs from the general Ellensburg area typically encountered gravel, often cemented, at depths ranging from 15 to 30 feet below ground surface (bgs), and, in some logs, note a hard clay or basalt underlying the cemented gravel.

2.2.2 Hydrogeology

Shallow groundwater occurs in the vicinity of the Site as an unconfined aquifer within the unconsolidated gravel soils, at depths of 1 to 10 feet bgs; shallow groundwater at the Site was encountered at depths of 4 to 6 feet bgs during previous investigations. The depth of the underlying gravel aquifer used locally for domestic water supplies is not known but well logs suggest that it is deeper than 100 feet bgs. The general groundwater flow direction in the vicinity is presumed to be to the southwest, toward the Yakima River, and was established by Conestoga-Rovers & Associates (CRA) in previous investigations. According to Ecology's Environmental Information Management (EIM) database, there is one domestic well located approximately 0.75 miles to the south of the Site. The Site is located approximately 0.9 miles to the northeast of the Yakima River, which receives water from both Mercer and Wilson Creeks, located adjacent to the Site.

Shallow groundwater at the Site is recharged from surface water infiltration via the unpaved ground surface. Historically, surface water used for irrigation was conveyed through a ditch located to the east of the Site; this irrigation ditch caused periodic flooding, as did a Mercer Creek culvert crossing onto the property. The irrigation ditch take-out at Mercer Creek was formally removed by the City of Ellensburg. When the City of Ellensburg replaced the street crossing of Mercer Creek with a bridge and removed the culvert under the road, flooding from Mercer Creek stopped entirely.

The portion of the historical ditch to the east of the property was abandoned and backfilled and no longer carries irrigation water. A culvert now exists just south of the property and in-line with the historical irrigation ditch. This culvert does not drain surface water from the property but appears to collect water from an off-property feeder culvert to the west. The main culvert discharges to Wilson Creek, approximately 125 feet to the south of where the culvert originates.

Historically, there was a ditch that ran north to south on the western side of Railroad Avenue, but it was filled in sometime prior to the 1970s.

3.0 Summary of Prior Investigations and Known Environmental Site Conditions

3.1 ENVIRONMENTAL INVESTIGATIONS

Prior environmental investigations in the area are summarized in this section based on a review of available records (Appendix C). Boring and well locations from prior investigations are shown on Figure 3.1. The current environmental condition of the Site and surrounding area is summarized in Section 3.2 based on the results of these previous investigations.

3.1.1 Sage Earth Sciences, Inc.

In 2007, Sage Earth Sciences, Inc. (Sage) performed a Limited Site Characterization to assess petroleum hydrocarbons in soil and groundwater adjacent to the AST system located at the Site. Fourteen test pits were excavated on June 11 and July 2, 2007. Their report, dated June 26, 2007, indicated that soil and groundwater were impacted by diesel at concentrations that exceeded the MTCA Method A cleanup levels (CULs) in soil and groundwater. Sage concluded that petroleum-impacted soil appeared to be limited to the vicinity of the ASTs. However, the extent of petroleum-impacted soil had not been determined. Sage indicated that petroleum-impacted groundwater appeared to extend from the area of the ASTs to the east and northeast (Sage 2007).

On July 2, 2007, Ecology was notified of a release or potential release of petroleum products at the Site. Presumably, this notification was related to the discovery of petroleum in the subsurface, and not a specific release event. Ecology subsequently reviewed the Sage *Limited Site Characterization Report* in March 2008. On May 29, 2008, Ecology Site Manager Richard Bassett conducted a Site visit. Ecology concluded that additional investigation was required to assess other potential hazardous substances, including pesticides (Ecology 2008a). Following the initial site visit, Ecology issued an Early Notice Letter to Smith-Kem (Ecology 2008a). Ecology recommended that soil and groundwater in and surrounding the Site be fully characterized and a report be compiled documenting the contamination history of the Site and soil and groundwater analytical results to be submitted to Ecology either through the Voluntary Cleanup Program (VCP) or under an AO (Ecology 2008a). On August 13, 2008, a Site Hazard Assessment (SHA) ranking of “3” was assigned to the Site by Ecology (Ecology 2008b).

On May 10, 2013, Ecology notified Smith-Kem and Ad Gro, LLC of a determination of PLP status for the Site. On October 31, 2014, Ad Gro, LLC was notified as having potential liability under MTCA for the release of a hazardous substance at the Site.

3.1.2 Conestoga-Rovers & Associates

On November 15, 2012, Ecology received notification from CRA on behalf of Shell accepting responsibility as a PLP for the TPH release that occurred in association with historical bulk fuel operations (CRA 2014).

In June 2013, CRA performed a site investigation for the purpose of further assessing soil and groundwater conditions, as reported by Sage in 2007. CRA completed soil borings and installed temporary monitoring wells to define the historical release of contaminants related to the Bulk Fuel plant in soil and groundwater (CRA 2014).

Concentrations of gasoline-range TPH (TPH-G) in soil collected from boring locations SB-6 and SB-11 exceeded the MTCA Method A CUL. Based on review of the data, CRA concluded that the majority of diesel- and heavy-oil impacted soil was also located on the eastern side of the property from the location of the former above ground piping run to the rail. Additionally, TPH was detected in groundwater samples collected from the central and northern portion of the Site (CRA 2014).

Between September and October 2013, CRA completed an additional investigation focused on the TPH releases. Eight soil borings were completed as monitoring wells to further assess impacts to groundwater (MW-1 to MW-8). Of the 16 soil samples analyzed, only 2 contained concentrations exceeding MTCA Method A CULs in soil. Soil collected from MW-1 at 2 feet bgs contained carcinogenic polycyclic aromatic hydrocarbons (cPAHs) concentrations exceeding the MTCA Method A CUL, and soil collected from MW-5 at 5 feet bgs contained TPH-G concentrations exceeding the MTCA Method A CULs. All other concentrations were either less than laboratory reporting limits or less than MTCA Method A CULs. Groundwater from monitoring wells MW-4 and MW-6 contained concentrations of TPH-D greater than the MTCA Method A CUL during November 2013 and March 2014. CRA noted that concentrations of TPH-D were less than MTCA Method A CULs in all wells in May and August 2014 (CRA 2014). CRA established the gradient to be to the southwest.

3.1.3 Fulcrum Environmental and Nth Degree

As reported in the AO, in 2014, Smith-Kem consultants, “Fulcrum Environmental and Nth Degree (Fulcrum), collected groundwater samples from the existing network of eight monitoring wells to investigate the presence and distribution of pesticide contamination in groundwater. A report dated August 4, 2014, indicated that groundwater samples from five of the eight wells (i.e., MW-1, MW-4, MW-6, MW-7, and MW-8) showed detections of G-BHC (lindane), chlordane, endrin, endosulfan II, endrin aldehyde, and dieldrin” (Ecology 2016a).

3.1.4 Landau & Associates

In April 2015, additional groundwater sampling was performed by Landau & Associates on behalf of McGregor. Groundwater sampling and chemical analysis were completed to document the current constituents of potential concern (COPCs) in groundwater to establish a baseline concurrent with the start of McGregor operations at the Site, and to provide groundwater data for comparison with the data previously collected in 2013 and 2014. The sampling identified the presence of diesel-range TPH (TPH-D), chlordane, dieldrin, and toxaphene at concentrations greater than their respective MTCA Method A or Method B CULs in monitoring wells MW-1, MW-4, MW-6, MW-7, and MW-8. Oil-range TPH (TPH-O), nitrate, lindane, 2,4-D, dinoseb, and

dicamba were also detected in groundwater, but only nitrate and 2,4-D were detected at concentrations greater than their respective MTCA Method B CULs (Landau 2015).

3.1.5 Washington State Department of Ecology

On August 18, 2015, John Mefford of Ecology conducted a Site visit and observed a surface depression adjacent to monitoring well MW-4. MW-4 was the location of McGregor's groundwater samples that had concentrations of TPH-D, chlordane, dieldrin, toxaphene, 2,4-D, and nitrate that exceeded the MTCA Method A and B CULs (Ecology 2016a).

3.2 KNOWN ENVIRONMENTAL SITE CONDITIONS

Environmental conditions that have been documented based on previous investigations at the Site, as described in Section 3.1, are summarized in this section. This summary provides the basis for a preliminary CSM and identification of areas of potential concern (AOPCs) that underlie the planned data gaps investigation. AOPCs are shown on Figure 3.2 and defined in detail in Section 6.0.

3.2.1 Potential Pesticide/TPH Soil Source Area—AOPC 1

The potential soil source area is defined as in the vicinity of monitoring wells MW-4, MW-7, and MW-8. Previous investigations by CRA detected TPH-D greater than the MTCA Method A CUL at monitoring well MW-4, and groundwater monitoring conducted by Landau & Associates detected several herbicide and organochlorine pesticide concentrations greater than their respective MTCA Method B CULs at all three wells. These wells also had elevated concentrations of nitrates and ammonia. Monitoring well MW-4 is located outside the machine shop, and is in an area where equipment may have historically been cleaned or rinsed. Monitoring wells MW-7 and MW-8 are located in an area where petroleum and chemicals were historically transferred from rail cars.

3.2.2 Gasoline in MW-5/SB-6 Soil—AOPC 2

The CRA investigation also detected TPH-G at concentrations greater than the MTCA Method A CUL in soils collected from 5 feet bgs at monitoring well MW-5 and 7 feet bgs at soil boring SB-6. Both borings were advanced along the eastern property line, south of the former BNSF rail spur. TPH-D was also detected at concentrations less than the MTCA Method A CUL in soil collected from monitoring well MW-5. The extent of TPH-G in the area surrounding monitoring well MW-5 and soil boring SB-6 is unknown.

3.2.3 Office Building Area—AOPC 3

Previous investigations on the property also detected TPH-G in shallow soil under and around the office building located at the center of the Site, including at soils borings S1, S2, S4, and SB-11. TPH-D has also previously been detected in groundwater collected from MW-1 and MW-6. The current office building area was the site of petroleum product offloading and storage during previous operations. Agricultural chemicals were also reportedly offloaded and stored in this area

after operations were fully converted from fuel terminal operations. Soil and groundwater quality to the west of the office building area and soil quality to the southwest of the office building area in the presumed downgradient direction have not been fully assessed.

3.2.4 AST Area—AOPC 4

In the southern portion of the property, several current and former ASTs and associated pumps have been used to store and transfer fuels and agricultural chemicals. The test pit investigation conducted by Sage also encountered petroleum free product on groundwater at test pit TP-12 and a petroleum sheen on groundwater at test pit TP-1, both located adjacent to the containment and bulk ASTs. The soil and groundwater quality to the southeast of the AST area in the presumed downgradient direction have not been fully assessed.

3.2.5 Other Potential Sources of Contamination

In addition to the known areas of contamination described above, previous investigations and interviews with the Site and adjacent property owners have also identified current and former operational areas that have the potential to cause soil or groundwater contamination. Laboratory analytical data were not collected from these areas during prior investigations. AOPCs without prior data are discussed in the following sections.

3.2.5.1 Potential Former Wash Areas—AOPCs 5a and 5b

Two areas may have historically been used for equipment washing and/or testing of equipment. Potential former wash area #1, located near the southwest corner of the property, may have been used as a designated rinse area for equipment. Potential former wash area #2, located off the property to the northeast, was likely operated as a spray boom check and used water to rinse and clean the equipment. Soil quality for pesticides has not been assessed in either potential former wash area.

3.2.5.2 Machine Shop—AOPC 6

The machine shop located on the northern portion of the Site has a dry or blind sump that historically collected effluent from equipment repair and from snowmelt in winter if vehicles returned to the Site with residual snow. Soil quality in the area of the dry sump has not been evaluated.

3.2.5.3 Former Irrigation Ditch and Culverts—AOPC 7

Historically, an irrigation water conveyance ditch ran along the eastern property line and crossed beneath the rail spur south of monitoring well MW-4 via culverts. This ditch was abandoned and backfilled and no longer carries irrigation water. It is not known whether former Site operations could have contaminated the irrigation ditch sediments, or whether contaminated sediments could have been conveyed to the ditch during historical flooding events.

4.0 Preliminary Conceptual Site Model

The preliminary CSM developed for the Site is based on findings from previous site investigations and has been used to identify data gaps that will be discussed in Section 6.0. When these data gaps are filled and an updated comprehensive updated CSM is developed, the CSM will inform the selection of appropriate remedial actions for the Site.

4.1 PHYSICAL SETTING, GEOLOGY, AND HYDROGEOLOGY

The Site is located in the Yakima River basin, with groundwater presumed to flow to the southwest toward the Yakima River, based on observations by CRA. Shallow soils at the Site consist of highly permeable gravel and cobbles with minor and varying amounts of sand and silt. The ground surface is un-paved. Shallow groundwater at the Site is typically encountered at depths ranging from 4 to 6 feet bgs. The physical setting, geology, and hydrogeology of the Site is described in detail in Section 2.2.

4.2 HAZARDOUS SUBSTANCES

The primary known COPCs based on previous investigations at the Site are TPH-D, TPH-G, benzene, toluene, ethylbenzene, and xylenes (BTEX), organochlorine pesticides, chlorinated herbicides, nitrite, and ammonia. Based on the incomplete record of pesticide/fertilizer use, it is not possible to rule out any other classes of pesticides, herbicides, or insecticides as being COPCs. This includes a select group of metals, organochlorine pesticides, chlorinated herbicides, halogenated pesticides, organophosphate pesticides, organonitrogen pesticides, phenylurea herbicides, carbamate pesticides, and organophosphorus or organosulfur pesticides.

The methods chosen for pesticide/herbicide analyses (refer to Table A.3 of Appendix A) also include the predominant breakdown products that would be expected. For example, sum dichlorodiphenyltrichloroethanes (DDTs), dichlorodiphenyldichloroethylenes (DDEs), and dichlorodiphenyldichloroethanes (DDD), are breakdown products of DDT, heptachlor, and heptachlor epoxide.

Fumigants were not handled at the Site, with the exception of Vapam in the late 1970s and early 1980s. Vapam's active ingredient is sodium methyldithiocarbamate, which has a short environmental half-life. When applied it is in a liquid form, but is converted into a gaseous fumigant once applied to soils, and dissipates rapidly. Based on the time elapsed since its use on-site, it is not being analyzed.

4.3 IMPACTED MEDIA

Based on prior investigations, TPH-D, TPH-G, BTEX, and select pesticides are confirmed present in Site groundwater. In soil, TPH-D and TPH-G have been identified at COPCs. Table 4.1 identifies media in which COPCs are likely to be present. Some of the COPCs present a potential risk to future site use if structures are built over contaminated areas (i.e., indoor air).

**Table 4.1
Potentially Affected Media and Site Constituents of Potential Concern**

Constituents of Potential Concern	Media		
	Soil	Groundwater	Indoor Air (Future Potential Risk)
TPH-D	X	X	X
TPH-G/BTEX	X	X	X
TPH-O (hydraulic oil) ¹	X	X	X
Pesticides ²	X	X	Unlikely
Herbicides ²	X	X	Unlikely
Metals	X	X	Unlikely
Nitrate/Nitrite	X	X	Unlikely
Ammonia		X	Unlikely

Notes:

- 1 TPH-O will be analyzed due to the potential for hydraulic oil releases from equipment storage and/or line breaks.
- 2 The expanded list of pesticides and herbicides includes quantification of more than 100 compounds. The complete list is included in Appendix A (SAP/QAPP).

4.4 POTENTIAL EXPOSURE PATHWAYS AND RECEPTORS

Contamination is known or suspected to be present in soil and groundwater at the Site. Historical releases of contaminants to the ground surface or to the subsurface during historical site operations may have impacted soil, groundwater, or both, depending on the chemical properties of the released contaminant(s). Leaching from soil to groundwater may represent a continued source of contamination to groundwater, while transport of a contaminant plume in groundwater may cause new areas of soil to become impacted as contaminants sorb onto the soil.

The potential receptors to contamination in soil and groundwater on the Site include both human and ecological receptors. The Site is zoned industrial and the future use of the Site will be for industrial purposes. Therefore, current and future site workers are the primary receptors who could come into direct contact with contaminated soil. The highest beneficial use of the underlying aquifer is considered potable, and drinking water supply wells are installed in areas downgradient of the Site.

COPCs include some mobile or volatile compounds that may present a risk to other media if present in soil or groundwater at great enough concentrations. Initial data collection efforts for the RI/FS will focus on characterization of the nature and extent of soil and groundwater contamination. If mobile or volatile contaminants are present at elevated concentrations, pathways for the protection of other media (e.g., the soil-to-vapor and/or groundwater-to-vapor transport pathways) will also be considered as appropriate, consistent with WAC 173-340-720 and 173-340-730. The investigation described in this Work Plan is anticipated to provide sufficient data to evaluate potential ongoing pathways at the Site.

4.4.1 Primary Transport Pathways and Receptors

Based on current knowledge of the Site, the only exposure pathways that must be considered are listed below. Importantly, this list is not intended to be a determination of cleanup levels, but is relevant for determining screening levels and ensuring that laboratory analyses can meet the necessary detection limits.

- **Direct Contact with Soil by Residential/Industrial Workers.** The direct contact pathway includes consideration of three soil exposure types: dermal contact with soil, incidental ingestion, and inhalation of soil. The majority of the Site is unpaved, and industrial workers may come into contact with the soil within the upper 15 feet during the course of normal facility activities, including routine operations, maintenance activities at the Site, and facility upgrades that disturb the upper 15 feet of the soil column. Thus, MTCA Method C CULs are likely appropriate for the Site. However, MTCA Method B unrestricted land use CULs will also be used to screen and help determine COPCs. When applicable, natural background concentrations in soil will also be considered as screening levels.
- **Protection of Groundwater for Drinking Water Use.** The MTCA three-phase partitioning model (Equation 747-1) will be used to determine the soil concentration protective of groundwater for drinking water use. This model will be used to determine protective concentrations in saturated and unsaturated soil following the procedures in WAC 173-340-747(4). If soil is present at the Site at concentrations less than the applicable values calculated with Equation 747-1 for all contaminants, then soil is not expected to represent an ongoing source to groundwater.
- **Potable Groundwater-to-Drinking-Water Exposure Pathway.** The underlying aquifer is considered potable and potential receptors include adults and children who drink from wells that supply water from within the aquifer. The groundwater criteria will be based on the most protective criteria from among state and federal drinking water standards and MTCA Method B groundwater criteria.
- **Ecological Exposure.** Soil at the Site must be protective of wildlife receptors. If site data exceed the Wildlife criteria in WAC Table 749-3 for any COPCs, a Terrestrial Ecological Evaluation (TEE) will be conducted and summarized in the RI/FS. This evaluation will determine if there are potential threats to ecological receptors. For those hazardous substances where a value is not provided, methods to develop wildlife indicator concentrations, as described in WAC Tables 749-4 and 749-5, will be used.

5.0 Preliminary Screening Levels and Applicable or Relevant and Appropriate Requirements

5.1 APPROACH

Screening levels are an appropriately conservative concentration of a constituent in a particular media for a particular pathway of exposure. They may be based on ARARs or derived from the MTCA standard numerical calculations of risk. Screening levels are useful for several purposes, including establishing appropriate analytical detection limits for RI data analyses and evaluating COPCs to determine which constituents should be retained as COCs. Laboratory methods (presented in Appendix A) were chosen such that analytical practical quantitation limits (PQLs) for the samples collected during the RI should be set low enough to allow evaluation of the results relative to proposed screening levels. This section identifies the basis for choosing screening levels. Actual numerical values will be presented in the RI/FS report.

For some of the pesticide/herbicide analyses, the limit of quantitation (LOQ) that the laboratory can achieve using this method is slightly greater than the lowest proposed screening level in the indicated media (refer to Table A.3 of Appendix A). This is unavoidable due to the trade-off between analyzing for a longer list of analytes and a tightly focused list, which can allow the laboratory to lower LOQs. However, in some cases, these screening levels are not indicative of unacceptable risk to human health or environmental receptors. A majority of the soil screening levels that are less than the achievable LOQ in soil are based on the soil to protect groundwater pathway, which contains a variety of conservative assumptions and has not been tailored to account for site-specific conditions or exposures. The protectiveness of soil screening levels based on the soil to protect groundwater pathway is better evaluated using empirical groundwater data to evaluate whether a particular pesticide/herbicide occurs in groundwater. If the pesticide/herbicide is not present in groundwater at concentrations above the groundwater screening level, there is no evidence of increased risk to human health and environmental receptors even if the analyte is present in soil. Additionally, there is little to no historical evidence that most of these analytes were handled on-site; therefore, the laboratory's inability to achieve LOQs lower than some soil and groundwater screening levels is not expected to result in incomplete characterization of contamination present on site. As an added protection, if the laboratory sees indications of possible detections that are less than the LOQ during analysis (although Pacific Agricultural Laboratory would not routinely report these as detects), the laboratory will notify Floyd|Snider. This information can be incorporated into Phase 2 by targeting these select pesticides/herbicides for a potentially lower LOQ, as appropriate.

5.1.1 Groundwater Screening Levels

Groundwater screening levels are proposed at the lowest level that will accomplish the following:

- Protect human health from contaminated drinking water
- Protect indoor air quality (due to vapor intrusion)

5.1.2 Soil Screening Levels

Soil screening levels are proposed at the lowest level that will accomplish the following:

- Protect workers from direct contact with soil in the upper 15 feet bgs
- Protect groundwater from soil leaching at concentrations that exceed drinking water quality standards
- Protect indoor air quality (due to vapor intrusion)
- Protect wildlife ecological receptors

5.2 APPLICABLE OR RELEVANT REQUIREMENTS USED FOR SCREENING LEVEL DEVELOPMENT

Standards or guidance established under state or federal law that will be used in the development of screening levels for this Site include:

- Groundwater to Protect Drinking Water—WAC Section 173-340-720
- Soil Direct Contact—WAC Section 173-340-745
- Soil Leaching to Groundwater—WAC Section 173-340-747
- Soil and Groundwater Concentrations Protective of Indoor air—Ecology *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* (Ecology 2016b)

5.3 INDICATOR CONSTITUENTS OF CONCERN AND DRAFT CLEANUP LEVELS

Indicator COCs will be identified in the RI based on the frequency and concentrations of the detected constituents. Draft CULs will then be established for the COCs in soil and groundwater based on the standard MTCA procedures.

6.0 Data Gaps and Sampling Plan Summary

In this section, the available historical information and existing environmental conditions based on previous investigations presented earlier in this Work Plan are used to identify areas in which further investigation is needed. Data collection activities are proposed to remedy these data gaps. A summary of identified soil and groundwater data gaps is presented in Table 6.1.

The data gaps investigation will be completed in a phased approach, with data collected in the first Phase (i.e., Phase 1) used to further refine data gaps to be filled during the subsequent phases (i.e., Phase 2 and Phase 3).

6.1 SOIL SAMPLING APPROACH

Soil data needs and data collection plans are presented for both site-wide soil quality and focused AOPCs. Soil data will be collected during Phase 1 and Phases 2 and potentially Phase 3 of the RI.

During the first phase of the investigation, soil borings will be advanced to approximately 10 feet and will be adjusted, as necessary, based on field conditions. Soil samples for laboratory analysis will be collected continuously from the ground surface and extending below the groundwater table, to evaluate shallow soil impacts from prior operations at the Site and the potential for vadose zone soil, especially fine-grained, organic-rich lenses (if any) to preferentially adsorb persistent organic pollutants such as chlorinated pesticides. Previous investigations indicate that groundwater is encountered at depths between 4 and 6 feet bgs in the vicinity; therefore, it is anticipated that Phase 1 soil samples will be collected from the surface, the underlying vadose zone, and at the water table. A sample will also be collected below the water table and archived for potential future analysis. Samples will be collected from deeper intervals if determined in the field to be necessary to vertically delineate contamination, and will be collected until field indications of contamination (i.e., odor, staining, and/or elevated headspace volatile organic compound concentrations measured by a photoionization detector [PID]) are no longer present). Phase 2 soil samples may be collected from more targeted depth intervals informed by Phase 1 analytical results.

For the surface soil samples, if recent fill material is present, sample collection will start just below the zone of disturbance to target any contamination that may be present in surface soil (while avoiding recent fill deposits).

The approximate soil boring locations and laboratory analyses to fulfill soil data gaps are presented in the following sections. Detailed laboratory analytical procedures and field sampling protocols are presented in the SAP/QAPP provided in Appendix A. A HASP establishing protection standards and mandatory safe practices and procedures for all personnel involved with investigation activities is included in Appendix B.

6.1.1 General Soil Data Needs and Data Collection

Previous investigations at the Site have identified COPCs, including TPH-G in soil and TPH-D, TPH-G, pesticides, herbicides, and fertilizers in groundwater. During the Phase 1 soil investigation, the soil samples from all borings site-wide will be sampled for the full suite of COPCs, with the exception of the organophosphate pesticide glyphosate (the primary chemical in Roundup, which was handled on-site). Due to the short environmental half-life of glyphosate and the specialized analytical techniques required, and high laboratory analysis cost, glyphosate in soil will only be analyzed in Phase 1 samples collected from one of the borings located in the presumed source area near monitoring well MW-4 (i.e., AOPC 1). Additionally, in accordance with MTCA Table 830-1, if there are field indications of TPH in soil or groundwater, a representative sample will be analyzed for fuel additives, cPAHs, and naphthalenes (refer to Table A.3 of Appendix A for a list of analytes). Additional delineation and refinement of COPCs in soil will be accomplished during Phase 2 sampling.

Outside the property, soil or groundwater may have been impacted by transport of shallow soil due to wind erosion, snow removal with off-property snow stockpiling, or soil transport during flooding. If surface soils are determined to be contaminated during Phase 1 sampling, additional sampling may be undertaken during Phase 2 or Phase 3 to determine whether any off-property impacts have occurred.

6.1.2 Focused Areas of Potential Concern and Data Collection

AOPCs were determined based on historical document review in locations of the Site where previous environmental investigations identified contamination and where historical operations were conducted that are typically associated with contamination. Several data gaps in soil quality are present in focused areas of the Site (refer to Table 6.1 and Figure 3.2). Figure 3.2 identifies the proposed sample locations and the AOPCs, which include the following:

- **Potential Soil Source Area (AOPC 1).** TPH-D, herbicides, organochlorine pesticides, and nitrate and ammonia (likely associated with fertilizers) have been detected in groundwater at the greatest concentrations on-site in the vicinity of monitoring wells MW-4, MW-7, and MW-8. The vicinity of MW-4 and historical transfer area in the vicinity of MW-7 and MW-8 will be evaluated as a potential soil source area for TPH-D and agricultural chemicals. To delineate this area, at least four soil borings will be advanced during Phase 1 and sampled for all COPCs, with additional locations stepped outward or inward at 15-foot intervals, as necessary, based on field indications, to delineate contamination. One boring will be advanced on the downgradient side of AOPC 1, just on the border with AOPC 3 to provide better spatial coverage. Samples collected here will be used for general site characterization and will be analyzed for a limited suite of potential COPCs. Based on the results of fields screening, samples may be collected for TPH. One sample will be analyzed for pesticides and herbicides. Additional sampling to refine the extent of soil contamination in this area, if encountered, will be conducted during Phase 2.

- **TPH-G in MW-5/SB-6 Soil (AOPC 2).** During previous investigations, TPH-G was detected at concentrations greater than the MTCA Method A CULs in soils collected from 5 feet bgs at monitoring well MW-5 and 7 feet bgs at soil boring SB-6. Two borings will initially be advanced downgradient (i.e., southwest) of MW-5 and SB-6 during Phase 1, with additional locations stepped outward or inward at 15-foot intervals, as necessary, based on field indications to delineate contamination. All soil samples collected from this vicinity will be analyzed for TPH-D and TPH-G, and selected samples with the greatest field indications of contamination will also be analyzed for herbicides, pesticides, and fertilizers. Additional borings may be advanced as necessary during Phase 2 if Phase 1 data indicate that this area has not been fully delineated. A groundwater monitoring well (MW-11) will be installed downgradient of MW-5 (in AOPC 4) to assess whether groundwater is impacted.
- **Office Building Area (AOPC 3).** Previous investigations on the property also detected TPH-G in shallow soil under and around the office building at soil boring locations S1, S2, S4, and SB-11, and TPH-D in groundwater collected from monitoring wells MW-1 and MW-6. There is limited accessibility in the area surrounding the office building; however, up to three soil borings may be advanced in accessible areas downgradient of the building during Phase 1 and stepped inward or outward as necessary to delineate contamination based on field indications. One boring will be advanced on the upgradient side of AOPC 3, just on the border with AOPC 1 to provide better spatial coverage. Samples collected here will be used for general site characterization and will be analyzed for a limited suite of potential COPCs. Based on the results of fields screening, samples may be collected for TPH. One sample will be analyzed for pesticides and herbicides. Data density in the southeast corner of AOPC 3 will be addressed by the potential step-out borings in AOPC 2 (that will be advanced, as necessary to delineate previously encountered GRO contamination in the vicinity of MW-5. Additional borings will be advanced during Phase 2 if Phase 1 soil and groundwater sampling data indicate that the area has not been fully delineated.
- **AST Area (AOPC 4).** In the southern portion of the property, several current and former ASTs and associated pumps have been used to store and transfer fuels and agricultural chemicals. Interviews with the property owner indicated that periodic small releases from overfilling tanks or failure of pump hoses may have occurred. In order to assess the potential for soil impacts from releases related to the ASTs, one monitoring well (MW-12) will be installed downgradient of the AST area during Phase 1. Soil samples will be collected during advancement. These samples will be analyzed for all COPCs. If field evidence of contamination is present during installation, additional step-out soil borings will be added in the field to delineate this potential contamination.
- **Potential Former Wash Areas (AOPCs 5a and 5b).** Potential former wash area #1, located near the southwest corner of the property, and potential former wash area #2, located off the property to the northeast, may have caused minor releases of herbicides, pesticides, or fertilizers to the ground surface. During Phase 1, one soil boring will be advanced in potential former wash area #1. In potential former wash

area #2, one combination soil boring/temporary well location (TMW-1) will be installed during Phase 2 because it will require permission for access from BNSF.

- **Machine Shop Area (AOPC 6).** The machine shop located on the northern portion of the Site had a blind sump that historically collected effluent from equipment repair and washing operations. Liquid was not pumped out and was instead allowed to evaporate. Although there was never enough liquid to overflow the sumps, in order to evaluate soil quality in the vicinity of the sump, two soil borings will be advanced within the machine shop in the vicinity and downgradient of the sump during Phase 1. Samples collected from these borings will be analyzed for the full range of COPCs. Although there has been no known solvent use in the Machine Shop (or on the property), one vadose zone soil sample and one groundwater sample will be analyzed in the low spot surrounding MW-4 for the full range of VOCs to address any unknown VOC impacts from potential solvent use and to evaluate whether liquid waste overflow may have impacted soil or groundwater outside of the Machine Shop.
- **Former Irrigation Ditch and Culverts (AOPC 7).** Historically, an irrigation water conveyance ditch ran along the eastern property line and crossed beneath the rail spur south of monitoring well MW-4 via culverts. Soil and groundwater samples will be collected in select locations in order to determine whether there are impacts from agricultural chemicals and/or TPH in historical surface water that flowed through the ditch, and to capture potential impacts near or at the property boundary with BNSF. In the northern partition of AOPC 7, one soil boring will be targeted in the historical irrigation ditch. One boring will also be advanced near the location of the existing culvert (on the border with AOPC 1). During Phase 2, after obtaining access to the rail spur area from BNSF, one combination soil boring/temporary well will be installed east of the property line (TMW-2) to assess the nature and extent of contamination.

In the middle partition of AOPC 7, downstream of the culvert, one combination soil boring/temporary well location (TMW-3) will be installed within the historical ditch. Based on the results from TMW-3, more sampling could be triggered south, within the historical ditch if ditch sampling results indicated this was an area of concern (i.e., after Phase 2).

In the southern partition of AOPC 7, MW-13 will be installed to both determine whether there are impacts from agricultural chemicals and/or TPH in historical surface water that flowed through the ditch and to capture potential impacts near or at the property boundary with BNSF.

Soil samples will be collected from the former ditch bottom if evident in the field, or from vadose and water table depth intervals spanning the likely former ditch bottom if it cannot be easily identified. Irrigation ditch samples will be analyzed for the full range of COPCs. A grab sample will also be collected from the sediment in the culvert and analyzed for the full range of COPCs.

6.2 GROUNDWATER

Groundwater data needs and data collection plans are divided into general data objectives and focused groundwater AOPCs. Groundwater investigation information is summarized in Table 6.1 and illustrated on Figure 3.2.

6.2.1 Groundwater Sampling Approach

Prior investigations have identified the presence and magnitude of groundwater contamination for TPH and some select pesticides. However, more data are needed to determine the full list of groundwater COPCs and full extent of groundwater contamination at the Site. Groundwater samples will be collected from all permanent on-site wells during Phase 1 and analyzed for all COPCs. However, unlike soil, glyphosate will not be analyzed in the Phase 1 groundwater samples due to the low probability of detection based on the rapid half-life of this chemical in soil. If, however, the results from Phase 1 soil data indicate detection of glyphosate at levels of concern, then groundwater will be analyzed for glyphosate in the second round of sampling.

An additional groundwater monitoring event for all COPCs will be conducted for the temporary off-site wells (TMW-1 through TMW-3) during Phase 2. Per the AO, groundwater monitoring for all permanent wells will be performed quarterly for a minimum of four consecutive quarters as a part of Phase 3.

Groundwater samples will be collected from all existing site wells, and all permanent and temporary wells installed during the RI, using low-flow sampling methodology. Detailed laboratory analytical procedures and field sampling protocols are presented in Appendix A. New permanent and temporary monitoring wells will be installed using roto-sonic methodology, with 10-foot screened intervals spanning the water table. Well installation protocols are presented in Appendix A.

6.2.2 General Groundwater Data Needs and Data Collection

Water level elevation information is needed throughout the Site to confirm the presumed groundwater flow direction and determine horizontal hydraulic gradient information. Additionally, seasonal irrigation can cause rapid change in water levels. Water level measurements at locations across the Site will be used to address this data gap. Several new wells will be installed across the Site both upgradient and downgradient. A professional survey of monitoring well location, measuring point elevation, and ground surface elevation will be conducted for all monitoring wells and temporary wells. This will be followed by water level elevation measurements from representative wells and piezometers during two monitoring events representative of seasonal variation. Water level measurements during each event will be collected within a day for an accurate representation of the potentiometric surface. Additionally, after the first groundwater monitoring event, five transducers will be deployed in representative upgradient, central, and downgradient wells for an extended groundwater elevation survey. Assessment of transducer data will allow for a better understanding of seasonal variations in water levels due to irrigation and rainfall events.

Groundwater quality in areas in the presumed upgradient direction of operations at the Site has not been evaluated during previous investigations. Upgradient water quality will be assessed, with two new permanent wells installed during Phase 1 at the northeast and southeast property corners (MW-9 and MW-13).

For the initial phases of the remedial investigation, hydraulic conductivity will be estimated using industry-accepted representative values for the soil types encountered during drilling. It is assumed that estimated hydraulic conductivity will be sufficient to evaluate the fate and transport of COPCs; however, if more precise hydraulic conductivity measurements are found to be required to make this evaluation, this testing may be performed during subsequent phases of the investigation.

6.2.3 Focused Groundwater Areas of Potential Concern and Data Collection

- **Downgradient of potential soil source area and office building area.** In order to assess potential groundwater impacts in the presumed downgradient direction from both the potential soil source area and office building area, one permanent monitoring well (MW-10) will be installed in the presumed downgradient direction from these areas during Phase 1. Additionally, MW-1 and MW-6 had concentrations of pesticides and herbicides exceeding MTCA Method A or B CULs. Additional downgradient groundwater data from these areas will be provided by existing monitoring well MW-2, and groundwater data from within these areas are provided by existing monitoring wells MW-1, MW-4, MW-6, MW-7, and MW-8.
- **Downgradient of gasoline in MW-5/SB-6 soil.** In order to assess potential groundwater impacts from TPH-G in soil, two permanent monitoring wells (MW-11 and MW-12) will be installed in the presumed downgradient direction from MW-5 during Phase 1. Additional groundwater data in this area will be provided by existing well MW-5.
- **Downgradient of AST area and former wash area #1** In order to assess potential groundwater impacts from chemicals stored in the AST area and potential impacts downgradient of the former wash area #1, one permanent monitoring well (MW-14) will be installed in the presumed downgradient direction from the former ASTs, just inside the property boundary, during Phase 1.
- **In former irrigation ditch and culverts.** In order to assess potential groundwater impacts from site operations and potential off-site sources, three temporary monitoring wells (TMW-1 through TMW-3) will be installed within and adjacent to the former irrigation ditch in Phase 2. These temporary wells will consist of polyvinyl chloride (PVC) screen and riser and a sand filter pack, and may be either pre-packaged or assembled on-site. The temporary wells will be decommissioned after Phase 2 sampling.

6.3 INDOOR AIR QUALITY

Several of the identified COPCs, including TPH-G and certain pesticides and herbicides, may pose a potential risk to indoor air quality due to their volatility. If any volatile COPCs are detected in groundwater at concentrations greater than their MTCA Method B groundwater screening levels (Ecology 2016b [refer to Table B-1]), then the groundwater-to-soil vapor pathway will be evaluated in accordance with current Ecology guidance on vapor intrusion.¹ If volatile COPCs are found in soil at a concentration that is significantly greater than a concentration derived for the protection of groundwater for drinking water purpose, then the soil-to-vapor pathway will be evaluated in accordance with current Ecology guidance.

¹ This guidance also includes Ecology's 2009 draft *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* (updated in 2016; Ecology 2016b) and the 2016 *Implementation Memo #14: Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusion* (Ecology 2016c).

7.0 Remedial Investigation/Feasibility Study Reports

This section describes the written reports that will be generated following collection of the data described in this document.

7.1 REMEDIAL INVESTIGATION AND FEASIBILITY STUDY REPORTS

7.1.1 Remedial Investigation

Primary RI reporting tasks include: presenting the data, both current and historical, in a comprehensive fashion in order to define the nature and extent of contamination at the Site; defining site-wide COCs and CULs, as well as points of compliance; and updating the CSM to reflect site-wide comprehensive information. Chemical and physical data collected will be presented on figures and tables per chemical class and environmental media. A discussion of how the data were collected and the significance of the results will be included.

The preliminary CSM developed from previous site investigations and chemical data will be refined throughout the site-wide RI/FS process as additional data are collected and comprehensive site conditions are better defined. The CSM will include a comprehensive understanding of contaminants and sources; nature and extent of contamination; fate and transport processes; and exposure pathways and receptors.

All chemical data collected during the field work will be submitted in Ecology's EIM format. Per Ecology Policy 840, reports may not be reviewed and approved as final until confirmation of EIM data submittal and verification by the EIM data coordinator and by the Ecology Cleanup Project Manager (CPM). The overall objective of the RI document is to sufficiently define site conditions in order for the FS to define detailed remedial action objectives and remedial alternatives.

7.1.2 Feasibility Study

The purpose of the FS is to develop and evaluate cleanup action alternatives for the Site. The FS will include the following:

- Identify ARARs for site cleanup
- Identify media and locations where remedial action is needed
- Develop Remedial Action Objectives
- Develop, screen, and evaluate cleanup alternatives
- Identify a preferred alternative

8.0 Project Team and Responsibilities

8.1 WASHINGTON STATE DEPARTMENT OF ECOLOGY

Ecology will participate in the planning and scoping of the RI and reviewing and approving the draft and final RI/FS documents. Mr. John Mefford is the Site Project Manager for Ecology. He will review and approve all work plans and reports for the site-wide RI/FS and will determine if all requirements of the AO have been met.

Ecology will have lead responsibility for all public involvement activities during the RI/FS process. Ecology will be responsible for public relations and outreach in coordination with Smith-Kem during the project, which may include participation at public meetings, project fact sheets, and direct community involvement.

8.2 POTENTIALLY LIABLE PERSONS

8.2.1 Smith-Kem

Smith-Kem will provide site access and will review RI and FS documents.

8.2.2 Shell Oil Products US

Shell will provide review of RI and FS documents.

8.3 FLOYD|SNIDER

Floyd|Snider is Smith-Kem's technical consultant responsible for project planning, technical analysis, authorship, and Ecology coordination to produce the RI/FS in a manner consistent with the AO and Ecology requirements. Dr. Allison Geiselbrecht is the Floyd|Snider Project Manager.

8.4 LABORATORIES

Ecology-accredited laboratories will conduct chemical testing of soil, groundwater, and vapor. The laboratory will be responsible for calculating method detection limits for each COPC and meeting laboratory quality control requirements as specified in the SAP/QAPP.

8.5 OTHER SUBCONTRACTORS—GEOPHYSICAL, DRILLER, AND SURVEYOR

A professional utility locator will perform geophysical work including underground utility location. Sonic soil boring and monitoring well installation will be performed by licensed drillers with oversight by Floyd|Snider. Professional surveying of site features and monitoring well locations will be performed by licensed surveyors.

9.0 Schedule

The schedule for the RI/FS will proceed according to the existing schedule set forth in the AO. Below are the dates of performance or completion for significant RI/FS tasks in general accordance with the AO schedule. Actual dates below are subject to change depending on Ecology review periods and subcontractor/field crew availability.

Task	Expected Duration	Date
Submit Draft RI Work Plan to Ecology	--	May 27, 2016 (due within 90 days of issuance date of AO)
Submit Final RI Work Plan to Ecology	--	Due within 30 days after receipt of Ecology's written comments on Draft RI Work Plan
Implement RI Work Plan Field Work		
Phase 1 Soil Sampling, Groundwater Monitoring Well Installation, and Groundwater Sampling ¹	5 to 7 days	Later summer 2016
Phase 2 Potential Soil Sampling and Monitoring Well Installation	3 days	Fall 2016
Phase 3 Continued Groundwater Monitoring and Potential Soil Vapor Intrusion Sampling	Quarterly Groundwater Monitoring 1 day of soil vapor sampling	Summer 2016 to summer 2017
Receive Data Reports from Laboratories, Complete Data Validation, Load Data to EIM ²	--	Variable
Submit Draft RI Report to Ecology	--	90 days within receipt of final analytical data from field events specified in the RI Work Plan
Submit Final RI Report to Ecology	--	45 days within receipt of Ecology's written comments on Draft RI Report
Submit Draft FS Report to Ecology	--	60 days after submittal of Final RI Report
Submit Final FS Report to Ecology	--	15 days within receipt of Ecology's written comments on Draft FS Report
Submit Draft Cleanup Action Plan	--	90 days within Ecology's acceptance of the Final FS Report
Submit Final Cleanup Action Plan	--	60 days within receipt of Ecology's written comments on the Draft Cleanup Action Plan

Notes:

- Subsurface utility location will be performed prior to soil and groundwater sample collection.
- Final laboratory data must be submitted to EIM within 180 days of receipt; this completion date may change based on the field data collection completion and data validation completion dates. Finalization of any report is contingent upon EIM data submittal and verification by the CPM.

10.0 References

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- _____. 2014. *Re: Notice of Potential Liability under the Model Toxics Control Act for the Release of Hazardous Substances at Smith KEM Ellensburg, 200 Railroad Avenue, Ellensburg, Parcel No. 22683, Facility Site ID No. 12832256*. Letter from John Mefford, Ecology Toxics Cleanup Program, to Andy Erickson, Ad Gro, LLC. 31 October.
- _____. 2016a. Agreed Order No. DE 12908. In the Matter of Remedial Action by: Shell Oil Products US, Smith-Kem Ellensburg, Inc. 29 February.
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- _____. 2016c. *Implementation Memorandum No. 14: Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusion*. Prepared by Jeff Johnston, Section Manager, Toxics Cleanup Program, Washington State Department of Ecology. Publication No. 16-09-046. 31 March.

Smith-Kem Site

Remedial Investigation Work Plan

Tables

**Table 6.1
Summary of Data Gaps and Recommendations**

Areas of Concern	Data Gaps	Recommendations
Areas of Potential Concern for Groundwater Quality		
Site-Wide Groundwater Quality	<ul style="list-style-type: none"> Groundwater quality site-wide has not been fully delineated. Groundwater samples from previous investigations have not been analyzed for the full-range of site COPCs. 	<ul style="list-style-type: none"> A total of six permanent groundwater monitoring wells will be installed in focused groundwater areas of concern, per Section 6.2.3 of the Work Plan, to further assess groundwater quality, both upgradient and downgradient. All newly installed and existing monitoring wells will be sampled and analyzed for the full range of COPCs (i.e., pesticides/herbicides, TPH, select metals, nitrate, and ammonia). Pesticide/herbicide analysis includes quantification of more than 100 compounds that may be classified as belonging to one or more of the following groups: organochlorine pesticides, chlorinated herbicides, halogenated pesticides, organophosphate pesticides, organonitrogen pesticides, phenylurea herbicides, carbamate pesticides, and organophosphorus or organosulfur pesticides. The full list of COPCs are identified in Table 4.1 in the main text. Monitoring wells will be installed in the northeast, southeast, and southwest property corners to determine the limits of groundwater contamination. Temporary wells will be installed on the eastern property boundary near the former historical ditch both on and off the property (depending on coordination with BNSF Railway). There is a 25-foot setback off the rail line, which could affect where the boring/wells are installed. Groundwater monitoring wells will be sampled for a minimum of four quarters.
Site-Wide Groundwater Flow Characteristics	<ul style="list-style-type: none"> Groundwater flow rate is currently unknown. Impact of irrigation and rainfall on seasonal groundwater flow patterns. 	<ul style="list-style-type: none"> Establish estimated hydraulic conductivity from soil logs. Determine site-wide hydraulic gradient from groundwater elevation data. Water level data will be collected from transducers in five monitoring wells.
Focused Areas of Potential Concern for Soil Quality		
Potential Soil Source Area— AOPC 1 Presence of Pesticides/ Herbicides, Nitrate, and Ammonia in Groundwater around MW-4 and MW-7	<ul style="list-style-type: none"> TPH-D, chlorinated herbicides, organochlorine pesticides, and nitrate and ammonia were detected in groundwater from monitoring wells MW-4, MW-7, and MW-8 in exceedance of their respective MTCA Method B cleanup levels. The greatest levels were found at MW-4, indicating this could be the source area. Soil data for pesticides/herbicides are not available in the vicinity of these wells There are no soil data site-wide for pesticides and it is probable that, due to groundwater concentrations, the greatest likelihood of a source area would be in the vicinity of monitoring wells MW-1, MW-4, MW-6, MW-7, and MW-8. There are no data on soil characteristics (fraction of organic carbon, etc.) that would be necessary for site-specific input to the MTCA three-phase partitioning model. 	<ul style="list-style-type: none"> At least four soil borings will be advanced in the vicinity of monitoring wells MW-4, MW-7, and MW-8. Soil samples will be collected to assess the vertical extent of potential soil contamination. Samples will be analyzed for the full range of site COPCs. One boring will be advanced on the downgradient side of AOPC 1, just on the border with AOPC 3, to provide better spatial coverage. Samples collected here will be used for general site characterization and will be analyzed for a limited suite of COPCs. Based on the results of fields screening, samples may be collected for TPH. One sample will be analyzed for pesticides and herbicides. If the first round of data collection delineates the extent of pesticides/herbicides, then further sampling for pesticides/herbicides may not be recommended site-wide.
TPH-G in MW-5/SB-6 Soil— AOPC 2 Presence of TPH-G in Soil along the Eastern Property Boundary near MW-5 and SB-6	<ul style="list-style-type: none"> TPH-G was detected in soil from monitoring well MW-5 and from soil boring SB-6 but not in groundwater at MW-5. The nature and extent of TPH-G contamination has not been adequately established in soil or groundwater. 	<ul style="list-style-type: none"> Groundwater monitoring well MW-11 will be installed downgradient of MW-5 (in AOPC 4) to assess whether groundwater is impacted. Soil samples will be collected during advancement of the soil boring and analyzed for the full range of COPCs. Two soil borings will be advanced directly downgradient of monitoring well MW-5 and soil boring SB-6 to delineate a potential source area. Samples will be analyzed for the full range of site COPCs. The soil data will be used to establish extent to which contamination is present at the water table versus the vadose zone. The presence of LNAPL at the groundwater table will be noted.

**Table 6.1
Summary of Data Gaps and Recommendations**

Areas of Concern	Data Gaps	Recommendations
Focused Areas of Potential Concern for Soil Quality (Cont.)		
Office Building Area—AOPC 3 Presence of TPH in Soil under and Adjacent to the Office Building	<ul style="list-style-type: none"> TPH-D and TPH-G were detected at S1, S2, S4, MW-1, MW-6, and SB-11 but TPH contamination has not been delineated. There are no pesticide/herbicide data in this area. 	<ul style="list-style-type: none"> Up to three soil borings will be advanced in this area to delineate TPH-D and TPH-G in soil; however, samples will also be analyzed for the full range of site COPCs. One boring will be advanced on the upgradient side of AOPC 3, just on the border with AOPC 1 to provide better spatial coverage. Samples collected here will be used for general site characterization and will be analyzed for a limited suite of COPCs. Based on the results of fields screening, samples may be collected for TPH. One sample will be analyzed for pesticides and herbicides. If elevated concentrations of VOCs are found in Phase 1, the potential for soil gas to indoor air may need to be assessed. EPH/VPH data may need to be collected in a subsequent phase to potentially calculate site-specific risk-based CULs.
AST Area—AOPC 4 Presence of TPH Contamination	<ul style="list-style-type: none"> Fuel ASTs formerly located on the property were re-used for storage of TPH products and then fertilizer. Previous investigations identified NAPL and sheen in locations in this area. The contamination extent related to releases from AST activities is unknown. 	<ul style="list-style-type: none"> One monitoring well (MW-12) will be installed downgradient of the AST area. Soil samples will be collected during advancement and analyzed for the full range of site COPCs.
Potential Former Wash Areas—AOPCs 5a and 5b Potential TPH or Pesticides in Historical Wash Areas	<ul style="list-style-type: none"> According to interviews with the property owner and concerns from a neighboring property owner, two areas may have historically been used for equipment washing. There are limited data available in AOPC 5a; no data are available in AOPC 5b. 	<ul style="list-style-type: none"> Soil borings will be advanced in both areas to determine if there have been impacts. Samples will be analyzed for the full range of site COPCs
Machine Shop Area—AOPC 6 Potential TPH or Pesticides in Machine Shop Building	<ul style="list-style-type: none"> Historical operations have occurred inside the Machine Shop Building in areas that were previously not paved. A sump is located in the tractor service area of the building. There are no data available for soil or groundwater in the Machine Shop Building. Liquid waste overflow containing solvents may have flowed out of the Machine Shop into the low area surrounding MW-4. 	<ul style="list-style-type: none"> Soil data will be collected from two borings: one adjacent to the sump and one in the former unpaved area. Samples will be analyzed for the full range of site COPCs. To evaluate whether liquid waste overflow may have impacted soil or groundwater outside of the Machine Shop, one vadose zone soil sample and one groundwater sample will be analyzed in the low spot surrounding MW-4 for the full range of VOCs to address any unknown VOC impacts from potential solvent use.
Former Irrigation Ditch and Culverts—AOPC 7 Potential TPH or Pesticides in Historical Ditch and Culverts	<ul style="list-style-type: none"> A former irrigation water conveyance ditch was located along the eastern property boundary. Based on aerial photography review, it appears the ditch was filled sometime between 2000 and 2003. A culvert that has been partially filled is also located on the property. It is unknown if TPH and/or pesticides/herbicides were released via surface water in the former drainage ditch and culvert. 	<ul style="list-style-type: none"> Four soil borings/temporary wells will be advanced; soil and/or groundwater data will be collected to evaluate the presence of contamination in fill and below fill in the ditch. One boring will be advanced in the northern portion of the ditch to the east of the Machine shop; one boring will be advanced near the location of the existing culvert; one combination soil boring/temporary well location (TMW-3) will be installed within the historical ditch downstream of the culvert (in Phase 2 after obtaining permission from BNSF Railway), and one monitoring well (MW-13) will be installed in the southern portion of the historical ditch, at the property boundary. All samples will be analyzed for the full range of site COPCs. One combination soil boring/temporary well will be installed east of the property line (TMW-2) to assess the nature and extent of contamination. Samples will be analyzed for the full range of site COPCs. A sample will be collected from inside the culvert, if possible, and analyzed for the full range of COPCs.

Note:

- Aldrin is the only pesticide with a corresponding soil gas screening level; therefore, it is the only pesticide with a potential concern to indoor air.

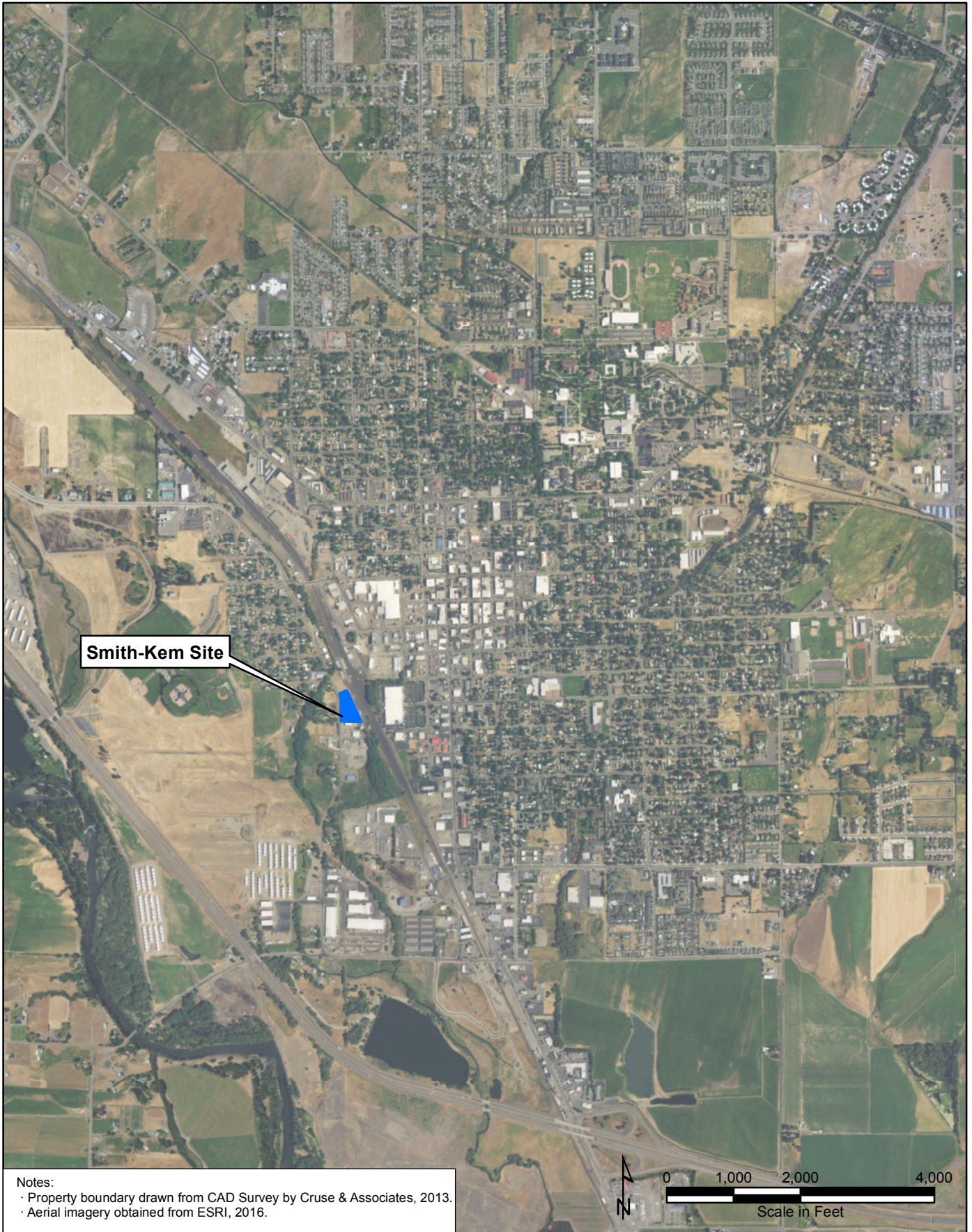
Abbreviations:

AOPC	Area of potential concern	LNAPL	Light non-aqueous phase liquid
AST	Aboveground storage tank	NAPL	Non-aqueous phase liquid
COPC	Constituent of potential concern	TPH	Total petroleum hydrocarbons
CUL	Cleanup level	VOC	Volatile organic compound
EPH	Extractable petroleum hydrocarbons	VPH	Volatile petroleum hydrocarbons
LNAPL	Light non-aqueous phase liquid		

Smith-Kem Site

Remedial Investigation Work Plan

Figures

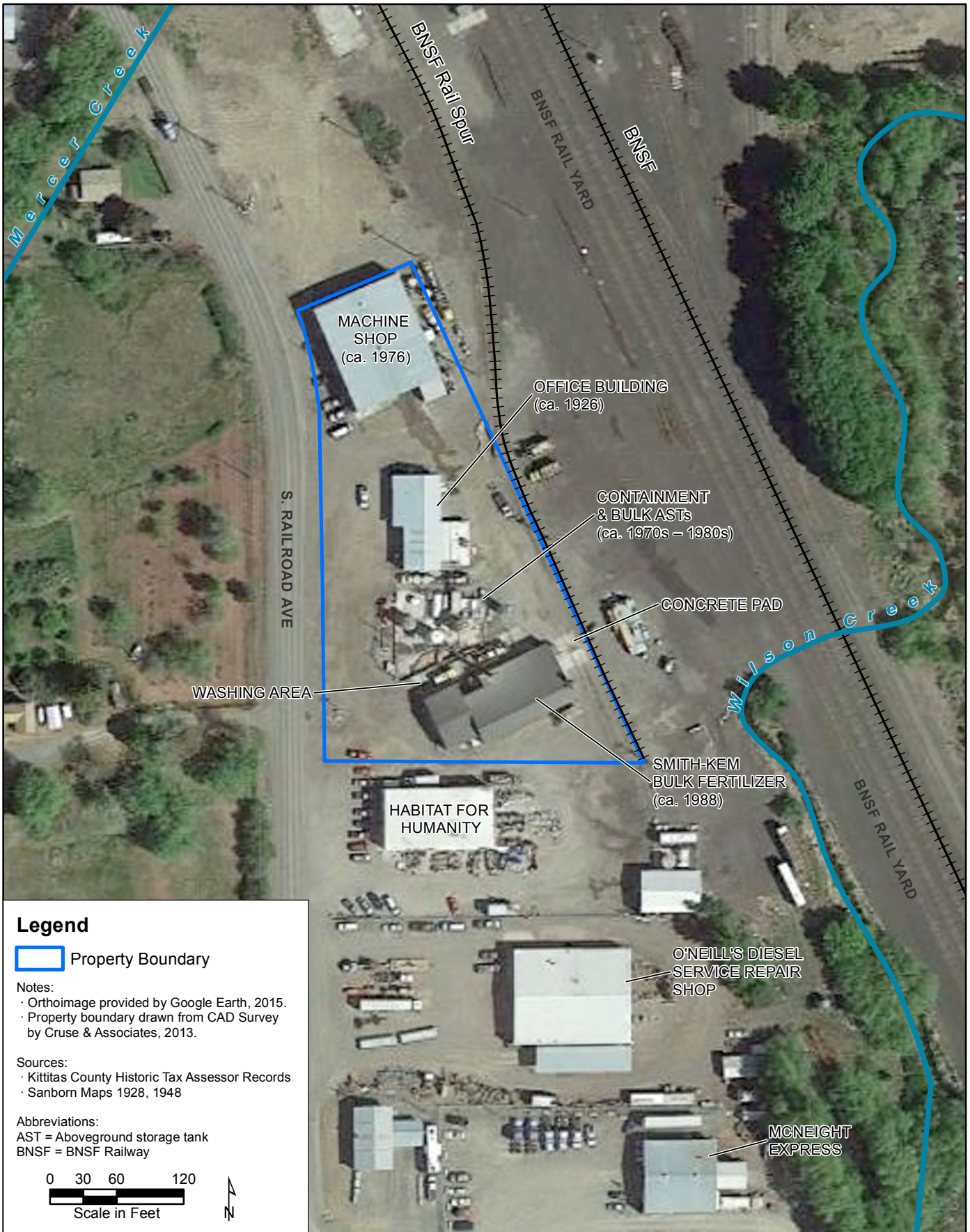


Notes:
 · Property boundary drawn from CAD Survey by Cruse & Associates, 2013.
 · Aerial imagery obtained from ESRI, 2016.

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 strategy ■ science ■ engineering

**Remedial Investigation Work Plan
 Smith-Kem Site
 Ellensburg, Washington**

**Figure 1.1
 Site Vicinity Map**



Legend

Property Boundary

Notes:

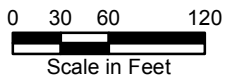
- Orthoimage provided by Google Earth, 2015.
- Property boundary drawn from CAD Survey by Cruse & Associates, 2013.

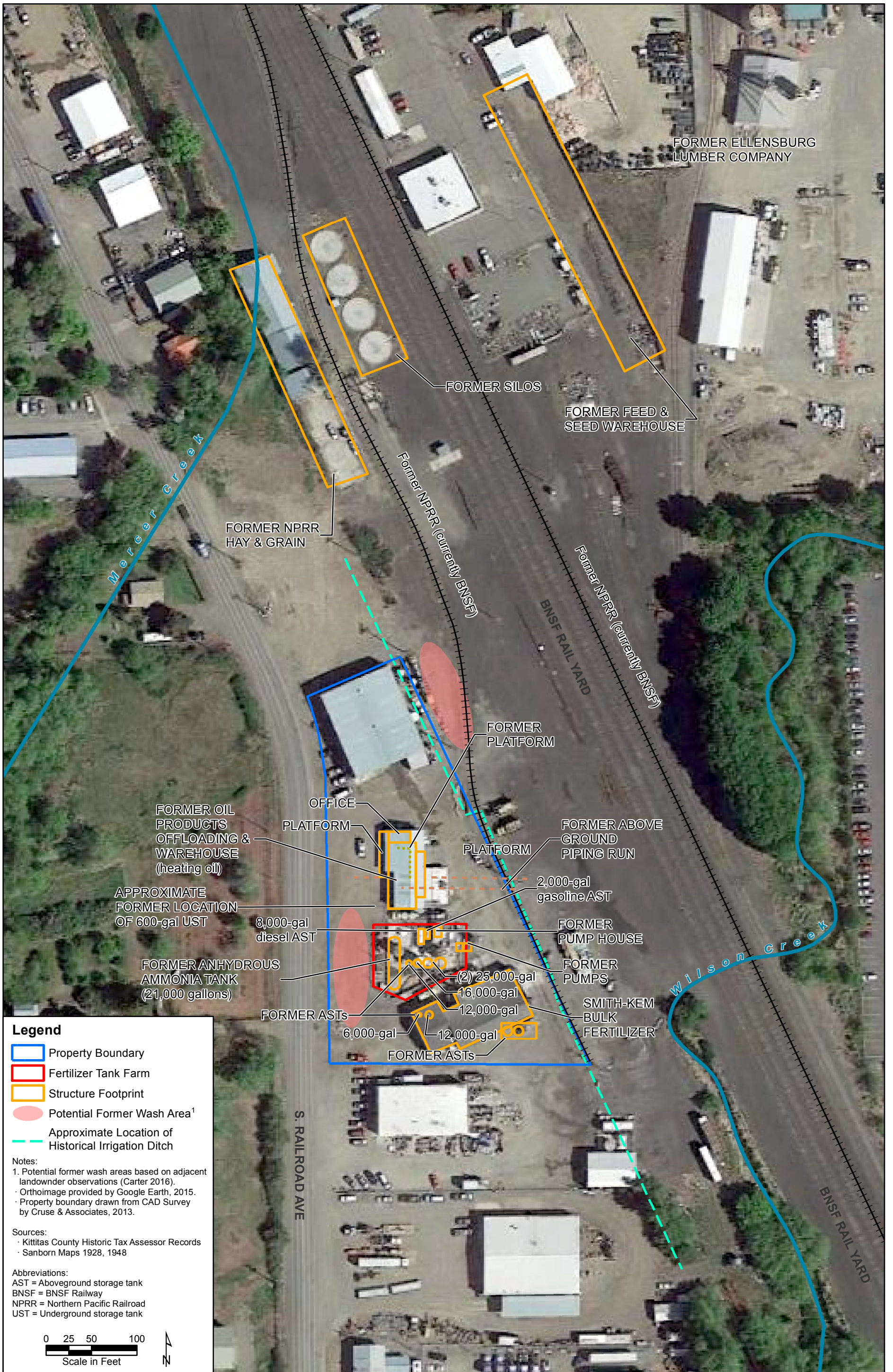
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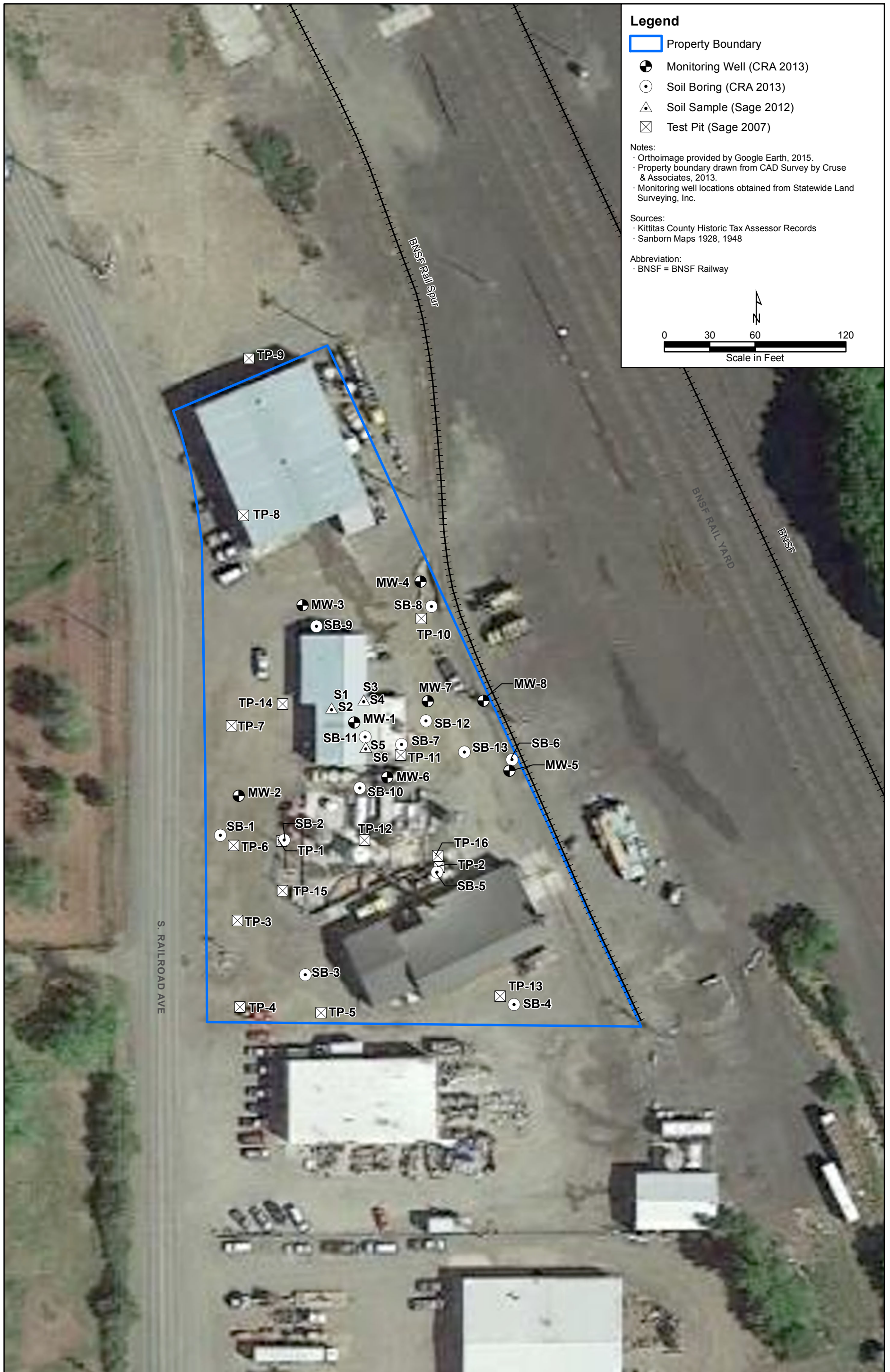
- Kittitas County Historic Tax Assessor Records
- Sanborn Maps 1928, 1948

Abbreviations:

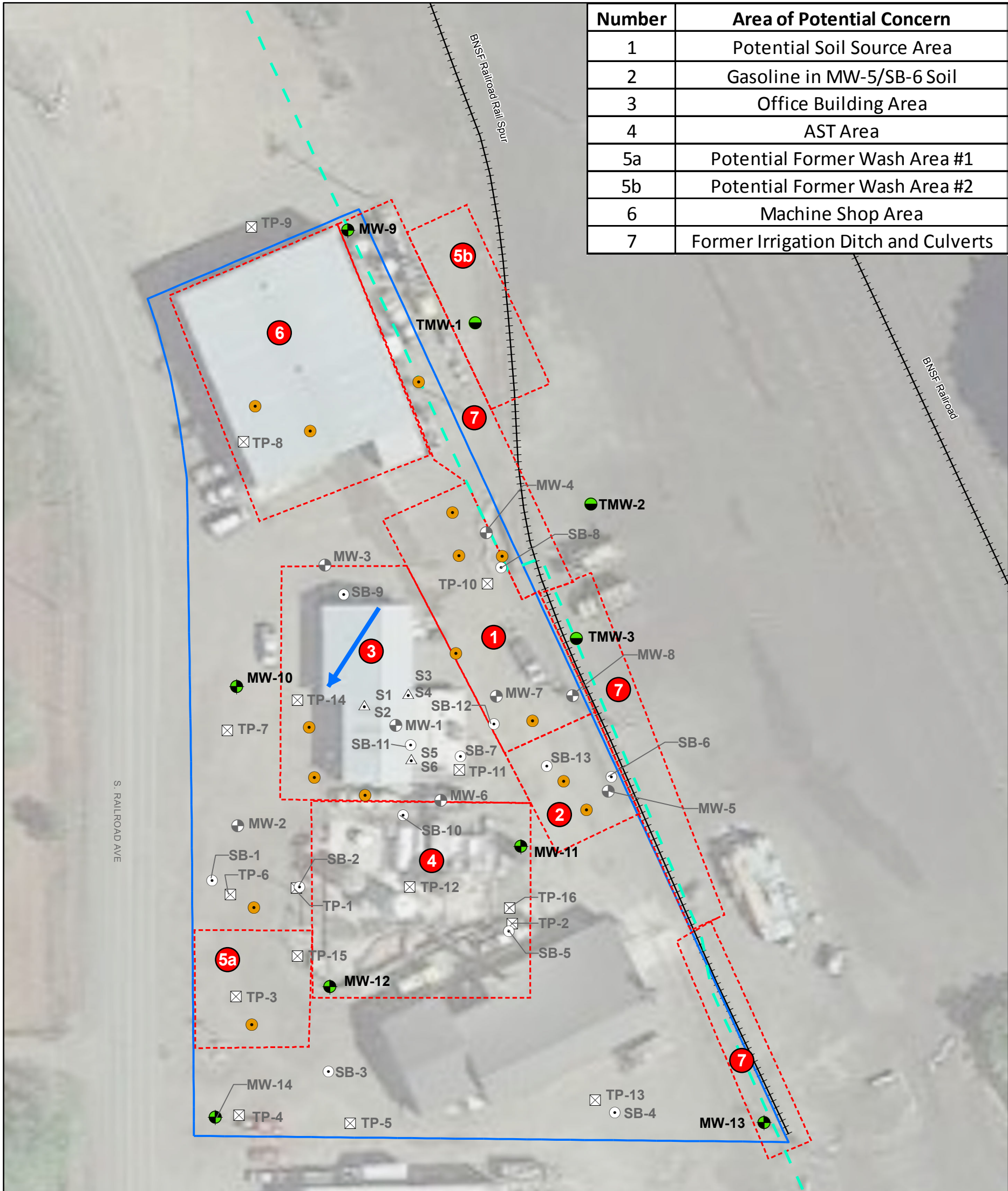
- AST = Aboveground storage tank
- BNSF = BNSF Railway







Number	Area of Potential Concern
1	Potential Soil Source Area
2	Gasoline in MW-5/SB-6 Soil
3	Office Building Area
4	AST Area
5a	Potential Former Wash Area #1
5b	Potential Former Wash Area #2
6	Machine Shop Area
7	Former Irrigation Ditch and Culverts



Legend

- Proposed Soil Boring
- Proposed Soil Boring with Temporary Monitoring Well
- Proposed Soil Boring with Permanent Monitoring Well
- Previous Soil Boring
- △ Previous Soil Sample
- ⊠ Previous Test Pit
- ⊕ Existing Monitoring Well
- ⋯ Area of Potential Concern
- ▭ Property Boundary
- ➔ Groundwater Flow Direction¹
- Approximate Location of Historical Irrigation Ditch
- ++++ BNSF Railway

Notes:

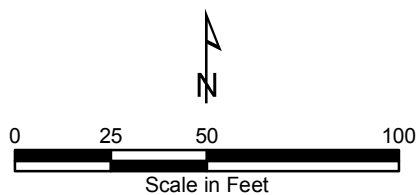
1. Approximate groundwater flow direction, as determined by CRA in 2014.
- Orthoimage provided by Google Earth, 2015.
- Property boundary drawn from CAD Survey by Cruse & Associates, 2013.
- Monitoring well locations obtained from Statewide Land Surveying, Inc.
- Previous sample locations obtained from CRA, Figure 3 (CRA 2014).
- Proposed locations are approximate and will be adjusted as necessary, depending on field conditions.

Source:

- Kittitas County Historic Tax Assessor Records

Abbreviation:

AST = Aboveground storage tank



Smith-Kem Site

Remedial Investigation Work Plan

Appendix A

**Sampling and Analysis Plan/
Quality Assurance Project Plan**

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Attachment A.2 Standard Operating Guidelines

List of Acronyms and Abbreviations

Acronym/ Abbreviation	Definition
bgs	Below ground surface
Ecology	Washington State Department of Ecology
EIM	Environmental Information Management

Acronym/ Abbreviation	Definition
FBI	Friedman & Bruya, Inc.
FS	Feasibility Study
Holocene	Holocene Drilling, Inc.
IDW	Investigation-derived waste
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MS	Matrix spike
MSD	Matrix spike duplicate
PAL	Pacific Agricultural Laboratory
PID	Photoionization detector
PPE	Personal protective equipment
PVC	Polyvinyl chloride
QA	Quality assurance
QC	Quality control
RI	Remedial investigation
RPD	Relative percent difference
SAP/QAPP	Sampling and Analysis Plan/Quality Assurance Project Plan
Smith-Kem	Smith-Kem Ellensburg, Inc.
USEPA	U.S. Environmental Protection Agency
VOC	Volatile organic compound
Work Plan	Remedial Investigation Work Plan

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1.0 Project Description

This Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP) presents the specific field protocols and field and laboratory quality assurance/quality control (QA/QC) procedures associated with the Remedial Investigation (RI) Work Plan (Work Plan) activities for the Smith-Kem Ellensburg, Inc. (Smith-Kem) Site (the Site) located in Ellensburg, Washington.

1.1 INTRODUCTION

The Work Plan describes general site investigation field activities to be performed as part of the RI including the following:

- Temporary and permanent monitoring well installation and development
- Groundwater sampling via new and existing wells
- Soil sampling via roto-sonic drilling
- Transducer deployment for hydrogeologic study

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2.0 Project Organization and Responsibility

The various QA field, laboratory, and management responsibilities of key project personnel are defined below.

2.1 MANAGEMENT RESPONSIBILITIES

Andy Erickson—Smith-Kem

Andy Erickson is Smith-Kem's primary point of contact. He will perform the following:

- Authorize and coordinate access for field activities.
- Review and approve all reports (deliverables) before their submittal to Washington State Department of Ecology (Ecology).

Allison Geiselbrecht—Floyd|Snider Project Manager

Dr. Allison Geiselbrecht, Project Manager, will have overall responsibility for project implementation. As Project Manager she will be responsible for maintaining QA on this project and ensuring that the Work Plan objectives are met. She will perform the following:

- Approve the SAP/QAPP.
- Monitor project activity and quality.
- Provide overview of field activities to Smith-Kem and Ecology.
- Prepare and review the draft RI and Feasibility Study (FS) reports.
- Provide technical representation of project activities at meeting.

2.2 QUALITY ASSURANCE RESPONSIBILITIES

Erin Murray—Floyd|Snider QA Manager

The QA Manager reports directly to the Floyd|Snider Project Manager and will be responsible for ensuring that all QA/QC procedures for this project are followed. The QA Manager will be responsible for coordinating the data validation of all sample results from the analytical laboratories.

The QA Manager will also perform the following:

- Oversee and review field QA/QC.
- Coordinate supply of performance evaluation samples and review results from performance audits.
- Coordinate review and data validation of laboratory QA/QC.
- Advise on data corrective action procedures.
- QA/QC representation of project activities.

Chell Black—Floyd|Snider Data Manager

The Data Manager will be responsible for the data validation of all sample results from the analytical laboratories and entering the data into a database. The Data Manager will also perform the following:

- Review of laboratory reports.
- Load analytical data to Ecology's Environmental Information Management (EIM) database.
- Advise on data corrective action procedures.
- Perform QA/QC on analytical data reports.
- Oversee database management and queries.

2.3 LABORATORY RESPONSIBILITIES

Friedman & Bruya, Inc. (FBI) and Pacific Agricultural Laboratory (PAL) will perform all analytical services in support of the proposed soil and groundwater analyses. FBI will be conducting the total petroleum hydrocarbons, metals, nitrate, and ammonia analyses in all soil and groundwater samples. PAL will conduct all the pesticide/herbicide analyses in soil and groundwater samples. EcoChem will provide all data validation on all pesticide and herbicide data.

Eric Young (FBI Project Manager) and Steve Thun (PAL) Project Manager

The Laboratory Project Managers will report directly to the Floyd|Snider QA Manager. Responsibilities include the following:

- Ensure all resources of the laboratory are available.
- Advise Floyd|Snider's QA Manager of laboratory status.
- Review and approve final analytical reports.
- Coordinate laboratory analyses.
- Supervise in-house chain-of-custody procedures.
- Schedule sample analyses.
- Oversee data review.

Christine Ransom (EcoChem Project Manager)

- Advise Floyd|Snider's QA Manager of laboratory status.
- Review and approve final reports.
- Supervise in-house chain-of-custody procedures.
- Validate the analytical data sets and oversee data review.

2.4 FIELD RESPONSIBILITIES

Kristin Andersen—Floyd|Snider Field Lead

The Field Lead will be responsible for leading and coordinating the day-to-day activities in the field. The Field Lead will report directly to the Floyd|Snider Project Manager.

The Field Lead will perform the following:

- Coordinate with the Project Manager.
- Coordinate and manage field staff including sampling staff and drillers.
- Review field data including field logs and field measurement data.
- Adhere to the work schedule.
- Coordinate and oversee subcontractors.

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3.0 Laboratory Quality Assurance Objectives

The objective of this section is to clarify laboratory data QA objectives for field sampling and laboratory analyses. Specific procedures for sampling, chain-of-custody, laboratory instrument calibration, laboratory analysis, reporting of data, internal QC, audits, preventative maintenance of field/laboratory equipment, and corrective action are described in subsequent sections of this SAP/QAPP.

3.1 LABORATORY QUALITY ASSURANCE OBJECTIVES

The quality of analytical data generated is assessed by the frequency and type of internal QC checks developed for analysis type. Laboratory results will be evaluated against QA objectives by reviewing results for analysis of method blanks, matrix spikes (MSs), duplicate samples, laboratory control samples (LCSs), calibrations, performance evaluation samples, and interference checks as required by the specific analytical methods. Data quality objectives are summarized in Table A.1.

3.2 PRECISION

Precision measures the reproducibility of measurements under a given set of conditions. Specifically, precision is a quantitative measure of the variability of a group of measurements compared to their average values. Analytical precision is measured through MS/matrix spike duplicate (MSD) samples for organic analysis and through laboratory duplicate samples for inorganic analyses.

Analytical precision measurements will be carried out on project-specific samples at a minimum laboratory duplicate frequency of 1 per laboratory analysis group or 1 in 20 samples, whichever is more frequent per matrix analyzed, as practical. Laboratory precision will be evaluated against quantitative relative percent difference (RPD) performance criteria.

Field precision will be evaluated by the collection of blind field duplicates at a minimum frequency of 1 per laboratory analysis group or 1 in 20 samples. Currently, no performance criteria have been established for field duplicates. Field duplicate precision will, therefore, be screened against a RPD of 75 percent for all samples. However, no data will be qualified based solely on field duplicate precision.

Precision measurements can be affected by the nearness of a chemical concentration to the method detection limit, where the percent error (expressed as RPD) increases. The equations used to express precision are as follows:

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

Where:

RPD = relative percent difference

C₁ = larger of the two observed values

C₂ = smaller of the two observed values

3.3 ACCURACY

Accuracy is an expression of the degree to which a measured or computed value represents the true value. Analytical accuracy may be assessed by analyzing “spiked” samples with known standards (surrogates, LCSs, and/or MS) and measuring the percent recovery. Accuracy measurements on MS samples will be carried out at a minimum frequency of 1 in 20 samples per matrix analyzed. Because MS/MSDs measure the effects of potential matrix interferences of a specific matrix, the laboratory will perform MS/MSDs only on samples from this investigation and not from other projects. Surrogate recoveries will be determined for every sample analyzed for organics.

Laboratory accuracy will be evaluated against quantitative LCS, MS, and surrogate spike recoveries using limits for each applicable analyte. Accuracy can be expressed as a percentage of the true or reference value, or as a percent recovery in those analyses where reference materials are not available and spiked samples are analyzed. The equation used to express accuracy is as follows:

$$\%R = 100\% \times (S-U)/C_{sa}$$

Where:

%R = percent recovery

S = measured concentration in the spiked aliquot

U = measured concentration in the unspiked aliquot

C_{sa} = actual concentration of spike added

3.4 REPRESENTATIVENESS

Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Care will be taken in the design of the sampling program to ensure sample locations are properly selected, sufficient numbers of samples are collected to accurately reflect conditions at the location(s), and samples are representative of the sampling location(s). A sufficient volume of sample will be collected at each sampling location to minimize bias or errors associated with sample particle size and heterogeneity.

3.5 COMPARABILITY

Comparability is a qualitative parameter expressing the confidence with which one dataset can be compared to another. In order to insure results are comparable, samples will be analyzed using standard U.S. Environmental Protection Agency (USEPA) methods and protocols. Calibration and reference standards will be traceable to certified standards and standard data reporting formats will be employed. Data will also be reviewed to verify that precision and accuracy criteria were achieved and, if not, that data were appropriately qualified.

3.6 COMPLETENESS

Completeness is a measure of the amount of data that is determined to be valid in proportion to the amount of data collected. Completeness will be calculated as follows:

$$C = \frac{\text{(Number of acceptable data points)} \times 100}{\text{(Total number of data points)}}$$

The data quality objective for completeness for all components of this project is 95 percent. Data that were qualified as estimated because the QC criteria were not met will be considered valid for the purpose of assessing completeness. Data that were qualified as rejected will not be considered valid for the purpose of assessing completeness.

3.7 QUALITY CONTROL PROCEDURES

3.7.1 Field Quality Control Procedures

Trip blanks will be included in each cooler with samples being analyzed for volatile organic compounds (VOCs) to ensure the sample containers do not contribute to any detected analyte concentrations and to identify any artifacts of improper sample handling, storage, or shipping. A rinsate blank QC sample will also be collected for each sampling event on the non-dedicated field equipment (i.e., stainless steel bowl and spoon) to ensure field decontamination procedures are effective. All field QC samples will be documented in the field logbook and verified by the QA Manager or designee. A blind field duplicate will be collected at a frequency of 1 in 20 samples to evaluate the efficiency of field decontamination procedures, variability from sample handling, and site heterogeneity. When there are fewer than 20 samples, a field duplicate will still be collected. When there are more than 20 samples, a second field duplicate will be collected.

3.7.2 Laboratory Quality Control Procedures

Laboratory Quality Control Criteria. Certain samples will be spiked and the recoveries of spiked compounds compared to the QC criteria. Results of the laboratory QC samples from each sample group will be reviewed by the analyst immediately after a sample group has been analyzed. The QC sample results will then be evaluated to determine whether control limits were exceeded. If control limits are exceeded in the sample group, corrective action (e.g., method modifications followed by reprocessing the affected samples) will be initiated prior to processing a subsequent group of samples.

All primary chemical standards and standard solutions used in this project will be traceable to documented and reliable commercial sources. Standards will be validated to determine their accuracy by comparison with an independent standard. Any impurities identified in the standard will be documented.

The following paragraphs summarize the procedures that will be used to assess data quality throughout sample analysis.

Laboratory Duplicates. Analytical duplicates provide information on the precision of the analysis and are useful in assessing potential sample heterogeneity and matrix effects. Analytical duplicates are subsamples of the original sample that are prepared and analyzed as a separate sample. A minimum of 1 duplicate will be analyzed per sample group or for every 20 samples, whichever is more frequent.

Matrix Spikes and Matrix Spike Duplicates. Analysis of MS samples provides information on the extraction efficiency of the method on the sample matrix. By performing MSD analyses, information on the precision of the method is also provided for organic analyses. A minimum of 1 MS/MSD will be analyzed for every sample group or for every 20 samples, whichever is more frequent. MS/MSD analyses will be performed on project-specific samples (i.e., batch QC using samples from other projects is not permitted). When there are fewer than 20 samples, a MS/MSD will still be analyzed. When there are more than 20 samples, a second MS/MSD will be analyzed.

Laboratory Control Samples and Laboratory Control Sample Duplicate. An LCS is a method blank sample carried throughout the same process as the samples to be analyzed, with a known amount of standard added. The blank spike compound recovery assesses analytical accuracy in the absence of any sample heterogeneity or matrix effects. All LCS and laboratory control sample duplicate (LCSD) data for metals and organic compounds will be reported. The LCS/LCSD will be performed once per analysis batch.

Surrogate Spikes. All project samples analyzed for organic compounds will be spiked with appropriate surrogate compounds as defined in the analytical methods. Surrogate recoveries will be reported by the laboratories; however, no sample result will be corrected for recovery using these values.

Method Blanks. Method blanks are analyzed to assess possible laboratory contamination at all stages of sample preparation and analysis. A minimum of 1 method blank will be analyzed for every extraction batch or 1 for every 20 samples, whichever is more frequent.

4.0 Sample Handling and Custody Documentation

Sample possession and handling must be traceable from the time of sample collection, through laboratory and data analysis, to the time sample results are reported. A field form and field logbook entries will be completed for each location occupied and each sample collected.

4.1 SAMPLE HANDLING

To control the integrity of the samples during transit to the laboratory and during hold prior to analysis, established preservation and storage measures will be taken. Sample containers will be labeled with the client name, location name/number, sample number, sampling date and time, required analyses, and initials of the individual processing the sample. The Field QA Officer will check all container labels, chain-of-custody form entries, and logbook entries for completeness and accuracy at the end of each sampling day.

4.2 SAMPLE CHAIN-OF-CUSTODY

Sample labeling and custody documentation will be performed as described in this document. Custody procedures will be used for all samples at all stages in the analytical or transfer process and for all data and data documentation whether in hardcopy or electronic format.

4.3 SAMPLE PRESERVATION

Samples requiring field preservation will be placed into pre-preserved sample jars supplied by the laboratory (i.e., VOCs and metals, depending on media). Immediately after the sample jars are filled with each media, they will be placed in the appropriate cooler with a sufficient number of ice packs (or crushed ice) to keep them cool through the completion of that day's sampling and transport to the laboratory.

4.4 SAMPLE SHIPMENT

Technical field staff will be responsible for all sample tracking and chain-of-custody procedures in the field. The Field QA Officer will be responsible for final sample inventory and will maintain sample custody documentation. At the end of each day, and prior to transfer, chain-of-custody form entries will be made for all samples. Each shipment of coolers will be accompanied by chain-of-custody forms; the forms will be signed at each point of transfer and will include sample numbers. All chain-of-custody forms will be completed in indelible ink. Copies of all forms will be retained as appropriate and included as appendices to QA/QC reports to management.

Prior to shipping or transport, sample containers will be wrapped and securely packed inside the cooler with ice packs or crushed ice by the field technician or designee. The original, signed chain-of-custody forms will be transferred with the cooler. The cooler will be secured and appropriately sealed and labeled for immediate shipping or transport via vehicle. Samples will be delivered to the laboratory under custody following completion of sampling activities.

4.5 SAMPLE RECEIPT

The designated sample custodian at the laboratory will accept custody of the samples and verify that the chain-of-custody form matches the samples received. The laboratory Project Managers will ensure that the chain-of-custody forms are properly signed upon receipt of the samples and will note questions or observations concerning sample integrity on the chain-of-custody forms. The laboratory will contact the QA Manager immediately if discrepancies are discovered between the chain-of-custody forms and the sample shipment upon receipt. The laboratory Project Managers, or designees, will specifically note any coolers that do not contain ice packs/crushed ice or are not sufficiently cold upon receipt.

5.0 Data Reduction, Validation, and Reporting

Initial data reduction, evaluation, and reporting at the laboratory will be carried out as described in the appropriate analytical protocols and the laboratories' QA Manuals. QC data resulting from methods and procedures described in this document will also be reported.

5.1 DATA REDUCTION AND REPORTING

The laboratories will be responsible for internal checks on data reporting and will correct errors identified during the QA review. Close contact will be maintained with the laboratories to resolve any QC problems in a timely manner. The analytical laboratories will be required, where applicable, to report the following:

- **Project Narrative.** This summary, in the form of a cover letter, will discuss problems, if any, encountered during any aspect of analysis. This summary should discuss, but not be limited to, QC, sample shipment, sample storage, and analytical difficulties. Any problems encountered (actual or perceived) and their resolutions will be documented in as much detail as necessary.
- **Sample IDs.** Records will be produced that clearly match all blind duplicate QA samples with laboratory sample identification codes.
- **Chain-of-Custody Records.** Legible copies of the chain-of-custody forms will be provided as part of the data package. This documentation will include the time of receipt and condition of each sample received by the laboratories. Additional internal tracking of sample custody by the laboratories will also be documented.
- **Sample Results.** The data package will summarize the results for each sample analyzed. The summary will include the following information when applicable:
 - Field sample identification code and the corresponding laboratory identification code
 - Sample matrix.
 - Date of sample extraction.
 - Date and time of analysis.
 - Weight and/or volume used for analysis.
 - Final dilution volumes or concentration factor for the sample.
 - Percent moisture in solid samples.
 - Identification of the instrument used for analysis.
 - Method reporting and quantitation limits.
 - Analytical results reported with reporting units identified.
 - All data qualifiers and their definitions.
 - Electronic data deliverables (EDDs).

- **Quality Assurance/Quality Control Summaries.** This section will contain the results of all QA/QC procedures. Each QA/QC sample analysis will be documented with the same information required for the sample results (refer to above). No recovery or blank corrections will be made by the laboratory. The required summaries are listed below; additional information may be requested.
- **Method Blank Analysis.** The method blank analyses associated with each sample and the concentration of all compounds of interest identified in these blanks will be reported.
- **Surrogate Spike Recovery.** All surrogate spike recovery data for organic compounds will be reported. The name and concentration of all compounds added, percent recoveries, and range of recoveries will be listed.
- **Matrix Spike Recovery.** All MS recovery data for metals and organic compounds will be reported. The name and concentration of all compounds added, percent recoveries, and range of recoveries will be listed. The RPD for all duplicate analyses will be reported.
- **Matrix Duplicate.** The RPD for all matrix duplicate analyses will be reported.
- **Laboratory Control Samples and Laboratory Control Sample Duplicates.** All LCS/LCSD for metals and organic compounds will be reported. The RPD for all duplicate analyses shall be reported.
- **Blind Duplicates.** Blind duplicates will be reported in the same format as any other sample. RPDs will be calculated for duplicate samples and evaluated as part of the data quality review.

5.2 DATA VALIDATION

Once data are received from the laboratory, a number of QC procedures will be followed to provide an accurate evaluation of the data quality. Specific procedures will be followed to assess data precision, accuracy, and completeness.

A Tier I Summary Validation will be performed on all data with the exception of pesticides and herbicides, which will undergo a USEPA Stage 2B Data Quality Summary Review by EcoChem. The laboratory reports will be reviewed for internal consistency, transmittal errors, laboratory protocols, and adherence to the data quality objectives as specified in this SAP/QAPP.

A data quality review of the analytical data will follow USEPA National Functional Guidelines in accordance with the QAPP limits (USEPA 2014a and USEPA 2014b). All chemical data will be reviewed with regard to the following:

- Chain-of-custody/documentation.
- Sample preservation and holding times.
- Method blanks.

- Reporting limits.
- Surrogate recoveries.
- MS/MSD recoveries and RPDs.
- LCS/LCSD recoveries and RPDs.
- Laboratory and field duplicate RPDs.
- Field blanks.

For the pesticides and herbicides the following will be done in addition to the bullets above:

- Instrument performance oversight (initial calibration, calibration verification, tuning, sensitivity, and endrin and dichlorodiphenyltrichloroethane breakdown for pesticides)
- Internal standard recoveries
- Second column confirmation RPD (on organochlorine pesticides)

A Stage 4 Full Validation will be performed on one batch per analytical method for pesticides and herbicides. A Stage 4 Full Validation includes evaluation of all QC elements from the USEPA Stage 2B Summary Validation as identified above, plus recalculation of instrument and sample results from the raw data.

Data usability, conformance with the data quality objectives, and any deviations that may have affected the quality of the data, as well as the basis of application of qualifiers, will be included in the final reporting of the data. Any required corrective actions based on the evaluation of the analytical data will be determined by the laboratory Project Manager in consultation with the Floyd|Snider QA Manager and may include qualification or rejection of the data.

The Data Validation summary report will be presented as an appendix to the RI. Validated data will be entered into the project database and uploaded to Ecology's EIM system.

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6.0 Corrective Actions

Corrective action procedures are described in this section.

6.1 CORRECTIVE ACTION FOR FIELD SAMPLING

The Field Lead will be responsible for correcting field errors in sampling or documenting equipment malfunctions during the field sampling effort and will be responsible for resolving situations in the field that may result in non-compliance with this SAP/QAPP. All corrective measures will be immediately documented in the field logbook.

6.2 CORRECTIVE ACTION FOR LABORATORY ANALYSES

The laboratories are required to comply with their Standard Operating Procedures. The laboratory Project Managers will be responsible for ensuring that appropriate corrective actions are initiated as required for conformance with this SAP/QAPP. All laboratory personnel will be responsible for reporting problems that may compromise the quality of the data.

Test sample and QC sample data will be reviewed to determine if there is an exceedance of QC limits. If any QC sample exceeds the project-specified control limits, the analyst will identify and correct the anomaly before continuing with the sample analysis. The analyst will document the corrective action taken in a memorandum submitted to the QA Manager. A narrative describing the anomaly, the steps taken to identify and correct the anomaly, and the treatment of the relevant sample batch (i.e., recalculation, reanalysis, and/or re-extraction) will be submitted with the data package.

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7.0 Field Investigation Procedures

The following sections describe the specific protocols that will be used to gather site data to be used in the RI and FS reports. Field forms for each type of sampling are included in Attachment A.1.

7.1 MONITORING WELL INSTALLATION, SOIL SAMPLING, AND DEVELOPMENT PROCEDURES

The proposed monitoring wells will be installed following the “Minimum Standards for Construction and Maintenance of Wells” outlined in WAC 173-160. Specific procedures are included in the Floyd|Snider standard guidelines (Attachment A.2). Borings will be advanced and wells completed by Holocene Drilling, Inc. (Holocene) of Puyallup, Washington. Proposed well locations are shown in Figure 3.2 of the Work Plan. Prior to conducting the subsurface exploration program, each location will be checked for the presence of underground utilities by a utility location company. Exploration locations may be moved to a limited degree based on field conditions and if underground or aboveground utility locations, and/or site operational constraints are present.

Due to the gravelly nature of the surface material at the Site, which caused poor sample recovery during previous investigations, roto-sonic drilling technology will be used to obtain adequate sample volume for laboratory analysis. Roto-sonic drilling utilizes a wide core barrel that is able to drive through large-diameter cobbles, ensuring that gravels do not block the core barrel and prevent material from being collected. The boreholes for the wells will be drilled using standard roto-sonic drilling techniques. Sonic boreholes will be advanced using either a 6- or 8-inch-inner-diameter sonic core barrel. The well screen placement will be determined by field observations. The objective is to place the well screen across the upper portion of the water table, with an average depth to groundwater of typically 4 to 6 feet below ground surface (bgs).

Soil samples will be collected during monitoring well installation from ground surface until approximately 1 to 2 feet below the water table, as determined in the field. It is anticipated that Phase 1 soil samples will be collected from the surface, the underlying vadose zone, and at the water table. A sample will also be collected below the water table and archived for potential future analysis. Samples will also be collected from deeper intervals if determined in the field to be necessary to vertically delineate contamination, and will be collected until field indications of contamination (i.e., odor, staining, and/or elevated headspace VOC concentrations measured by a photoionization detector [PID]) are no longer present). Phase 2 soil samples may be collected from more targeted depth intervals informed by Phase 1 analytical results. Soils will be described, logged, and sampled in accordance with the protocols described in the Floyd|Snider standard guidelines (Attachment A.2).

For the surface soil samples, if recent fill material is present, sample collection will start just below the zone of disturbance to target any contamination that may be present in surface soil (while avoiding recent fill deposits).

The monitoring wells will be constructed with 10-foot screens. All wells will be constructed of 2-inch-diameter, flush-threaded, Schedule 40 polyvinyl chloride (PVC) well casings and screens. Well screen assemblies will consist of a 10-foot length of 0.020-inch (20-slot) machine-slotted, flush-threaded, Schedule 40 PVC set in a 10/20 sand or equivalent silica sand filter pack. The well design includes a 0.5-foot-long flush-threaded, Schedule 40 PVC sump with a flush-threaded end cap. The sand filter pack will be installed by pouring sand into the annular space between the well casing and the borehole as the outer steel casing is withdrawn. A weighted tape will be used to monitor filter pack placement and depth during installation. The sand filter pack will extend a minimum of 1 foot above the top of the screened interval. A minimum 2-foot-thick seal of hydrated bentonite chips will be installed in the annular space immediately above the sand filter pack and hydrated with potable water if installed above the water table. The remainder of the annular space will be sealed with bentonite grout or hydrated bentonite chips to within 1 foot of the ground surface.

The monitoring wells will be secured with flush-to-ground locking steel protective monuments with expansion seals on the well casing to minimize the potential for surface water entering the monument. Well surging and development will be performed by the driller and will be completed by continuous pumping at a steady rate using a portable submersible pump and surge block. Specific procedures for well development are included in the Floyd|Snider standard guidelines (Attachment A.2).

7.2 GROUNDWATER SAMPLING PROCEDURES

Groundwater samples will be collected from all monitoring wells after purging with low-flow techniques, using a peristaltic pump and disposable or dedicated polyethylene tubing. Groundwater grab samples will also be collected from temporary wells according to the same procedures used for the monitoring wells. Specific procedures for low-flow groundwater sampling are included in the Floyd|Snider standard guidelines (Attachment A.2).

After the professional survey, discussed in Section 7.6, water level measurements will be collected from all monitoring wells at the Site during two monitoring events representative of seasonal variation. Water level measurements during each event will be collected within a day for an accurate representation of the potentiometric surface.

7.2.1 Groundwater Sample Nomenclature and Handling

The sample number format for all groundwater samples will be “well number—month/day/year of collection.” For example, a sample collected from Well MW-01 on August 15, 2016, would be labeled MW-01-081516. Other information that will be included on the bottle label is the date, time, analyses, and initials of sampler. Sample labels will also include the time of collection and initials of sampler on the bottle label.

The samples will be shipped or delivered to the laboratory as soon as feasible following collection to ensure that the analytical holding times specified in Table A.2 are met.

7.2.2 Laboratory Analysis

The analyses to be performed on groundwater samples collected during the RI investigation are summarized in Tables A.2 and A.3.

7.3 HYDROGEOLOGIC STUDY

After the first groundwater monitoring event, transducers will be deployed in five representative upgradient, central, and downgradient wells for an extended groundwater elevation survey. The transducers will be deployed according to Ecology's *Standard Operating Procedure for the use of Submersible Pressure Transducers during Groundwater Studies* (Ecology 2010).

7.4 SOIL SAMPLING PROCEDURES

The proposed borings will be advanced by Holocene at the locations shown in Figure 3.2 of the Work Plan, although these locations will be adjusted, as necessary, based on field conditions. Soil samples will be collected from these proposed locations. Prior to conducting the subsurface exploration program, each location will be checked for the presence of underground utilities by a utility location company. Exploration locations may be moved to a limited degree if underground or aboveground utility locations, and/or site operational constraints are present.

The boreholes for the wells will be drilled using standard roto-sonic drilling techniques. Sonic boreholes will be advanced to approximately 10 feet, using either a 6- or 8-inch-inner-diameter sonic core barrel. Soil samples will be collected during borehole advancement from ground surface until approximately 1 foot below the water table, as determined in the field. It is anticipated that Phase 1 soil samples will be collected from the surface, the underlying vadose zone, and at the water table. A sample will also be collected below the water table and archived for potential future analysis. Samples will also be collected from deeper intervals if determined in the field to be necessary to vertically delineate contamination, and will be collected until field indications of contamination (i.e., odor, staining, and/or elevated headspace VOC concentrations measured by a PID are no longer present). Phase 2 soil samples may be collected from more targeted depth intervals informed by Phase 1 analytical results. Soils will be described, logged, and sampled in accordance with the protocols described in the Floyd|Snider standard guidelines (Attachment A.2).

For the surface soil samples, if recent fill material is present, sample collection will start just below the zone of disturbance to target any contamination that may be present in surface soil (while avoiding recent fill deposits).

7.4.1 Soil Sample Nomenclature and Handling

The sample number format for soil samples will be "sonic boring location-top depth-bottom depth." For example, a surface sample collected from SB-24 from 0 to 2 feet would be labeled "SB24-0-2ft." A blind duplicate sample would be labeled with a fictitious sample location. For example, a field duplicate could be named "SB224-0-2ft." Every soil sample will have a unique

identifier, and the collection date will be known from the sample bottle and chain-of-custody form. Sample labels will include the time of collection and initials of sampler on the bottle label.

The samples will be shipped or delivered to the laboratory as soon as feasible following collection to ensure that the analytical holding times specified in Table A.2 are met.

7.4.2 Laboratory Analysis

The analyses to be performed on soil samples collected during the RI/FS field investigation are summarized in Tables A.2 and A.3.

7.5 EQUIPMENT DECONTAMINATION

Field sampling equipment, such as stainless steel bowls and the water level indicators, will be cleaned between uses at each sampling location. Equipment for reuse will be decontaminated according to the procedure below, before each sample interval.

1. Water will be sprayed over equipment to dislodge and remove any remaining soil.
2. Surfaces of equipment contacting sample material will be scrubbed with brushes using an Alconox solution.
3. Scrubbed equipment will be rinsed and scrubbed with clean water.
4. Equipment will undergo a final spray rinse of deionized water.
5. A rinsate blank QC sample will be collected by pouring laboratory-provided deionized water over the sampling equipment and collecting the rinsate in laboratory-provided bottles.

7.6 SURVEYING

All wells and sonic drilling locations will be professionally surveyed after sampling is complete. Elevations will be reported relative to the North American Vertical Datum of 1988 (NAVD 88). Well and boring logs will include the horizontal datum of NAD83 HARN, the Washington State Plane South coordinates of the well, and the top of well casing elevation (for the wells). The coordinate and elevation reference systems will also be noted on the well log.

7.7 INVESTIGATION-DERIVED WASTE MANAGEMENT

Generated waste will be managed and disposed of in accordance with applicable waste management regulations. Investigation-derived waste (IDW) includes the following liquids and solids:

- Purge water.
- Decontamination wash water.
- Soil drill cuttings, including non-soil debris that may be removed from the subsurface during drilling.
- Disposable materials used during field work that may be impacted by contaminated media, or decontamination wash water (e.g., disposable personal protective equipment [PPE], used filters, plastic sheeting, paper towels, tubing, etc.).

The approach to handling and disposal of these materials is as follows: For IDW that is containerized (e.g., soil cuttings and groundwater purge water), 55-gallon drums will be used for temporary storage pending profiling and disposal. Each container holding IDW will be sealed and labeled as to its contents (e.g., “soil cuttings”), the dates on which the wastes were placed in the container, the owner’s name and contact information of the field person generating the waste, the site name, and the boring(s) or well(s) from which they were obtained or extracted. At the end of each day, the drums will be transferred to a designated temporary storage area on-site.

This waste will be managed in accordance with applicable regulations and standards. Representative samples will be collected from each drum and composited and analyzed for Site constituents of potential concern, Resource Conservation and Recovery Act (RCRA) 8 metals plus copper, nickel, and zinc. Material that is designated for off-site disposal will be transported to an off-site facility permitted to accept the waste. Manifests will be used as appropriate for disposal.

All disposable sampling material and PPE (e.g., paper towels, disposable coveralls, and gloves) used in sample processing will be placed in heavyweight garbage bags or other appropriate containers. Disposable supplies will be removed from the Site by sampling personnel and placed in a municipal solid waste refuse container for disposal at a solid waste landfill.

7.8 DATA REPORTING

The RI report will document activities associated with the collection, transportation, and laboratory analysis of groundwater and samples. These reports will include the following:

- A description of the purpose and goals of the investigation.
- A summary of the field sampling and laboratory analytical procedures, referencing this SAP/QAPP and identifying any deviations resulting from field conditions.
- A general vicinity map showing the location of the Site and a sampling location map. Coordinates (i.e., latitude and longitude or state plan coordinates) will be reported in an accompanying table for the sampling locations.
- Data tables for all media summarizing the chemical and conventional analytical results, as well as pertinent QA/QC data. The data tables will include sample location numbers, sample IDs, dates of sample collection, depth of sample collection, and whether the sample was a duplicate.
- Interpretation of the results of this investigation, incorporating the results of previous investigations relative to the nature and extent of contamination on the Site as well as potential contamination sources.
- QA reports and laboratory data reports as appendices or attachments.
- Copies of field logs and chain-of-custody forms as appendices or attachments.

Following validation, data will be submitted to the Ecology EIM database.

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8.0 References

Washington State Department of Ecology (Ecology). 2010. *Standard Operating Procedure for the use of Submersible Pressure Transducers during Groundwater Studies*. 20 October.

U.S. Environmental Protection Agency (USEPA). 2014a. *National Functional Guidelines for Superfund Organic Methods Data Review*. Prepared by USEPA Office of Superfund Remediation and Technology Innovation, Washington, D.C. OSWER 9355.0-132/EPA-540-R-014-002. August.

U.S. Environmental Protection Agency (USEPA). 2014b. *National Functional Guidelines for Inorganic Superfund Data Review*. Prepared by USEPA Office of Superfund Remediation and Technology Innovation, Washington, D.C. OSWER 9355.0-131/EPA-540-R-013-001. August.

Smith-Kem Site

Remedial Investigation Work Plan

Appendix A

**Sampling and Analysis Plan/
Quality Assurance Project Plan**

Tables

Table A.1
Data Quality Assurance Criteria

Parameter	Matrix	Units	Reporting Limit ^{1,2}	Precision	Accuracy	Completeness	Reference
Groundwater Samples							
Total Petroleum Hydrocarbons (TPH)							
Diesel-Range TPH	Water	µg/L	Diesel: 50 Oil: 250	± 20%	± 30%	95%	NWTPH-Dx
Oil-Range TPH							
Gasoline-Range TPH	Water	µg/L	100	± 20%	± 30%	95%	NWTPH-Gx
Volatile Organic Compounds							
Benzene	Water	µg/L	0.35	± 20%	± 30%	95%	USEPA 8260C
Toluene	Water	µg/L	1.0	± 20%	± 30%	95%	USEPA 8260C
Ethylbenzene	Water	µg/L	1.0	± 20%	± 30%	95%	USEPA 8260C
Xylenes	Water	µg/L	3.0	± 20%	± 30%	95%	USEPA 8260C
Ethanol	Water	µg/L	1,000	± 20%	± 30%	95%	USEPA 8260C
Naphthalenes	Water	µg/L	1.0	± 20%	± 30%	95%	USEPA 8260C
Methyl Tert-Butyl Ether (MTBE)	Water	µg/L	1.0	± 20%	± 30%	95%	USEPA 8260C
1,2-Dichloroethane (EDC)	Water	µg/L	0.35	± 20%	± 30%	95%	USEPA 8260C
n-Hexane	Water	µg/L	1.0	± 20%	± 30%	95%	USEPA 8260C
1,2-Dibromoethane (EDB)	Water	µg/L	0.01	± 20%	± 30%	95%	USEPA 8011B
Metals							
Total Metals ³	Water	µg/L	1.0	± 20%	± 30%	95%	USEPA 200.8
Carcinogenic Polycyclic Aromatic Hydrocarbons							
Carcinogenic Polycyclic Aromatic Hydrocarbons ³	Water	µg/L	0.01	± 20%	± 30%	95%	USEPA 8270-SIM
Miscellaneous Substances							
Ammonia Nitrogen	Water	µg/L	0.005	± 20%	± 30%	95%	USEPA 350.1
Nitrate/Nitrite	Water	µg/L	0.01	± 20%	± 30%	95%	USEPA 353.2
Pesticides and Herbicides							
Organochlorine Pesticides ³	Water	µg/L	0.06–0.6	± 20%	± 30%	95%	USEPA 8081
Chlorinated Herbicides ³	Water	µg/L	0.08	± 20%	± 30%	95%	USEPA 8321B
Glyphosate	Water	µg/L	70.	± 20%	± 30%	95%	USEPA 547
Other Pesticides and Herbicides ³	Water	µg/L	0.06–10.	± 20%	± 30%	95%	Multi-residue Pesticides Profile ⁴
Soil Samples							
Total Petroleum Hydrocarbons (TPH)							
Diesel-Range TPH	Soil	mg/kg	Diesel: 50 Oil: 250	± 20%	± 30%	95%	NWTPH-Dx
Oil-Range TPH							
Gasoline-Range TPH	Soil	mg/kg	2	± 20%	± 30%	95%	NWTPH-Gx
Volatile Organic Compounds							
Benzene	Soil	mg/kg	0.03	± 20%	± 30%	95%	USEPA 8260C
Toluene	Soil	mg/kg	0.05	± 20%	± 30%	95%	USEPA 8260C
Ethylbenzene	Soil	mg/kg	0.05	± 20%	± 30%	95%	USEPA 8260C
Xylenes	Soil	mg/kg	1.5	± 20%	± 30%	95%	USEPA 8260C
Ethanol	Soil	mg/kg	50	± 20%	± 30%	95%	USEPA 8260C
Naphthalenes	Soil	mg/kg	0.05	± 20%	± 30%	95%	USEPA 8260C
Methyl Tert-Butyl Ether (MTBE)	Soil	mg/kg	0.05	± 20%	± 30%	95%	USEPA 8260C
1,2-Dichloroethane (EDC)	Soil	mg/kg	0.05	± 20%	± 30%	95%	USEPA 8260C
n-Hexane	Soil	mg/kg	0.05	± 20%	± 30%	95%	USEPA 8260C
1,2-Dibromoethane (EDB)	Soil	mg/kg	0.05	± 20%	± 30%	95%	USEPA 8260C
BTEX (low level) ⁵	Soil	mg/kg	0.001-0.002	± 20%	± 30%	95%	USEPA 8260 DS
1,2-Dichloroethane (EDC) low-level	Soil	mg/kg	0.001	± 20%	± 30%	95%	USEPA 8260 DS
Metals							
Metals ³	Soil	mg/kg	0.1–1.0	± 20%	± 30%	95%	USEPA 200.8 USEPA 1631E (Hg)

**Table A.1
Data Quality Assurance Criteria**

Parameter	Matrix	Units	Reporting Limit ^{1,2}	Precision	Accuracy	Completeness	Reference
Carcinogenic Polycyclic Aromatic Hydrocarbons							
Carcinogenic Polycyclic Aromatic Hydrocarbons ³	Soil	mg/kg	0.005	± 20%	± 30%	95%	USEPA 8270-SIM
Miscellaneous Substances							
Nitrate/Nitrite	Soil	mg/kg	0.5	± 20%	± 30%	95%	SM4500NO3F
Pesticides and Herbicides							
Organochlorine Pesticides ³	Soil	mg/kg	0.0067–0.13	± 20%	± 30%	95%	USEPA 8081
Chlorinated Herbicides ³	Soil	mg/kg	0.010–0.020	± 20%	± 30%	95%	USEPA 8151
Glyphosate	Soil	mg/kg	0.033	± 20%	± 30%	95%	USEPA 547
Other Pesticides and Herbicides ³	Soil	mg/kg	0.0067–0.033	± 20%	± 30%	95%	Multi-residue Pesticides Profile ⁴

Notes:

- 1 All reporting limits shown are method PQLs or LOQs from the laboratories completing a particular analysis at Pacific Agricultural Laboratory in Portland, Oregon or Friedman & Bruya, Inc. laboratory in Seattle, Washington. When the reporting limit is presented as a range, the reporting limit varies by analyte; reporting limits for individual analytes are presented in Table A.3.
- 2 All reporting limits are presented to two significant figures.
- 3 Individual analytes that will be analyzed for within this category of compounds are presented in Table A.3.
- 4 The multi-residue pesticides profile incorporates the following methods in water and soil: halogenated pesticides (USEPA 8081B); organophosphorus pesticides (USEPA 8141B); organonitrogen pesticides (USEPA 8270D); and miscellaneous pesticides (USEPA 8321B).
- 5 The low-level BTEX method will be run if field indications of contamination (e.g., odor, sheen) and elevated concentrations of gasoline-range hydrocarbons are present.

Abbreviations:

- BTEX Benzene, toluene, ethylbenzene, and xylenes
- LOQ Limit of Quantitation
- µg/L Micrograms per liter
- mg/kg Milligrams per kilogram
- PQL Practical Quantitation Limit
- TPH Total petroleum hydrocarbons

**Table A.2
Analytical Requirements, Methods, Preservation, Bottle Type, and Holding Times**

Analyses	Method	Bottle Type	Preservative	Holding Time
Groundwater Samples				
Total Petroleum Hydrocarbons (TPH)				
Oil-Range and Diesel-Range TPH	NWTPH-Dx ¹	Two 500-mL amber glass	None, cool to <4 °C	7 days to extract, then 40 days to analyze
Gasoline-Range TPH	NWTPH-Gx	Three 40-mL vials ²	HCl to pH <2.0, cool to <4 °C	7 days (unpreserved), 14 days (preserved)
Volatile Organic Compounds				
Volatile Organic Compounds	USEPA Method 8260C	Three 40-mL vials ²	HCl to pH <2.0, cool to <4 °C	7 days (unpreserved), 14 days (preserved)
1,2-Dibromoethane (EDB)	USEPA Method 8011B	Three 40-mL vials ²	HCl to pH <2.0, cool to <4 °C	7 days (unpreserved), 14 days (preserved)
Metals				
Total Metals	USEPA Method 200.8	One 250-mL HDPE	HNO ₃ to pH <2.0, cool to <4 °C	6 months 28 days for Hg
Carcinogenic Polycyclic Aromatic Hydrocarbons				
Carcinogenic Polycyclic Aromatic Hydrocarbons	USEPA 8270D-SIM	2 x 1L Amber glass	None, cool to <4 °C	7 days to extract, then 40 days to analyze
Miscellaneous Substances				
Ammonia Nitrogen	USEPA 350.1	One 250-mL HDPE	H ₂ SO ₄ to pH<2.0, cool to <4 °C	28 days
Nitrate/Nitrite	USEPA 353.2	One 250-mL HDPE	None, cool to <4 °C	48 hours
Pesticides and Herbicides				
Organochlorine Pesticides	Multi-Residue Pesticides Profile ³	Two 1-L bottles	None, cool to <4 °C	7 days
Chlorinated Herbicides	USEPA Method 8321B		None, cool to <4 °C	7 days
Glyphosate	USEPA Method 547		None, cool to <4 °C	7 days
Other Pesticides and Herbicides ³	Multi-Residue Pesticides Profile ³		None, cool to <4 °C	7 days
Soil Samples				
Total Petroleum Hydrocarbons (TPH)				
Oil-Range and Diesel-Range TPH	NWTPH-Dx ¹	One 8-oz WMG	None, cool to <4 °C	14 days to extract, then 40 days to analyze (or freeze for 1 year)
Gasoline-Range TPH	NWTPH-Gx	Three 5035 kits or MeOH-preservative vials	Cool to <4 °C	48 hours to freeze, 14 days to analyze
Volatile Organic Compounds				
Volatile Organic Compounds	USEPA Method 8260C	Three pre-tared or MeOH-preservative vials	Cool to <4 °C	48 hours to freeze, 14 days to analyze
BTEX (low level) ⁴	USEPA Method 8260C DS	Three pre-tared or MeOH-preservative vials	Cool to <4 °C	48 hours to freeze, 14 days to analyze
Metals				
Metals	USEPA Method 200.8 USEPA Method 1631E (Hg)	One 4-oz WMG	None, cool to <4 °C	6 months (or freeze for 1 year) 28 days for Hg
Carcinogenic Polycyclic Aromatic Hydrocarbons				
Carcinogenic Polycyclic Aromatic Hydrocarbons	USEPA 8270D-SIM	One 8-oz WMG	None, cool to <4 °C	14 days to extract, then 40 days to analyze (or freeze for 1 year)
Miscellaneous Substances				
Nitrate/Nitrite	SM4500NO3F	One 4-oz WMG	None, cool to <4 °C	28 days

**Table A.2
Analytical Requirements, Methods, Preservation, Bottle Type, and Holding Times**

Analyses	Method	Bottle Type	Preservative	Holding Time
Soil Samples (Cont.)				
Pesticides and Herbicides				
Organochlorine Pesticides	Multi-Residue Pesticides Profile ³	One 8-oz WMG	None, cool to <4 °C	14 days
Chlorinated Herbicides	USEPA Method 8151		None, cool to <4 °C	14 days
Glyphosate	USEPA Method 547		None, cool to <4 °C	14 days
Other Pesticides and Herbicides	Multi-Residue Pesticides Profile ³		None, cool to <4 °C	14 days

Notes:

- 1 Silica gel cleanup may be used for analysis of soil samples, in later phases. Groundwater samples may use silica gel cleanup in addition to non-silica gel cleanup but compliance relative to criteria will be evaluated on the non-silica gel cleanup results.
- 2 No head space in sample container.
- 3 The multi-residue pesticides profile incorporates the following methods in water and soil: halogenated pesticides (USEPA 8081B); organophosphorus pesticides (USEPA 8141B); organonitrogen pesticides (USEPA 8270D); and miscellaneous pesticides (USEPA 8321B).
- 4 The low-level BTEX method will be run if field indications of contamination (e.g., odor, sheen) and elevated concentrations of gasoline-range TPH are present.

Abbreviations:

- BTEX Benzene, toluene, ethylbenzene, and xylenes
- °C Degrees Celsius
- H₂SO₄ Sulfuric acid
- HCl Hydrochloric acid
- HDPE High-density polyethylene
- HNO₃ Nitric acid
- L Liter
- MeOH Methanol
- mL Milliliters
- oz Ounces
- PETG Polyethylene terephthalate.
- TPH Total petroleum hydrocarbon
- WMG Wide-mouth glass jar.

Table A.3
Analytical Methods, Detection Limits, and Reporting Limits

Analyte Name	CAS No.	Method	Groundwater (µg/L) ¹		Soil (mg/kg) ²		
			Lowest GW Standard ³	Reporting Limit ^{3,4}	Lowest Soil Standard ³	Reporting Limit ^{3,4}	
Volatile Organic Compounds							
Benzene	71-43-2	USEPA 8260C (USEPA 8011B for 1,2-Dibromoethane [EDB] in groundwater only)	0.80	0.35	0.002	0.03	
Toluene	100-41-4		70	1.0	0.34	0.05	
Ethylbenzene	108-88-3		640	1.0	0.27	0.05	
Xylenes ⁵	1330-20-7		1,600	3.0	0.83	1.5	
Ethanol	64-17-5		--	1,000	--	50	
Naphthalenes ⁶	91-20-3		160	1.0	0.24	0.05	
Methyl tert-Butyl Ether (MTBE)	1634-04-4		24	1.0	0.0072	0.050	
1,2-Dichloroethane (EDC)	107-06-2		0.48	0.35	0.0016	0.050	
n-Hexane	110-54-3		480	1.0	1.8	0.050	
1,2-Dibromoethane (EDB)	106-93-4		0.022	0.010	0.5	0.050	
Benzene	71-43-2	USEPA 8260 DS (low-level, soil only) ⁷	0.80	--	0.002	0.001	
Toluene	100-41-4		70	--	0.34	0.001	
Ethylbenzene	108-88-3		640	--	0.27	0.001	
Xylenes ⁵	1330-20-7		1,600	--	0.83	0.002	
Methyl tert-Butyl Ether (MTBE)	1634-04-4	USEPA 8260 DS (low-level, soil only)	24	--	0.0072	0.001	
1,2-Dichloroethane (EDC)	107-06-2		0.48	--	0.0016	0.001	
Metals							
Arsenic ⁸	7440-38-2	USEPA 200.8	5	1.0	20	1.0	
Cadmium	7440-43-9		5	1.0	36	1.0	
Chromium (Total) ⁹	7440-47-3		100	1.0	135	1.0	
Copper	7440-50-8		640	1.0	14	1.0	
Lead	7439-92-1		15	1.0	150	1.0	
Mercury	7439-97-6		2	1.0	0.10	0.10	
Zinc	7440-66-6		4,800	1.0	299	1.0	
Carcinogenic Polycyclic Aromatic Hydrocarbons							
Benz(a)anthracene	56-55-3	USEPA 8270D-SIM	0.12	0.01	0.043	0.005	
Benzo(a)pyrene	50-32-8		0.012	0.01	0.12	0.005	
Benzo(b)fluoranthene	205-99-2		0.12	0.01	0.12	0.005	
Benzo(k)fluoranthene	207-08-9		1.2	0.01	1.2	0.005	
Chrysene	218-01-9		12	0.01	4.8	0.005	
Dibenz(a,h)anthracene	53-70-3		0.012	0.01	0.012	0.005	
Indeno(1,2,3-cd)pyrene	193-39-5		0.12	0.01	0.12	0.005	
cPAH TEQ	--		0.012	0.01	0.12	0.005	
Miscellaneous Substances							
Ammonia-Nitrogen	7664-41-7	USEPA 350.1	--	0.005	--	--	
Nitrate/Nitrite	14797-55-8	USEPA 353.2 (groundwater), SM4500NO3F (soil)	10000/1,000	0.01	130,000/8,000	0.5	
Organochlorine Pesticides							
HCH-alpha (a-BHC)	319-84-6	Multi-Residue Pesticides Profile ¹¹	0.014	0.06	5.50E-04	0.0067	
HCH-beta (b-BHC)	319-85-7		0.049	0.06	2.30E-03	0.0067	
HCH-delta (d-BHC)	319-86-8		--	0.06	--	0.0067	
G-BHC (Lindane)	58-89-9		0.080	0.06	0.0062	0.0067	
Aldrin	309-00-2		0.0026	0.06	0.0025	0.0067	
Heptachlor	76-44-8		0.019	0.06	0.038	0.0067	
Heptachlor Epoxide	1024-57-3		0.005	0.06	0.080	0.0067	
Chlordane	57-74-9		0.25	0.60	2.1	0.033	
Dieldrin	60-57-1		0.0055	0.06	0.0028	0.0067	
Endrin	72-20-8		2.0	0.06	0.20	0.0067	
Endosulfan I ¹⁰	959-98-8		96	0.06	4.3	0.0067	
Endosulfan II ¹⁰	33213-65-9		96	0.06	4.3	0.0067	
4,4'-DDD / Sum DDD	72-54-8		0.360	0.06	0.34	0.0067	
4,4'-DDE / Sum DDE	72-55-9		0.260	0.06	0.45	0.0067	
4,4'-DDT / Sum DDT	50-29-3		0.260	0.06	0.75	0.0067	
Hexachlorobenzene	118-74-1		0.055	0.06	0.63	0.0067	
Methoxychlor	72-43-5		40	0.06	62	0.0067	
Toxaphene	8001-35-2		0.080	0.60	0.91	0.13	
Chlorinated Herbicides							
2,4-D	94-75-7		Chlorinated Acid Herbicides Profile ¹²	70	0.08	800	0.010
2,4-DB	94-82-6	130		0.08	640	0.010	
2,4,5-TP (Silvex)	93-72-1	50		0.08	640	0.010	
2,4,5-T	93-76-5	160		0.08	800	0.010	
Dalapon	75-99-0	200		Not Analyzed ¹³	2,400	Not Analyzed ¹³	
Dicamba	1918-00-9	480		0.08	2,400	0.010	
Dinoseb	88-85-7	7		0.08	80	0.010	
MCPA	94-74-6	8		0.08	40	0.010	
MCPP (Mecoprop)	93-65-2	16		0.08	80	0.010	
Pentachlorophenol	87-86-5	0.22		0.08	0.016	0.020	

Table A.3
Analytical Methods, Detection Limits, and Reporting Limits

Analyte Name	CAS No.	Method	Groundwater (µg/L) ¹		Soil (mg/kg) ²	
			Lowest GW Standard ³	Reporting Limit ^{3,4}	Lowest Soil Standard ³	Reporting Limit ^{3,4}
Other Chlorinated/Halogenated Pesticides						
Acetochlor	34256-82-1	Multi-Residue Pesticides Profile ¹¹	320	0.30	1,600	0.017
Alachlor	15972-60-8		1.6	0.30	18	0.017
Atrazine	1912-24-9		0.38	0.06	4.3	0.007
Captafol	2425-06-1		0.58	0.12	6.7	0.007
Captan	133-06-2		38	0.30	430	0.017
Chlordane-alpha ¹⁴	5103-71-9		0.25	0.12	2.1	0.017
Chlorbenzilate	510-15-6		0.80	0.30	9.1	0.017
Chlorthalonil	1897-45-6		28	0.12	320	0.007
Cyanazine (Bladex)	21725-46-2		0.10	0.12	1.2	0.017
Cyhalothrin/karate	68085-85-8		80	0.60	400	0.033
Cypermethrin	52315-07-8		160	0.30	800	0.033
DCPA (Dacthal)	1861-32-1		160	0.12	800	0.0067
Flutolanil	66332-96-5		960	1.20	4,800	0.0067
Folpet	133-07-3		25	0.12	290	0.017
Hexachlorocyclopentadiene	77-47-4		48	Not Analyzed ¹³	190	Not Analyzed ¹³
Iprodione	36734-19-7		640	0.12	3,200	0.0067
Metoachlor	51218-45-2		2400	0.30	12,000	0.017
Metribuzin	21087-64-9		400	0.12	2,000	0.0067
Norflurazon	27314-13-2		640	0.12	3,200	0.0067
Oxadiazon	19666-30-9		80	0.12	400	0.0067
Oxamyl	23135-22-0	200	0.06	2,000	0.033	
Permethrin	52645-53-1	800	0.30	4,000	0.033	
Pronamide	23950-58-5	1,200	0.12	6,000	0.0067	
Propachlor	1918-16-7	210	0.30	1,000	0.017	
Propanil	709-98-8	80	0.12	400	0.0067	
Propiconazole	60207-90-1	210	0.30	1,000	0.017	
Simazine	122-34-9	0.73	0.06	8	0.0067	
Terbacil	5902-51-2	210	0.12	1,000	0.0067	
Trifluralin	1582-09-8	11	0.12	130	0.0067	
Organophosphate Pesticides (Organophosphorus Compounds)						
Glyphosate	1071-83-6	USEPA Method 547	70	10	8,000	0.033
Chlorpyrifos	2921-88-2	Multi-Residue Pesticides Profile ¹¹	16	0.30	80	0.017
Chlorpyrifos-methyl	5598-13-0		160	0.30	800	0.017
Diazinon	333-41-5		11	0.30	56	0.017
Dichlorvos	62-73-7		0.15	0.30	3.4	0.017
Dicrotophos	141-66-2		1.6	0.30	8.0	0.017
Dimethoate	60-51-5		3.2	0.30	16	0.017
Disulfoton	298-04-4		0.64	0.30	3.2	0.017
EPN	2104-64-5		0.16	0.30	0.80	0.017
Ethion (Ronnel)	563-12-2		8.0	0.30	40	0.017
Fenchlorphos	299-84-3		800	0.30	4,000	0.017
Fonofos (Merphos)	944-22-9		32	0.30	160	0.017
Malathion	121-75-5		320	0.30	1,600	0.017
Naled (as Dichlorvos)	300-76-5		32	0.30	160	0.017
Parathion	56-38-2		96	0.30	480	0.017
Parathion-methyl	298-00-0		4.0	0.30	20	0.017
Phorate	298-02-2		3.2	0.30	16	0.017
Terbufos	13071-79-9		0.40	0.30	2.0	0.017
Triazine Herbicides (Organonitrogen Pesticides)						
Ametryn	834-12-8	Multi-Residue Pesticides Profile ¹¹	140	0.06	720	0.0067
Hexazinone	51235-04-2		530	0.06	2,600	0.0067
Prometon	1610-18-0		240	0.12	1,200	0.0067
Prometryn	7287-19-6		64	0.06	320	0.0067
Propazine	139-40-2		320	0.06	1,600	0.0067
Phenylurea Herbicides						
Diuron	330-54-1	Multi-Residue Pesticides Profile ¹¹	32	0.06	160	0.0067
Linuron	330-55-2		32	0.06	160	0.0067
Carbamate Pesticides						
Aldicarb	116-06-3	Multi-Residue Pesticides Profile ¹¹	16	0.06	80	0.0067
Aldicarb sulfone	1646-88-4		16	0.06	80	0.0067
Carbaryl	63-25-2		1,600	0.06	8,000	0.0067
Carbofuran	1563-66-2		40	0.06	400	0.0067
Methomyl	16752-77-5		400	0.06	2,000	0.0067
Thiobencarb	28249-77-6		160	0.06	800	0.0067
Organophosphorus and Organosulfur Pesticides						
Demeton	8065-48-3	Multi-Residue Pesticides Profile ¹¹	0.64	0.30	3.2	0.017
Fenamiphos	22224-92-6		4.0	0.30	20	0.017
Merphos	150-50-5		0.48	0.30	2.4	0.017
Methidathion	950-37-8		16	0.30	80	0.017
Phosmet	732-11-6		320	0.30	1,600	0.017
Pirimiphos-methyl	29232-93-7		160	0.30	800	0.017
Propargite	2312-35-8		160	0.60	1,600	0.017
Tetrachlorvinphos	961-11-5		3.6	0.30	42	0.017

Table A.3
Analytical Methods, Detection Limits, and Reporting Limits

Analyte Name	CAS No.	Method	Groundwater (µg/L) ¹		Soil (mg/kg) ²	
			Lowest GW Standard ³	Reporting Limit ^{3,4}	Lowest Soil Standard ³	Reporting Limit ^{3,4}
Organonitrogen Pesticides						
Amitraz	33089-61-1	Multi-Residue Pesticides Profile ¹¹	40	0.12	200	0.013
Diphenylamine	122-39-4		400	0.06	2,000	Not Analyzed ¹³
Fluometuron	2164-17-2		210	0.06	1,000	0.0067
Metalaxyl	57837-19-1		960	0.06	4,800	0.0067
Oryzalin	19044-88-3		800	0.06	4,000	0.0067
Pendimethalin	40487-42-1		640	0.06	3,200	0.0067
Tebuthiuron	34014-18-1		1,100	0.12	5,600	0.013
Total Petroleum Hydrocarbons (TPH)						
Gasoline-Range TPH ^{15,16}	--	NWTPH-Gx	800 / 1,000	100	30 / 100	2
Diesel-Range TPH ¹⁶	--	NWTPH-Dx ¹⁷	500	50	2,000	50
Oil-Range TPH ¹⁶	--		500	250	2,000	250

Notes:

-- Not applicable

Red The LOQ that PAL or FBI can achieve using this method is greater than the screening level/cleanup level in the indicated media.

Bold Previous on-site data collection efforts indicate that contamination exceeding the relevant screening level/cleanup level is present.

- Groundwater criteria protective of drinking water use were considered when developing criteria. Criteria considered include state and federal Maximum Contaminant Levels and MTCA Method B cancer and non-cancer groundwater criteria.
- Soil criteria protective of human health and ecological receptors for unrestricted site use were considered when developing criteria. Criteria considered include MTCA TEE criteria for unrestricted site use, MTCA Method B cancer and noncancer criteria, and soil-to-groundwater equilibrium criteria developed to protect groundwater in the vadose (unsaturated) and saturated soil zones.
- All criteria and LOQs are rounded to two significant figures. Analytical results will be reported to two significant figures.
- LOQs provided are typical of the method in the media indicated, but may be elevated in some samples due to matrix interferences, and/or may be elevated for some compounds due to spectral or other interferences associated with the analysis. The laboratory will make every effort to obtain LOQs that are less than the applicable soil or groundwater cleanup standard in this table using the indicated method.
- Xylenes are typically analyzed and reported by laboratories as m,p-Xylene and o-Xylene; these values are summed and reported as Total Xylenes. When evaluating relevant criteria for Xylenes, the criteria developed in soil and groundwater for Total Xylenes was selected as the relevant criterion.
- Naphthalenes to be analyzed are naphthalene, 1-methyl-naphthalene, and 2-methyl-naphthalene.
- Low-level BTEX method will be run if field indications of contamination (e.g., odor, sheen) and elevated concentrations of gasoline-range hydrocarbons are present.
- Washington State natural background levels in soil and groundwater were considered, in addition to criteria developed for protection of human health and ecological receptors. When the risk-based criteria were less than natural background values, the natural background value was selected as the relevant criterion.
- Criteria developed for Total Chromium and for Chromium(III) were considered when determining the relevant criteria for chromium. There is no reason to suspect the presence of Chromium(VI) on-site.
- Soil and groundwater criteria were not developed for Endosulfan I or Endosulfan II. Soil and groundwater criteria developed for Endosulfan (CAS 115-29-7) were used as a surrogate.
- The multi-residue pesticides profile incorporates the following methods in water and soil: halogenated pesticides (USEPA 8081B); organophosphorus pesticides (USEPA 8141B); organonitrogen pesticides (USEPA 8270D); and miscellaneous pesticides (USEPA 8321B).
- The chlorinated herbicides profile utilizes USEPA Method 8321B in water and USEPA Method 8151 in soil.
- PAL does not perform analysis for this analyte in the indicated media.
- Soil and groundwater criteria were not developed for chlordane-alpha; criteria developed for Chlordane (CAS 57-74-9) were used as a surrogate.
- Two criteria values are presented: the applicable criterion with the greater value is used if no benzene is detected in the sample; otherwise, the lesser value is used.
- Criteria presented for TPH compounds are based on MTCA Method A criteria, as no other TPH criteria have been developed.
- Silica gel cleanup may be used for analysis of soil samples, in later phases. Groundwater samples may use silica gel cleanup in addition to non-silica gel cleanup but compliance relative to criteria will be evaluated on the non-silica gel cleanup results.

Abbreviations:

- BHC Benzene hexachloride
- CAS Chemical Abstracts Service
- D Dichlorophenoxyacetic acid
- DB dichlorophenoxy)butyric
- DDD Dichlorodiphenyldichloroethane
- DDE Dichlorodiphenyldichloroethylene
- DDT Dichlorodiphenyltrichloroethane
- GW Groundwater
- HCH Hexachlorocyclohexane
- LOQ Limit of Quantitation
- µg/L Micrograms per liter
- mg/kg Milligrams per kilogram
- MTCA Model Toxics Control Act
- PAL Pacific Agricultural Laboratory
- RL Remediation level
- T Trichlorophenoxyacetic acid
- TEE Terrestrial Ecological Evaluation

Smith-Kem Site

Remedial Investigation Work Plan

Appendix A

**Sampling and Analysis Plan/
Quality Assurance Project Plan**

Attachment A.1

Field Forms

FLOYD SNIDER strategy • science • engineering	PROJECT:	LOCATION:	WELL ID:
	LOGGED BY:	DRILL DATE:	ECOLOGY WELL ID:
DRILLED BY:	BORING DIAMETER:	COORDINATE SYSTEM:	
DRILLING EQUIPMENT:	SCREENED INTERVAL:	NORTHING:	EASTING:
DRILLING METHOD:		GROUND SURFACE ELEV.:	TOC ELEVATION:
SAMPLING METHOD:		TOTAL DEPTH (ft bgs):	DEPTH TO WATER (ft bgs):

Depth (feet)	USCS	Description	Drive	Recovery	# of Blows	PID (ppm)	Sample ID	Well Construction
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

ABBREVIATIONS: ft bgs = feet below ground surface USCS = Unified Soil Classification System ppm = parts per million ▼ = denotes groundwater table	NOTES:
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FLOYD SNIDER strategy • science • engineering	PROJECT:	LOCATION:	WELL ID:
	LOGGED BY:	DRILL DATE:	ECOLOGY WELL ID:
DRILLED BY:	BORING DIAMETER:	COORDINATE SYSTEM:	
DRILLING EQUIPMENT:	SCREENED INTERVAL:	NORTHING:	EASTING:
DRILLING METHOD:		GROUND SURFACE ELEV.:	TOC ELEVATION:
SAMPLING METHOD:		TOTAL DEPTH (ft bgs):	DEPTH TO WATER (ft bgs):

Depth (feet)	USCS	Description	Drive	Recovery	# of Blows	PID (ppm)	Sample ID	Well Construction
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

ABBREVIATIONS: ft bgs = feet below ground surface USCS = Unified Soil Classification System ppm = parts per million ▼ = denotes groundwater table	NOTES:
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GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: _____

Date of Collection: _____

Project Number: _____

Field Personnel: _____

Purge Data

Well ID: _____ Secure: Yes No Well Condition/Damage Description: _____

Depth Sounder decontaminated Prior to Placement in Well: Yes No One Casing Volume (gal): _____

Depth of water (from top of well casing): _____ Well Casing Type/Diameter/Screened Interval: _____

After 5 minutes of purging (from top of casing): _____

Begin purge (time): _____

End purge (time): _____

Volume purged: _____

Purge water disposal method: _____

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged	pH	DO	Conductivity	Turbidity	Temp	ORP	Comments
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Sampling Data

Sample No: _____ Location and Depth: _____

Date Collected (mo/dy/yr): _____ Time Collected: _____ Weather: _____

Type: Ground Water Surface Water Other: _____ Sample: Filtered Unfiltered Other: _____

Sample Collected with: Bailer Pump Other: _____ Type: _____

Water Quality Instrument Data Collected with: Type: Horiba U-22 Horiba U-50 Other: _____

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: _____

Sample Description (Color, Turbidity, Odor, Other): _____

Sample Analyses

TPH-D (HCl) Chlor / Fluor (unpres) COD / TOC (H2SO4) Orthophos (FILTER) Diss. Metals (HNO3)
 TPH-G (HCl) BTEX (HCl) Total Metals (HNO3) TKN/Phos (N2SO4) VOCs (HCl)

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Signature: _____ Date: _____

FLOYD SNIDER strategy ▪ science ▪ engineering	PROJECT:	LOCATION:	BORING ID:
	LOGGED BY:	COORDINATE SYSTEM:	
DRILLED BY:	NORTHING:	EASTING:	
DRILLING EQUIPMENT:	GROUND SURFACE ELEVATION:		
DRILLING METHOD:	TOTAL DEPTH (ft bgs):	DEPTH TO WATER (ft bgs):	
SAMPLING METHOD:	BORING DIAMETER:	DRILL DATE:	

Depth (feet)	USCS	Description	Drive	Recovery	# of Blows	PID (ppm)	Sample ID
0							
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

ABBREVIATIONS: ft bgs = feet below ground surface USCS = Unified Soil Classification System ppm = parts per million ▼ = denotes groundwater table	NOTES:
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FLOYD SNIDER strategy • science • engineering	PROJECT:	LOCATION:	BORING ID:
	LOGGED BY:	COORDINATE SYSTEM:	
DRILLED BY:	NORTHING:	EASTING:	
DRILLING EQUIPMENT:	GROUND SURFACE ELEVATION:		
DRILLING METHOD:	TOTAL DEPTH (ft bgs):	DEPTH TO WATER (ft bgs):	
SAMPLING METHOD:	BORING DIAMETER:	DRILL DATE:	

Depth (feet)	USCS	Description	Drive	Recovery	# of Blows	PID (ppm)	Sample ID
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

ABBREVIATIONS: ft bgs = feet below ground surface USCS = Unified Soil Classification System ppm = parts per million ▼ = denotes groundwater table	NOTES:
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Smith-Kem Site

Remedial Investigation Work Plan

Appendix A

**Sampling and Analysis Plan/
Quality Assurance Project Plan**

Attachment A.2

Standard Operating Guidelines

F|S STANDARD GUIDELINE

Well Construction

DATE/LAST UPDATE: May 2015

These procedures should be considered standard guidelines and are intended to provide useful guidance when in the field, but are not intended to be step-by-step procedures, as some steps may not be applicable to all projects.

All field staff should be sufficiently trained in the standard guidelines and should review and understand these procedures prior to going in the field. It is the responsibility of the field staff to review the standard guidelines with the field manager or project manager and identify any deviations from these guidelines prior to field work. When possible, the project-specific Sampling and Analysis Plan should contain any expected deviations and should be referenced in conjunction with these standard guidelines.

1.0 Scope and Purpose

This standard guideline presents commonly used procedures for the installation of resource protection wells, in accordance with applicable sections of the Washington State Minimum Standards for Construction and Maintenance of Wells (Washington Administrative Code [WAC] 173-160, Part Two) and ASTM Standard Practice for Design and Installation of Groundwater Monitoring Wells (ASTM D5092-04[2010]e1). These wells may include groundwater monitoring wells, piezometers, groundwater extraction wells, injection wells, or vapor extraction wells. The guideline is intended to be used by field staff who are overseeing well drilling and construction.

2.0 Equipment and Supplies

Well Installation Equipment and Tools:

- Tape measure or measuring wheel
- Weighted tape or leadline
- Water level meter
- Hand-held Global Positioning System (GPS; optional)
- Camera
- Trash bags

- Well construction materials including polyvinyl chloric (PVC) screen and riser, sandpack, bentonite and well monument will be provided by the drilling subcontractor.

Paperwork:

- Work Plan and/or Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP)
- Health and Safety Plan (HASP)
- Copies of figures showing previous boring locations and boring logs from previous investigations and historical depth to water levels, if available
- Well installation forms (printed on Rite in the Rain paper)
- Permanent markers and pencils

Personal Equipment:

- Steel-toed boots
- Hard hat
- Safety vest
- Safety glasses
- Nitrile gloves
- Ear plugs
- Rain gear
- Work gloves

3.0 Standard Procedures

3.1 PREPARATION

First, before going into the field, it is important to discuss the project needs with the Project Manager (PM). These include the appropriate aquifer for well screening (especially if it is not the shallowest aquifer), soil sampling interval (if applicable to drilling method), screen length and placement (especially important at tidally influenced sites), well construction materials (i.e., screen slot size and grain size of the filter pack), surface completion of the wells, and any other important construction details. Any non-standard materials needed for well construction should also be communicated to the drilling firm when the work is scheduled, or a minimum of two weeks prior to the field event. Select a boring log template that is appropriate for the project needs.

Next, review the work plan and existing materials such as cross-sections, historical depth to water levels, or boring logs from previous investigations (if available) to familiarize yourself with the

site geology. In addition to site-specific information (or alternatively if other information is not available), a geologic map of the area from a reputable source such as the U.S. Geological Survey (USGS) may also be reviewed.

Finally, check the area of the site where drilling will occur for underground objects. A OneCall locate request should be made at least one week and no less than three days prior to commencement of drilling in order to give public utility locators time to mark known, buried utility lines. All planned boring locations should be marked on the ground with white spray paint prior to making a locate request. In almost all cases, site maintenance managers or equivalent should be consulted for site selection and a private utility locator should clear any underground objects using electromagnetic techniques from the drilling area. If drilling in close proximity to buried utilities, field staff may need to request authorization for use of an air knife or vacuum extraction to clear the borehole to a depth below the utility lines.

3.2 DRILLING

1. Mark the desired well location using coordinates pre-loaded into a handheld GPS, or by measuring from known Site features. It is best to use both methods, if possible.
2. Before drilling begins, record the following information on each log:
 - a. Operator's name and company, equipment make/model, equipment measurements (i.e., sampler length and diameter, hammer weight and stroke if using hollow stem auger, boring diameter).
 - b. Your name, date, project, boring name, and approximate descriptive location relative to existing site features. Include a description of the ground surface and whether or not concrete coring was necessary; if so, include core diameter, concrete thickness, and subcontractor information.
 - c. A small hand drawn map showing your location with measurements to a stationary reference point, or GPS coordinates (or ideally, both). This is also a good place to note if you have had to move a boring location because of underground utilities, access issues, etc. It is important to record the reason for relocation and the direction and distance moved (i.e., moved 10 feet to the north due to presence of subsurface water line).
3. If you are using a hollow stem auger, it is important to communicate to the driller how often you would like a split spoon sample collected. Typically this would be continuous or every 5 feet but may be different depending on the project needs. Usually this is established before the driller issues a quote. Any changes will affect the cost of the work and should be discussed with the PM.
 - a. Record any feedback from the driller about the drilling conditions. This may include difficult drilling or rig chatter (usually caused by hard materials), heaving sands (usually caused by hydrostatic pressure on the borehole), caving, or hole instability.

4. For split spoon samples, record the number of hammer blows (blow counts) necessary to drive the sampler each 6-inch increment, as reported by the driller. If more than 50 blows are needed, record the distance that the sampler was driven in 50 blows (i.e., 2-inches in 50 blows). This is referred to as the standard penetration test (SPT).
5. For all drilling methods, create a log of the soils encountered according to the Floyd|Snider Soil Logging Standard Guideline. Pay particular attention to the moisture content of the soils, making careful notation of the water table where free water is first encountered. After drilling has been completed to the desired depth, confirm the depth to the water table using a water level meter.

3.3 WELL DESIGN AND CONSTRUCTION

1. Determine the length and placement of the well screen based on the observed depth to the water table, the specifics of the work plan, and the observed lithology. The well screen is typically set across the water table of shallow aquifers for monitoring wells and piezometers. However, the screened interval may be fully submerged for groundwater extraction wells, sites with very shallow groundwater, or wells installed in deeper aquifers below confining units. If an area is tidally influenced, note the tide elevation during well completion; if the tide is at a high or low at the time of drilling the well screen may need to be lowered or raised accordingly so that the screen spans the water table when the tide is at zero. The hydraulic conductivity of the aquifer material will also factor into well screen placement. For example, wells screened in tight silts may not produce enough water to adequately develop and sample. In this case, it may be preferable to screen the well in a more transmissive unit. Include the length of any required bottom caps or sumps below the well casing when determining the total depth of the boring required to place the well screen at the desired interval. The Washington State minimum standards also require that the diameter of the well screen relative to the diameter of the borehole (annular space) be small enough to allow placement of a filter pack that is 4 inches in diameter larger than the screen. For example, a 2-inch diameter monitoring well should be completed within a borehole that has a minimum 6-inch diameter.
2. Determine the filter pack material. The purpose of the filter pack is to prevent fine-grained aquifer material from entering the well while still allowing groundwater to flow through. Filter pack is composed of clean, rounded, relatively uniform silica sand. The choice of sand for the filter pack will depend on the grain size range of the aquifer material, with emphasis on the finest aquifer material. Filter pack material should be approximately 10 to 15 times the grain size of the surrounding aquifer material. The particle size ranges of fine, medium, and coarse sand, and the particle size ranges of common filter pack materials are given in the two tables below. As indicated in these tables, suitable filter pack choices for an aquifer with appreciable fine sand would include a range from 20-40 to 10-20 sand. For aquifers where the smallest particle size is medium sand, a filter pack of 2-12 sand or similar may be appropriate. More precise filter pack designs are possible based on grain size curves (see Driscoll 1986, Blair 2006).

Unified Soil Classification System (USCS) Classification	U.S. Sieve Size	Grain Size (inches)	Grain Size (millimeters)
Fine Sand	40 to 200	.003 to 0.16	.074 to .42
Medium Sand	10 to 40	.016 to .06	.42 to 1.68
Coarse Sand	10 to 4	.06 to 0.19	1.68 to 4.76

Example Sand Pack Gradations (U.S. Sieve Sizes)	Grain Size (inches)	Grain Size (millimeters)
32-40	.016 to .02	.42 to .55
20-40	.016 to .03	.42 to .84
16-30	.05 to .02	.59 to 1.2
10-20	.03 to .08	.84 to 2
2-12	.06 to .3	1.7 to 8

3. Determine the screen slot diameter. The purpose of the well screen is to allow groundwater to flow into and through the well screen for sample collection. Monitoring well casings are typically constructed of PVC (Washington State minimum standards require Schedule 40 or thicker-walled PVC for borings up to 200 feet deep); however, materials such as stainless steel may be used for the purposes of longevity, heat, specific chemical resistance, or other site-specific concerns. The screened interval of the well consists of a series of slots that are commonly 0.01 inch or 0.02 inch in width. Similar to filter pack material, narrower slots allow less fine-grained material and also less groundwater to pass through them. The screen slot size should be selected to retain approximately 90% or greater of the filter pack material. The largest screen slot size practical should be selected.
4. Once the driller has assembled the well casing of the appropriate length, oversee placement of the casing and filter pack. The casing should be centered in the borehole and level. When using a hollow stem auger, the sand is typically poured from the surface while the augers are being lifted from the borehole. When using sonic drilling or other methods where the drill rods are removed prior to sand placement, it is preferable to use a Tremie tube lowered to the bottom of the borehole to deliver the sand, which helps to ensure that the sand has actually reached the bottom of the borehole. As the driller is pouring sand into the annular space, monitor the height of the sand in the borehole using a weighted tape or leadline to ensure that the space is being filled evenly. If possible, use a surge block to force water from the well out into the sand pack periodically to eliminate any bridges or gaps in the sand. The sand pack

- placement is complete when it has reached a height minimum of 1 foot (but no more than 5 feet) above the top of the well screen.
5. A bentonite seal must be placed above the sand pack to isolate the screened interval of the aquifer and to prevent the annular space from acting as a preferential pathway for surface water, water above the screen zone, or other liquid (i.e., free product). The purpose of the bentonite plug is to prevent downward migration inside the borehole, which has the potential to cause groundwater contamination. Monitor the placement of the bentonite plug above the sand pack. The bentonite plug is typically composed of dehydrated bentonite chips, which are poured into the annular space from the surface; or a bentonite slurry, which is pumped into the space via a Tremie tube. A bentonite chip seal is still recommended (but not necessary) immediately above the sand pack when using bentonite slurry to minimize migration of the slurry into the sandpack. Pumping is preferable in situations where bentonite will be placed below the water table. The U.S. Environmental Protection Agency (USEPA) recommends that the bentonite seal consist of a minimum of 2 feet of bentonite placed above the sand pack. If using a bentonite chip seal, hydrate the chips with clean water so that they expand to seal the borehole.
 6. Communicate the desired surface completion to the driller (i.e., an aboveground well monument or a monument flush with the ground surface) if you have not already done so. Verify that the well monument has been installed correctly. For flush-mounted wells, ensure that the well is level with the surrounding grade, especially in areas with pedestrian or vehicle traffic. In areas with frequent or heavy vehicle traffic, heavy-duty traffic-rated monuments or manholes should be used. For aboveground well monuments (i.e., stand pipes), ensure that the monument is level, anchored in a minimum of 2 feet of concrete, and protected by steel bollards, unless otherwise specified in the work plan. The concrete surrounding any well monument should seal the borehole at the ground surface.

4.0 Decontamination

All reusable equipment that comes into contact with soil and groundwater should be decontaminated as follows prior to moving to the next sampling location.

Split spoons, stainless steel bowls and spoons, the water level tape, and any other tools used for well drilling and installation must be decontaminated between boring locations. If collecting soils samples for chemical analysis, split spoons and any tools used for sample processing will be decontaminated between each sample; alternatively, disposable bowls and spoons may be used. Equipment decontamination will consist of a tap water rinse to remove soil particles, followed by scrubbing with brushes and an alconox (or similar)/clean water solution, and a final rinse with distilled or deionized water.

5.0 Investigation-Derived Waste

Unless otherwise specified in the project work plan, waste soils, liquids, and other drilling materials generated during well drilling and installation will be contained in accordance with applicable laws, and stored in a designated area until transported off-site for disposal.

The approach to handling and disposal of these materials is as follows. For investigation-derived waste (IDW) that is contained, such as waste soils, 55-gallon drums approved by the Washington State Department of Transportation (WSDOT) will be supplied by the driller and used for temporary storage pending profiling and disposal. Each container holding IDW will be sealed and labeled with its contents (e.g., "soil cuttings"), the date(s) on which the wastes were placed in the container, the owner's name, contact information for the field person who generated the waste, and the site name.

IDW contained within drums will be characterized relative to applicable waste criteria using data from the sampling locations whenever possible. Material that is designated for off-site disposal will be transported to an off-site facility permitted to accept the waste. Manifests will be used as appropriate for disposal.

Disposable sampling materials and incidental trash such as paper towels and personal protective equipment (PPE) used in sample processing will be placed in heavy-duty garbage bags or other appropriate containers and disposed of as solid waste in the municipal collection system (i.e., site dumpster).

6.0 Field Documentation

All observations should be recorded on a soil boring/well completion form appropriate for the drilling method or in a bound field notebook. Field staff should record as much detail as possible in the field log (including well construction materials, Ecology well ID tag number, and surface completions) and note any anomalies or details that varied from the SAP. After the field work is complete, a set of final well construction logs (usually electronic) that serve as the record for the project will be completed in consultation with the project manager or field manager.

F|S STANDARD GUIDELINE

Well Development

DATE/LAST UPDATE: May 2015

These procedures should be considered standard guidelines and are intended to provide useful guidance when in the field, but are not intended to be step-by-step procedures, as some steps may not be applicable to all projects.

All field staff should be sufficiently trained in the standard guidelines and should review and understand these procedures prior to going in the field. It is the responsibility of the field staff to review the standard guidelines with the field manager or project manager and identify any deviations from these guidelines prior to field work. When possible, the project-specific Sampling and Analysis Plan should contain any expected deviations and should be referenced in conjunction with these standard guidelines.

1.0 Scope and Purpose

This Standard Guideline for Well Development presents commonly used procedures for monitoring well development for newly installed monitoring wells and/or existing wells that may require redevelopment. Monitoring well development restores hydraulic conductivity with the surrounding formations that were disturbed during the drilling process. Development removes residual fines from well filter pack materials and the borehole wall and reduces the turbidity of the water, which provides more representative groundwater samples. These wells may include groundwater monitoring wells, piezometers, or groundwater extraction wells. This guideline describes the purge and surge method of development and is intended to be used by field staff who are overseeing or completing well development. Often, the drilling subcontractors are asked to complete well development activities subsequent to new well installations, in which case, Floyd|Snider staff would oversee the development. Other development methods, such as jetting, are not described herein, but may be used if specified in the project-specific Work Plan or Sampling and Analysis Plan (SAP).

Well development shall be completed by continuous pumping at a steady rate using a portable pump and polyethylene tubing, with regular surging (e.g., using a surge block) to force water through the filter pack and surrounding formation. Wells should ideally be developed either

during installation (following sand placement but prior to sealing) or soon after installation, unless otherwise specified in the work plan, using the described methodologies or equivalents. For wells that are completed using a grout or concrete seal, if development does not take place prior to sealing, it should be completed within 48 hours following well installation in order allow for grout and concrete to cure.

2.0 Equipment and Supplies

Well Development Equipment and Tools:

- Appropriate high volume pump (centrifugal, submersible, etc.) and correct diameter tubing, or bailer
- Hose clamps (optional)
- Power source (generator, 12-volt battery, or car battery) and appropriate power adapter for pump
- Water quality meter or turbidity meter (if needed)
- 2-, 4-, or 6-inch surge block (typically provided by the driller)
- Water level meter
- Washington State Department of Transportation (WSDOT)-approved 55-gallon drums
- Equipment decontamination supplies including:
 - Scrub brushes
 - Alconox or other soap
 - Distilled or deionized water
 - Paper towels
- Trash bags
- Camera

Paperwork:

- Work Plan and/or SAP/Quality Assurance Project Plan (QAPP)
- Bound field notebook or appropriate field forms
- Well development form (printed on Rite in the Rain paper)
- Health and Safety Plan (HASP)
- Well installation forms (printed on Rite in the Rain paper)

Personal Equipment:

- Steel-toed boots
- Safety vest
- Safety glasses
- Nitrile gloves
- Rain gear
- Work gloves

3.0 Standard Procedures

3.1 OFFICE PREPARATION

Meet with the project manager to identify key information and goals of the well development, including how long after construction the wells should be developed. Determine if Floyd|Snider or the driller will be doing the development.

3.2 WELL DEVELOPMENT PROCEDURES

The following procedures are general guidelines for monitoring well development. These same procedures are also appropriate for extraction wells, injection wells, and/or piezometers. Specific instructions provided in individual work plans shall supersede these procedures in the event there are discrepancies.

Visually inspect all well development equipment for damage; repair as necessary.

1. Decontaminate all hoses, surge blocks, and/or submersible pump by scrubbing with brush and alconox or other soap solution and rinsing with deionized water.
2. Prior to development, use a water level meter to measure the depth in each well to the static water level and total depth to a reference mark on the top of the well casing.
3. Attach a length of clean or disposable tubing, approximately 5 feet longer than the well casing, to the outlet of the submersible pump.
4. Each well development cycle consists of surging followed by well evacuation (pumping). Surging may be accomplished with a surge block sized to fit snugly inside the well casing, or with the submersible pump. Surging using a pump increases the hydraulic gradient and velocity of groundwater near the well by drawing the water level down and moving more fine-grained soil particles into the well casing. Surging using a pump is only effective if the well produces enough water for continuous pumping and the pump is of a large enough diameter relative to the well casing. If

- pumping must be stopped to allow the well to recharge, a surge block is preferable for surging. If using a surge block, connect polyvinyl chloride (PVC) pipe or other rods longer than the well casing to the surge block. Lower the surging device into the well to a depth within the screened interval. A bailer can be used to surge in situations when a surge block is not available and the well has insufficient recharge for the submersible pump.
5. During development, it is important to note the color and clarity of the water and any other visual or olfactory observations on the field form or in the field notebook. Note any significant changes as development progresses.
 6. Surging should consist of a minimum of ten consecutive surges (i.e., quickly raise and lower surge block or pump in well) with an appropriately sized surge block or pump over the full length of the screen. For long well screens (greater than 10 feet), surging should be done in short intervals of 2 to 3 feet at a time. In cases where the screen extends to above the water table, clean water may have to be added to the well to develop the top of the filter pack.
 7. After surging, water is purged from well until the pumped stream starts to run clear. At that point, stop pumping and initiate another surge cycle. If a well has more hydraulic head than the pump is able to overcome, or if an insufficient volume of water for pumping is present, a disposable bailer may also be used for purging.
 8. Repeat this procedure until evacuated water is visibly clear and essentially free of sediment. Perform a minimum of three surge and pump cycles.
 9. Well development will be terminated when the variation in the turbidity Nephelometric Turbidity Units (NTUs) readings is less than 10 percent or until the discharge is visibly clear and free of sediment after a minimum of three surge and purge cycles. As an alternative, periodic water samples can be collected for field measurements of temperature, specific conductivity, and pH; well development should continue until field parameters stabilize to within ± 5 percent on three consecutive measurements or 10 well volumes have been purged. If it is not possible reduce the turbidity further, the well should be purged up to a maximum of four hours or as determined sufficient by the field geologist or project manager.
 10. Report field observations and volume of water removed on the standard well development form (attached). Take final water level measurements and record then on the field form or in the field notebook.
 11. Contain the purged water and manage in accordance with the project-specific SAP or Section 5.0 below. Prior to developing the next well or after the completion of development activities, decontaminate all reusable equipment used in development in accordance with Section 4.0 below.
 12. If feasible, it is best to wait at least two weeks after development to sample the wells. Wells can be sampled a minimum of 48 hours after the completion of development if

the project schedule requires a quick turnaround. However, the groundwater sample will be more representative of static conditions in the aquifer if allowed to stabilize for at least one to two weeks after development.

4.0 Decontamination

All reusable equipment that comes into contact with groundwater should be decontaminated as follows prior to moving to the next sampling location.

Water level meter and surge block: The water level indicator and tape will be decontaminated between sampling locations and at the end the day by spraying the entire length of tape that came in contact with groundwater with an Alconox (or similar)/clean water solution followed by a thorough rinse with distilled or deionized water. Surge block decontamination will consist of a tap water rinse to remove soil particles, followed by scrubbing with brushes and an alconox (or similar)/clean water solution and a final rinse with distilled or deionized water.

Submersible Pump: Decontaminating the pump requires running the pump in three progressively cleaner grades of water. Place the pump and the length of the power cord that was in contact with water into a bucket containing approximately four gallons of an Alconox (or similar)/clean water solution. Run the pump for approximately two minutes or until the volume of water in the bucket has been exhausted. Next, place the pump and cord into a second bucket containing approximately four gallons of clean water and run the pump for approximately two minutes or until the volume of water in the bucket is exhausted. Lastly, place the pump and power cord into a third bucket containing approximately four gallons of distilled or deionized water and run the pump for approximately two minutes or until the volume of water in the bucket is exhausted. The soap/water solution and rinse water may be re-used. When done for the day, dry the exterior of the pump and power cord with clean paper towels to the extent practical prior to storage. All decontamination water and rinse water (including soapy solution) should be managed in accordance with Section 5.0 below.

5.0 Investigation-Derived Waste

Unless otherwise specified in the project work plan, well development and decontamination water generated during development and any drilling materials will be contained and stored in a designated area until transported off-site for disposal in accordance with applicable laws.

The approach to handling and disposal of these materials is as follows. For investigation-derived waste (IDW) that is contained, such as well development water, WSDOT-approved 55-gallon drums will be supplied by the driller and used for temporary storage pending profiling and disposal. Each container holding IDW will be sealed and labeled as to its contents (e.g., “MW-1 Well development water”), the date(s) on which the wastes were placed in the container, the

owner's name, contact information for the field person who generated the waste, and the site name.

IDW contained within drums will be characterized relative to applicable waste criteria using data from the sampling locations whenever possible. Material that is designated for off-site disposal will be transported to an off-site facility permitted to accept the waste. Manifests will be used as appropriate for disposal.

Disposable sampling materials and incidental trash such as paper towels and personal protective equipment (PPE) used in sample processing will be placed in heavy duty garbage bags or other appropriate containers and disposed of as trash in the municipal collection system (i.e., site dumpster).

6.0 Field Documentation

Well development procedures will be documented on the well development field form (attached) or a bound field notebook. Information recorded will at a minimum include date, personnel present (including subcontractors), purpose of field event, weather conditions, depth of water, well construction details for the well(s) being developed (i.e., diameter, total depth, screen interval), water quality field measurements (if collected), amount of purged water generated, and any deviations from the SAP.

Enclosure: Well Development Field Form

F|S STANDARD GUIDELINE

Low-Flow Groundwater Sample Collection

DATE/LAST UPDATE: August 2015

These procedures should be considered standard guidelines and are intended to provide useful guidance when in the field, but are not intended to be step-by-step procedures, as some steps may not be applicable to all projects.

All field staff should be sufficiently trained in the standard guidelines for the sampling method they intend to use and should review and understand these procedures prior to going into the field. It is the responsibility of the field staff to review the standard guidelines with the field manager or project manager and identify any deviations from these guidelines prior to field work. When possible, the project-specific Sampling and Analysis Plan should contain any expected deviations and should be referenced in conjunction with these standard guidelines.

1.0 Scope and Purpose

This standard guideline provides details necessary for collecting representative groundwater samples from monitoring wells using low-flow methods. These guidelines are designed to meet or exceed guidelines set forth by the Washington State Department of Ecology (Ecology). Low-Flow sampling provides a method to minimize the volume of water that is purged and disposed from a monitoring well, and minimizes the impact that purging has on groundwater chemistry during sample collection.

2.0 Equipment and Supplies

Groundwater Sampling Equipment and Tools:

- For wells with head less than 25 feet:
 - Peristaltic pump with fully-charged internal battery or standalone battery and appropriate connectors

- For wells with head greater than 25 feet:
 - Bladder pump and controller, as well as an air cylinder, or air compressor (with extension cord if near an electrical outlet; with battery and appropriate connectors or generator if not near an outlet)
- **OR**
- Low-flow submersible pump and controller (with extension cord if near an electrical outlet; with battery and appropriate connectors or generator if not near an outlet)
- Multi-parameter water quality meter
- Water level meter
- Poly tubing
- Silicone tubing
- Filters (if field filtering)
- Tools for opening wells (1/2-inch, 9/16-inch, and 5/8-inch sockets, ratchet, screwdriver)
- Well keys
- Tube cutters, razor blade, or scissors
- 5-gallon buckets and clamp
- Paper towels
- Bailer or pump to drain well box if full of stormwater
- Hammer
- Alconox (or similar decontamination solution), deionized water, spray bottles
- Tape measure
- Trash bags

Lab Equipment:

- Sample jars/bottles
- Coolers
- Chain-of-Custody Forms
- Labels
- Ice
- Ziploc bags

Paperwork:

- Field notebook with site maps
- Table of well construction details and/or well logs, if available
- Sampling forms
- Purge water plan
- Rite-in-the-Rain pens, paper, and permanent markers
- Site-Specific Health and Safety Plan (HASP)
- Sampling and Analysis Plan (SAP) and/or Quality Assurance Project Plan (QAPP) (including tables of analytes and bottle types)

Personal Protective Equipment (PPE):

- Boots/waders
- Safety vest
- Safety glasses
- Rain gear
- Nitrile gloves
- Work gloves

3.0 Standard Procedures

Low-Flow groundwater sampling consists of purging groundwater within the well casing at a rate equal to or less than the flow rate of representative groundwater from the surrounding aquifer into the well screen. The flow rate will depend on the hydraulic conductivity of the aquifer and the drawdown, with the goal of minimizing drawdown within the monitoring well. Field parameters are monitored during purging and groundwater samples are collected after field parameters have stabilized. Deviations from these procedures should be approved by the Project Manager and fully documented.

3.1 CALIBRATION OF WATER QUALITY METERS

All multi-parameter water quality meters to be used will be calibrated prior to each sampling event. Calibration procedures are outlined in each instrument's specific user manual.

3.2 MONITORING, MAINTENANCE, AND SECURITY

Prior to sampling, depth to water and total depth measurements will be collected and recorded for accessible monitoring wells onsite (or an appropriate subset for larger sites). Check for an existing measuring point (notch or visible mark on top of casing). If a measuring point is not observed, a measuring point should be established on the north side of the casing. The conditions

of the well box and bolts will also be observed and deficiencies will be recorded on the sampling forms or logbook (i.e., missing or stripped bolt). The following should also be recorded:

- Condition of the well box, lid, bolts, locks, and gripper cap, if deficiencies
- Condition of gasket if deficient and if water is present in the well box
- Note any obstructions or kinks in the well casing
- Note any equipment in the well casing, such as transducers, bailers, or tubing
- Condition of general area surrounding the well, such as subsidence, potholes, or if the well is submerged within a puddle.

Replace any missing or stripped bolts, and redevelop wells if needed.

3.3 LOW-FLOW PURGING METHOD AND SAMPLING PROCEDURES

Groundwater samples will be collected using low-flow purging and sampling procedures consistent with Ecology guidelines and the U.S. Environmental Protection Agency (USEPA) standard operating procedures (USEPA 1996). The following describes the Low-Flow purging and sampling procedures for collecting groundwater samples using a peristaltic pump. If the water level is greater than 20 feet below ground surface (bgs), Grundfos or Geotech submersible pumps or bladder pumps can be used since their pumping rates can be adjusted to low-flow levels.

- Place the peristaltic pump and water quality equipment near the wellhead. Slowly lower new poly tubing down into the well casing approximately to the middle of the well screen. If the depth of the well screen is not known, lower the tubing to the bottom of the well, making sure that the tubing has not been caught on the slotted well casing, and then raise the tubing 3 to 5 feet off the bottom of the casing. Document the estimated depth of the tubing placement within the well. Connect the tubing to the peristaltic pump using new flex tubing and connect the discharge line to the flow-through cell of the water quality meter. The discharge line from the flow cell should be directed to a bucket to contain the purged water.
- If using a low-flow submersible pump, connect the pump head to dedicated or disposable tubing. If using a bladder pump, connect both the air intake and water discharge ports to decontaminated or disposable tubing, using the manufacturer's instructions to ensure a secure connection. Lower the pump with tubing into the well as described above and connect the water discharge tubing directly to the flow-through cell.
- Measure the depth to water to the nearest 0.01 foot with a decontaminated water level meter and record the information on a sampling form.
- Start pumping the well at a purge rate of 0.1 to 0.2 liters per minute and slowly increase the rate. Purge rate is adjusted using a speed control knob or arrows on peristaltic and low-flow submersible pumps. The purge rate for bladder pumps is controlled by the air compressor, which first pressurizes the pump chamber in order

- to compress the flexible bladder and force water through the discharge line, and then vents the chamber in order to allow the bladder to refill with water.
- A good rule of thumb is to pressurize to 10 psi + 0.5 psi/foot of tubing depth and begin with 4 discharge/refill cycles per minute; using greater air pressure and accelerating the pump cycles will increase the purge rate.
 - Check the water level. If the water level is dropping, lower the purge rate. Maintain a steady flow with no or minimal drawdown (less than 0.33 feet according to USEPA 2002). Maintaining a drawdown of less than 0.33 feet may not be feasible depending on hydrogeological conditions. If possible, measure the discharge rate of the pump with a graduated cylinder or use a stopwatch when filling sampling jars (500 milliliters [mL] polyethylene or glass ambers) to estimate the rate. When purging water through a flow cell, the maximum flow rate for accurate water quality readings is about 0.5 liters per minute (L/minute).
 - Monitor and record water quality parameters every three to five minutes after one tubing volume (including the volume of water in the flow cell) has been purged.
 - One foot of ¼-inch interior diameter tubing holds about 10 mL of water, and flow-through cells typically hold less than 200 mL of water; one volume should be purged after about 5 minutes at a flow rate of 0.1 L/minute.
 - Water-quality indicator parameters that will be monitored and recorded during purging include:
 - pH
 - Specific conductivity
 - Dissolved oxygen
 - Temperature
 - Turbidity
 - Oxidation reduction potential (ORP)
 - Purging will continue until temperature, pH, turbidity, and specific conductivity are approximately stable (when measurements are within 10 percent) for three consecutive readings, or 30 minutes have elapsed. Because these field parameters (especially dissolved oxygen and ORP) may not reach the stabilization criteria, collection of the groundwater sample will be based on the professional judgment of field personnel at the time of sampling.
 - The water sample can be collected once the criteria above have been met.
 - If drawdown in the well cannot be maintained at 0.33 feet or less, reduce the flow or turn off the pump for 15 minutes and allow for recovery. If the water quality parameters have stabilized, and if at least two tubing volumes and the flow cell volume have been purged, then sample collection can proceed when the water level has recovered and the pump is turned back on. This should be noted on the sampling form.

- To collect the water sample, maintain the same pumping rate. After the well has been purged and the sample bottles have been labeled, the groundwater sample will be collected by directly filling the laboratory-provided bottles from the pump discharge line prior to passing through the flow cell. All sample containers should be filled with minimum disturbance by allowing the water to flow down the inside of the bottle or vial. When collecting a volatile organic compound (VOC) sample, fill to the top to form a meniscus over the mouth of the vial prior to placing the cap to eliminate air bubbles. Be careful not to overflow preserved bottles/pre-cleaned Volatile Organic Analyte (VOA) vials.
- If sampling for filtered metals, collect these samples last and fit an in-line filter at the end of the discharge line. Take note of the flow direction arrow on the filter prior to fitting. A minimum of 0.5 to 1 liter of groundwater must pass through the filter prior to collecting the sample.
- Sample labels will clearly identify the project name, sampler's initials, sample location and unique sample id, analysis to be performed, date, and time. After collection, samples will be placed in a cooler maintained at a temperature of approximately 4 to 6 degrees Celsius (°C) using ice. Chain-of-Custody Forms will be completed. Upon transfer of the samples to the laboratory, the Chain-of-Custody Form will be signed by the persons transferring custody of the sample containers to document change in possession.
- When sample collection is complete at a designated location, remove and properly dispose of the non-dedicated tubing. In most cases, this waste is considered solid waste and can be disposed of as refuse. Close and lock the well.

4.0 Decontamination

All reusable equipment that comes into contact with groundwater should be decontaminated using the processes described in this section prior to moving to the next sampling location.

Water Level Meter: The water level indicator and tape will be decontaminated between sampling locations and at the end the day by spraying the entire length of tape that came in contact with groundwater with an Alconox (or similar)/clean water solution followed by a thorough rinse with distilled or deionized water.

Water Quality Sensors and Flow-Through Cell: Distilled water or deionized water will be used to rinse the water quality sensors and flow-through cell. No other decontamination procedures are recommended since they are sensitive equipment. After the sampling event, the water quality meters will be cleaned and maintained according to the specific manual.

Submersible Pump (if applicable): Decontaminating the pump requires running the pump in three progressively cleaner grades of water.

1. Fill a bucket with approximately 4 gallons or more to sufficiently cover the pump of an Alconox (or similar)/clean water solution. Place the pump and the length of the

- power cord (if applicable) that was in contact with water into the bucket and run the pump for approximately two minutes or until the volume of water in the bucket has been exhausted.
2. Fill a second bucket containing approximately 4 gallons or more to sufficiently cover the pump of clean water. Place the pump and cord into this bucket and run the pump for approximately two minutes or until the volume of water in the bucket has been exhausted.
 3. Fill a third bucket with approximately 4 gallons or more to sufficiently cover the pump of distilled or deionized water. Place the pump and cord into this bucket and run the pump for approximately two minutes or until the volume of water in the bucket has been exhausted.

Bladder Pump: Clean the inside and outside of the pump body with an Alconox (or similar)/clean water solution, followed by a thorough rinse with distilled or deionized water. The outside of the air supply line that came in contact with groundwater may also be cleaned with Alconox (or similar) solution and re-used; bladders and water discharge lines must be replaced after each sample is collected.

5.0 Investigation-Derived Waste (IDW)

Unless otherwise specified in the project work plan, water generated during groundwater sampling activities will be contained, transported, disposed of in accordance with applicable laws, and stored in a designated area until transported off-site for disposal.

The approach to handling and disposal of these materials for a typical cleanup site is as follows. For IDW that is containerized, such as purge water, 55-gallon drums (or other smaller sized drums) approved by the Washington State Department of Transportation will be used for temporary storage pending profiling and disposal. Each container holding IDW will be sealed and labeled as to its contents (e.g., "purge water"), the dates on which the wastes were placed in the container, the owner's name and contact information for the field person who generated the waste, and the site name.

IDW containerized within drums will be characterized relative to applicable waste criteria using data from the sampling locations whenever possible. Material that is designated for off-site disposal will be transported to an off-site facility permitted to accept the waste. Manifests will be used, as appropriate for disposal.

Disposable sampling materials and incidental trash such as paper towels and PPE used in sample processing will be placed in heavy-duty garbage bags or other appropriate containers and disposed of as trash in the municipal collection system.

6.0 Field Documentation

Groundwater sampling activities will be documented in field sampling forms and/or field notebooks, and Chain-of-Custody Forms. Information recorded will, at a minimum, include personnel present (including subcontractors or client representatives), purpose of field event, weather conditions, sample collection date and times, sample analytes, depths to water, water quality parameters, well box/lid conditions, amount of purged water generated, and any deviations from the SAP. Photographs of damaged well casings or well boxes should be taken.

7.0 References

USEPA. 1996. Low-Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, Revision 2. Region 1. July 30, 1996.

_____. 2002. Groundwater Sampling Guidelines for Superfund and CAR Project Managers. Office of Solid Waste and Emergency Response. EPA 542.S-02-001. May 2002.

F|S STANDARD GUIDELINE

Soil Sample Collection

DATE/LAST UPDATE: May 2015

These procedures should be considered standard guidelines and are intended to provide useful guidance when in the field, but are not intended to be step by step procedures, as some steps may not be applicable to all projects.

All field staff should be sufficiently trained in the standard guidelines for the sampling method they intend to use and should review and understand these procedures prior to going into the field. It is the responsibility of the field staff to review the standard guidelines with the field manager or project manager and identify any deviations from these guidelines prior to field work. When possible, the project-specific Sampling and Analysis Plan should contain any expected deviations and should be referenced in conjunction with these standard guidelines.

1.0 Scope and Purpose

This standard guideline presents commonly used procedures for collection of soil samples for characterization and laboratory analysis. The methods presented in this guideline apply to the collection of soil samples during the following characterization activities: soil borings via drilling, manual collection of shallow soil samples, test pit excavation, excavation confirmation, and stockpile characterization. Specific details regarding the collection of discrete and composite samples, and special sampling techniques for volatile organic compounds (VOCs) are also included. The guideline is intended to be used by staff who collect soil samples in the field.

It is important that the field staff completing the soil sample collection discusses the specific needs for a particular investigation with the project geologist, the project manager, or whoever will ultimately be responsible for interpreting the findings of the field investigation. This discussion is in addition to field training and general knowledge about soil sampling, and should happen prior to entering the field, with additional follow-up before finalizing the field forms, after the investigation is complete.

2.0 Equipment and Supplies

Soil Sampling Equipment and Tools:

- Tape measure or measuring wheel
- Stainless steel bowls and spoons
- Graduated plunger and collection tubes for VOC samples (if needed)
- Trash bags
- Decontamination tools including:
 - Paper towels
 - Spray bottles of alconox (or similar) solution
 - Deionized or distilled water
- Adhesive drum labels, or paint or grease pen
- Washington State Department of Transportation- (WSDOT) approved drums for investigation-derived waste (IDW) disposal, if needed (if drilling, to be provided by driller)
- Camera
- Hand-held global position system (GPS; optional)
- Coolers, sample jars, labels, ice

Paperwork:

- Work Plan and/or Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP)
- Health and Safety Plan (HASP)
- Sample collection forms printed in Rite in the Rain paper, or Rite in the Rain field notebook

Personal Equipment:

- Steel-toed boots
- Safety vest
- Safety glasses
- Nitrile gloves
- Rain gear
- Work gloves

3.0 Standard Procedures

3.1 OFFICE PREPARATION

Prior to going into the field, review the SAP/QAPP tables to become familiar with the desired sample intervals, nomenclature, field Quality Assurance (QA) samples, analytes, sample containers, and holding times for each analytical method.

At least one week prior to sampling, coordinate with the laboratory specified in the SAP/QAPP to get coolers and appropriate sample containers. Familiarize yourself with the volume requirements and container types, preservation methods, and holding times for each class of analytes.

3.2 GENERAL SOIL SAMPLE COLLECTION PROCEDURES

1. Locate the desired sample location and depth interval using a handheld GPS or by taking field measurements from known site features. Note the soil type and any other observations or indications of contamination on a soil boring log, soil sample collection form or field notebook, as described in the Soil Logging Standard Guideline. Note the location and depth of the sample and take a photograph, if possible.
2. Refer to subsections 3.2.1 through 3.2.4 for the appropriate soil collection procedures for drilling, shallow soil, test pit excavation, excavation confirmation, and stockpiles. If collecting samples for VOC analysis by the U.S. Environmental Protection Agency (USEPA) Method 5035, refer to Section 3.3 for specific sample collection procedures for this method. If composite soil sampling is recommended, refer to Section 3.4 for details.
3. Once soil has been collected from the desired depth or interval, mix thoroughly until the sample is homogenous in color, texture, and moisture.
4. Fill the required laboratory-provided jars, taking care not to overfill. If large gravels (diameter greater than ~ 1 inch) are encountered, these should be discarded to ensure that an adequate soil volume is collected for analysis. If necessary, use a clean paper towel to remove soil particles from the threaded mouth of the jar before securing lids to ensure a good seal.
5. Label each jar with the sample name, date, time, field staff initials and required analyses. If collecting a field duplicate, use the sample nomenclature specified in the work plan and note the field duplicate name and sample time in the sample log. If extra volume for matrix spike/matrix spike duplicate (MS/MSD) analysis is being collected, use the same name on all jars. Soil samples should be protected from moisture by placing the filled sample jars into separate sealed Ziploc bags before placing them into a cooler.

6. Complete a chain-of-custody form for all samples, including sample names, date and time of collection, number of containers, and required analyses and methods. Keep samples on ice to maintain temperatures of 4-6 degrees Celsius (°C) and transport to the laboratory under chain-of-custody procedures.

3.2.1 Soil Sample Collection via Drilling

These procedures should be used for drilling via direct-push, hollow stem auger, or roto-sonic methods where a pre-designated sample interval (i.e. 0 to 5 feet below ground surface [bgs]) is retrieved from the subsurface using a split spoon sampling device, lined core, or bag sampler.

1. Ensure that reusable sampling equipment has been thoroughly decontaminated prior to sampling.
2. Use a stainless steel spoon or trowel, or disposable scoop to remove an equal volume of soil across the targeted depth interval from the sampler.
 - a. If using a split spoon sampler or other reusable sampler, avoid collecting the soil that is touching the sides of the sampler to the extent practical.
 - b. If the soil touching a reusable sampler must be collected to obtain adequate volume for analysis, notify the PM and record in the field logbook.

3.2.2 Manual Collection of Shallow Soil Samples

These procedures should be used for shallow soil sampling via scoop, trowel, shovel, or hand auger.

1. Dig or auger to the bottom depth of the shallowest sample to be collected, using a tool that has been cleaned and decontaminated. Verify that the target depth has been reached using a measuring tape.
2. If using a scoop or trowel, collect the soil directly into a decontaminated stainless steel bowl.
3. If using a shovel, the soil may either be collected in bowls or set aside on plastic sheeting in favor of collecting the sample from the sidewall of the hole. If sampling the sidewall, use a decontaminated or disposable scoop or trowel to collect soil from the target depth, or scrape along the sidewall to collect soil across a target depth interval. Transfer soil to a decontaminated stainless steel bowl, repeating until a sufficient volume has been collected.
4. If using a hand auger, empty the cylinder of the auger directly into a decontaminated stainless steel bowl. It may be necessary to empty the hand auger onto plastic sheeting or into a bowl in order to reach the target depth without overflowing the sampler.
5. Any soil from depth intervals that are not targeted for sampling should be set aside on plastic sheeting and returned to the hole after sampling.

3.2.3 Sample Collection from Test Pits or Limited Soil Excavations

These procedures should be used for collecting samples from test pit explorations excavated using a back hoe or excavator. These same general procedures should also be followed for post-excavation soil samples used to confirm that an excavation has removed contaminated material or to document post-excavation conditions after target excavation limits have been reached.

1. Measure the length, width, and depth of the test pit or excavation area to verify that the target extents have been reached. The lateral spacing of the test pit or excavation confirmation samples, or exact location of samples should be specified in the work plan and typically depend on the size of the excavation area but can vary significantly from project to project.
2. If not specified in the work plan, sidewall samples may be collected either midway between the ground surface and base of the excavation, or incrementally along the entire height of the sidewall. Both sidewall and base (bottom) samples should penetrate a minimum of 6 inches beyond the excavated surface.
3. If the test pit or excavation is less than 4 feet deep, or has been benched to accommodate safe entry, a sample may be collected directly from the sidewall(s). To collect soil from a sidewall, use a decontaminated or disposable scoop, trowel, or shovel to obtain soil from the desired depth or depth interval directly into a decontaminated stainless steel bowl.
4. If a test pit or excavation cannot be safely entered, instruct the excavator operator to scoop sidewall material from the target depth or depth interval. Collect the soil sample from the excavator bucket using a decontaminated stainless steel spoon, trowel, or disposal scoop, avoiding material that has come into contact with the teeth or sides of the bucket. Place an adequate volume of soil into a decontaminated stainless steel bowl. If necessary, follow the compositing procedures in Section 3.4.

3.2.4 Stockpile Sampling

These procedures should be used for classifying stockpiled soil, including excavated soil and imported backfill material.

1. Where potentially contaminated soils have been previously excavated and stockpiled on site, Washington State Department of Ecology (Ecology) guidance recommends using a decontaminated or disposable scoop or trowel, penetrating 6 to 12 inches beneath the surface of the pile at several locations until sufficient volume for analysis is achieved. A decontaminated shovel may also be used to facilitate collection of soil from large piles. The locations for soil collection should be where contamination is most likely to be present based on field screening (i.e. staining, odor, sheen, or elevated photoionization detector [PID] readings). If there are not field indications of contamination, the locations should be distributed evenly around the stockpile.

2. The stockpile may need to be broken up into sections for sample collection depending on the size of the pile (i.e., segregate the pile in half or quarters). If this is necessary, it is important to document where each set of samples were collected from (i.e., north quadrant) and create a field sketch of the pile for reference.
3. If a sampling frequency is not specified in the work plan, the general rule of thumb for contaminated soil stockpile profiling is to collect and submit 3 analytical samples (these samples can be multi-point composites or grabs) for stockpiles less than 100 cubic yards (CY), 5 samples for stockpiles between 100 and 500 CY, 7 samples for stockpiles 500 to 1,000 CY, 10 samples for stockpiles 1,000 to 2,000 CY, and 10 samples for stockpiles larger than 2,000 CY with an additional sample collected for every 500 CY of material. This rule of thumb is consistent with Ecology guidance for site remediation.
4. Samples for characterization of stockpiles of imported backfill or other presumed clean material should also be collected as described above. If not described in the work plan, the typical sample frequency for imported or clean material characterization is one sample per 500 CY.

3.3 SOIL SAMPLE COLLECTION FOR VOC ANALYSIS

If collecting soil samples for VOC analysis by USEPA Method 5035, collect these samples first before disturbing the soil. This method uses a soil volume gauge fitted with a disposable soil sampling plunger tube to collect a soil plug that can be discharged directly to a VOA vial, limiting the loss of volatiles during sampling. The collection of VOC samples using the 5035 method specifies use of an airtight VOA vial with a septum lid. Ecology's interpretation of the USEPA 5035 method allows for field preservation of the sample with methanol or sodium bisulfate, or laboratory preservation (i.e. field collection into an un-preserved vial). It is important to note that if laboratory preservation is the selected method, samples must be received at the laboratory within 48-hours of sample collection. The method of sample preservation for the 5035 method will vary for each site and is dependent on site-specific conditions. Preservation method selection should be coordinated with the laboratory and specified in the sampling plan.

1. Note the volume of soil needed for analysis as specified by the laboratory (commonly 5 or 10 grams). Raise the handle of the soil volume gauge to the slot in the gauge body corresponding to the desired volume and turn clockwise until the tabs in the handle lock into the slot.
2. Insert a sample tube at the open end of the gauge body and turn clockwise until the tabs on the tube lock into the "0 gram" slot. Remove the cap from the sample tube and press directly (where possible) into the shallow soil, soil core/sampler, excavation base or sidewall, or stockpile.
3. Continue pressing the sample tube until the plunger is stopped by the sample volume gauge. If a depth interval (for example 9 to 10 feet) is targeted for VOC sampling, collect small volumes of soil across this interval until the sample tube is filled

4. Twist counterclockwise to disengage the sample tube, then depress the plunger to eject the soil plug directly into a laboratory-provided VOA vial. If multiple vials per sample are required, the same plunger may be re-used to fill the remaining vials.

3.4 COMPOSITE SAMPLE COLLECTION

For this guideline, composites are considered to be samples that are collected across more than one location, or multiple depth intervals at a single location. Samples collected over continuous depth intervals within a sampling device (i.e. split spoon) are addressed for each sampling method in Section 3.2 above.

Compositing of sample material may be performed in the field, or by the analytical laboratory. To collect a field composite sample, identify the locations and depth(s) that will comprise the composite. Collect soil from the first target sub-sample depth or depth interval and hold in a decontaminated stainless steel bowl, covered with aluminum foil to prevent cross contamination and label with the location and depth. Continue to collect and hold individual sub-samples until all components of the composite have been collected, then transfer an equal amount of each sub-sample to a clean bowl and homogenize. Fill necessary sample jars from homogenized composite. In some cases, project plans may require that each individual sample that comprised the composite be collected in jars and submitted to the laboratory in the event that individual sample analysis is desired, or if laboratory compositing is requested in addition to field compositing as a field quality control measure. In this case, label each individual jar, but indicate HOLD on the chain-of-custody, and note that the sample is part of composite XYZ.

To collect a laboratory composite sample, collect, and label each sub-sample using the procedures described above in Section 3.2. Record each sub-sample on the chain-of-custody form, and indicate on this form which samples should be composited by the laboratory and the desired name of the composite sample. It is important to communicate to the laboratory if discrete samples will also require analysis (in some cases) or only the composite sample.

4.0 Decontamination

All reusable equipment that comes into contact with soil should be decontaminated prior to moving to the next sampling location.

Stainless steel bowls and spoons, and any tools used for sample processing will be decontaminated between each sample; alternatively, disposable bowls and spoons may be used. Equipment decontamination will consist of a tap water rinse to remove soil particles, followed by scrubbing with brushes and an alconox (or other soap)/clean water solution and a final rinse with distilled or deionized water.

5.0 Investigation-Derived Waste

Unless otherwise specified in the project work plan, waste soils will be contained, transported, disposed of in accordance with applicable laws, and stored in a designated area until transported off-site for disposal.

The approach to handling and disposal of these materials is as follows. For IDW that is containerized, such as waste soils, 55-gallon drums approved by WSDOT will be used for temporary storage pending profiling and disposal. Each container holding IDW will be sealed and labeled as to its contents (e.g., "soil"), the dates on which the wastes were placed in the container, the owner's name and contact information for the field person who generated the waste, and the site name.

IDW that is placed into drums for temporary storage will be characterized relative to applicable waste criteria using data from the sampling locations whenever possible. Material that is designated for off-site disposal will be transported to an off-site facility permitted to accept the waste. Manifests will be used, as appropriate for disposal.

Disposable sampling materials and incidental trash such as paper towels and personal protective equipment (PPE) used in sample processing will be placed in heavy duty garbage bags or other appropriate containers and disposed of as solid waste in the municipal collection system (i.e., site Dumpster).

6.0 Field Documentation

All observations including sample collection locations, soil descriptions, sample depths, collection times, analyses, and field QC samples should be recorded on a boring log, soil sample collection form, or bound field notebook. Information recorded should additionally include personnel present (including subcontractors), purpose of field event, weather conditions, sample collection date and times, sample analytes, and any deviations from the SAP.

F|S STANDARD GUIDELINE

Soil Logging

DATE/LAST UPDATE: May 2015

These procedures should be considered standard guidelines and are intended to provide useful guidance when in the field, but are not intended to be step by step procedures, as some steps may not be applicable to all projects.

All field staff should be sufficiently trained in the standard guidelines and should review and understand these procedures prior to going in the field. It is the responsibility of the field staff to review the standard guidelines with the field manager or project manager and identify any deviations from these guidelines prior to field work. When possible, the project-specific Sampling and Analysis Plan should contain any expected deviations and should be referenced in conjunction with these standard guidelines.

1.0 Scope and Purpose

These soil logging standard guidelines should be used by the field staff performing subsurface investigations, such as a direct push or roto-sonic soil boring, installation of a monitoring well via hollow stem auger, or roto-sonic or mud rotary drilling. While many projects will not necessarily have a Licensed Geologist (LG) or Hydrogeologist (LHG) who reviews and stamps every boring log, it is important that the field staff discusses the soil logging needs for a particular investigation with the project geologist, the project manager, or whoever will ultimately be responsible for interpreting the findings of the field investigation. This discussion is in addition to field training and general knowledge about soil logging, and should happen prior to entering the field, with additional follow-up before drafting a final set of electronic logs, after the investigation is complete.

2.0 Equipment and Supplies

Logging Equipment and Tools:

- 100-foot tape measure or measuring wheel
- Handheld Global Positioning System (GPS; optional)
- Unified Soil Classification System (USCS) Soil Classification Field Guide

- Soil logging kit containing:
 - Stainless steel spoons
 - Paint scraper or trowel
 - Small Ziploc bags
 - Small stainless steel bowls or black mining pans for sheen testing
 - Spray bottle filled with water
 - Paper towels (preferably white)
 - Engineers tape
 - Note cards
 - Optional items include:
 - Empty VOA vials or small glass jars
 - Munsell color chart
 - Sieves
 - White and grayscale color cards for photographs
- Plastic sheeting and duct tape or clamps to cover the sampling table
- Camera
- Trash bags
- Coolers
- Jars
- Labels
- Ice

Paperwork:

- Work Plan and/or Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP)
- Health and Safety Plan (HASP)
- Copies of figures showing previous boring locations and boring logs from previous investigations, if available
- Boring log forms appropriate for drilling method, printed in Rite in the Rain paper and/or bound field notebook
- Permanent markers and pencils

Personal Equipment:

- Steel-toed boots
- Hard hat

- Safety vest
- Safety glasses
- Nitrile gloves
- Ear plugs
- Rain gear
- Work gloves

3.0 Standard Procedures

3.1 OFFICE PREPARATION

First, meet with the project manager or field manager to identify the key information and goals of the soil boring investigation. These may include fill history, known or suspected sources of contamination and potential field indications of these contaminants, identification of specific units, or important geotechnical measurements. If possible, select a boring log template that is appropriate for the project needs.

Next, review the work plan and all available existing materials such as cross-sections or boring logs from previous investigations to familiarize yourself with the site geology. In addition (or alternatively if other information is not available), you may also review a geologic map of the area from a reputable source such as United States Geological Survey (USGS).

Finally, check the area of the site where drilling will occur for underground objects. At minimum, a OneCall locate request should be made at least one week in advance of drilling in order to give public utility locators time to mark known buried utility lines. All planned boring locations should be marked on the ground with white spray paint prior to making a locate request. In almost all cases, a private utility locator should also clear the area of drilling any underground objects using electromagnetic techniques. If drilling is to occur in close proximity to buried utilities, the work plan may specify use of an air knife or vacuum to clear the borehole to a depth below the utility lines.

3.2 COLLECTING SOIL SAMPLES FOR CLASSIFICATION

1. Before beginning drilling, record the following information on each log:
 - a. Operator's name and company, equipment make/model, equipment measurements (i.e., sampler length and diameter, hammer weight and stroke if using hollow stem auger, boring diameter)
 - b. Your name, date, project, boring name and approximate descriptive location (i.e., where is the soil boring relative to known site features). Include a description of the ground surface and whether or not coring was necessary, if coring was necessary, include core diameter, concrete thickness, and subcontractor information.

- c. A small hand drawn map showing your location with measurements to a stationary reference point, or GPS coordinates (ideally, both). This is also a good place to note if you have had to move a boring location because of underground utilities, access issues, etc. It is important to note the reason for relocation and the direction and distance moved (i.e., moved 10 feet to the north due to presence of subsurface water line).
2. If you are using a hollow stem auger drilling method, it is important to communicate to the driller how often you would like a split spoon sample collected. Typically this would be continuous or every 5 feet but may be different depending on the project needs.
3. Note any feedback from the driller about the drilling conditions. This may include difficult drilling or rig chatter (usually caused by hard materials), heaving sands (usually caused by hydrostatic pressure on the borehole), caving, or hole instability.
4. For split spoon samples, record the number of hammer blows (blow counts) necessary to drive the sampler each 6-inch increment, as reported by the driller. If more than 50 blows are needed, record the distance that the sampler was driven in 50 blows (i.e., 2-inches in 50 blows). This is referred to as the standard penetration test.
5. Cover the sampling table with plastic sheeting. Lay an engineer's tape lengthwise across the sampling table. Once a sample has been collected, orient it on the table so that the top is aligned with the 0-foot mark on the tape.
6. Split open the sampler, core barrel liner, or sample collection bag. Record the depth interval that the sampler was driven and the depth interval of soil that was recovered. For split spoons or single-cased core barrels, such as Geoprobe direct-push rods, determine whether any loose 'slough' soil has been dislodged by the drilling equipment and deposited at the top of your core (AMS direct push rods are double cased and do not create slough). Do not include slough in the measurement of the soil recovered. Often the core will be filled with an uninterrupted column of soil that is shorter in length than the total drive interval. In such cases, record the recovery interval as it is situated in the core unless you are able to determine the actual depth where the soil sample originated.
7. Before further disturbing the soil, take volatile organic compound (VOC) measurements with a photoionization detector (PID), if using. Take measurements by making crevices in the soil with a spoon or scraper and inserting the PID probe into these openings. Alternatively, collect small spoonfuls of soil into Ziploc bag(s), seal the bag(s), gently shake the bag(s), and insert the PID probe through the top of the bag(s) and into the headspace once the soil vapor has been allowed to equilibrate with the surrounding air (headspace method). The bag headspace screening method is typically more accurate and is useful at sites with low concentrations of VOCs, whereas the in-situ method is a faster and more qualitative method, best used at sites with higher VOC concentrations. If sampling for VOCs by the U.S. Environmental Protection Agency (USEPA) Method 5035, these soil samples should also be collected

prior to disturbing the core. Soil sampling procedures using USEPA Method 5035 are described in detail in the Soil Sample Collection Standard Guideline.

8. Use a straight edge to scrape the soil level and expose the center of the core. Photograph the core alongside the measuring tape and an index card displaying the soil boring location/ID and depth interval.

3.3 SOIL CLASSIFICATION

Soils are described using the following characteristics: Moisture content, color, consistency, MAJOR CONSTITUENT, minor constituent, geotechnical properties, other observations (e.g. visual or olfactory indications of contamination). The USCS field guide is included in this guidance for reference. The steps below should help guide the logger in classifying soils according to the USCS.

1. Note the moisture content of the soil, using “dry,” “moist,” “wet,” or “saturated.” Mark the water table at the time of drilling on the log at the depth where saturated soil is first observed
2. Record the color of the soil. A descriptive color (i.e., light brown) or a color identified using the Munsell color chart are both valid.
3. Determine whether organic matter influences the properties of the material. If so, record as an organic soil.
4. If the soil is predominantly inorganic, identify whether the major constituent is coarse- or fine-grained. Coarse-grained soils include sands and gravels; fine-grained soils include silts and clays.
 - a. For coarse grained soils, determine:
 - i. Grain size(s) present including fine, medium, or coarse, and grain size distribution including well-graded (a mixture of fine to coarse grains) or poorly-graded (uniform in size). The USCS guide is helpful for determining grain sizes. If the major constituent is gravel, note its angularity using “rounded,” “sub-angular” or “angular.”
 - ii. Minor constituent(s). If a minor constituent represents less than approximately 15% of the sample, note this as “with [minor constituent]” and optionally, whether it is “trace” (<5%) or “few” (5-15%). If a minor constituent represents more than 15% of the sample, use “[minor constituent]-y.” For example, a sand with 5% silt would be classified as a “SAND with trace silt” and sand with 30% silt would be classified as a “SILTY SAND.” For coarse-grained soils with fines between 5% and 15%, the USCS includes several dashed classifications, such as SW-SM. It is often helpful to record an estimated percentage for soil constituents to aid in classification according to the USCS.

- b. For fine-grained soils, determine:
 - i. Major constituent. To determine whether a material is silt or clay, a simple settling test may be performed in a glass vial or gloved hand by spraying a small amount of the sample with water. Silt particles will settle out of suspension in water within a few minutes, whereas clay particles will remain suspended for a longer period of time.
 - ii. Minor constituent(s). As described above, determine the approximate percentage and record as “with [minor constituent]” or “[minor constituent]-y” as appropriate. It is often helpful to record an estimated percentage to aid in classification according to the USCS.
 - iii. Geotechnical properties. Depending on project data needs, geotechnical properties may be optional but often provide helpful information. Geotechnical properties include plasticity (ranging from “non-plastic” to “highly plastic” as determined by a thread test) and consistency (ranging from “loose” to “very dense” for coarse-grained soils and “soft” to “hard” for fine-grained soils). When using split spoon samplers, blow counts recorded during the standard penetration test (also referred to as N-values) are used to determine consistency; when using direct-push or sonic drilling, consistency is described qualitatively.
5. Using the USCS guide and the description of the soil, determine the appropriate USCS symbol and record it on the log. If it is difficult to distinguish the major constituent of a soil, a borderline “/” symbol may be used to denote the two potential major constituents present. This is not the same as the USCS classifications that utilize a dash, such as SW-SM.
6. Determine whether contacts between stratigraphic units are abrupt, or gradational. Note abrupt contacts using a solid line and gradational contacts using a dotted line. If the contact between units is not visible and was missed between sample depths, a dashed line is used.
7. If the site or area geology is known, and you are confident in your identification of a specific stratum, note the geologic unit. At a site where the geology is uncertain, you may make some more general notes about the depositional environment, such as identifying probable estuarine deposits, colluvium, glacial till, etc.

3.4 OTHER OBSERVATIONS

1. Record other materials observed in the sample. These may include minor amounts of rootlets or other plant matter, evidence of organisms such as shell fragments, and/or anthropogenic debris such as brick fragments, plastic, or metal debris.

2. Record potential indications of contamination. These may include odors, colored or black staining on soils, colored crystals, hydrocarbon sheens, or non-aqueous phase liquid (NAPL) product.
 - a. To test for hydrocarbon sheen, put a small amount of soil in a bowl, saturate with water and swirl, noting whether a rainbow sheen appears on the surface of the water. Alternatively, place a small amount of water in the bottom of the bowl and a small amount of soil along the side, then tilt the bowl so that the water slowly touches the soil. If observed, note the color of the sheen and describe as slight (discontinuous on the water surface), moderate (continuous but spreading slowly) or high (rainbow sheen covering entire surface water).
 - b. To test for the presence of NAPL, use a clean paper towel to blot the surface of the core and note the proportion of the towel that is saturated with oil (be sure to allow the towel to dry when blotting moist to wet soils to distinguish between saturation due to NAPL and due to water).
3. Note the final depth of the boring and any reasons for early termination of the boring (i.e., refusal).
4. If monitoring wells will be installed, follow the Standard Guidelines for monitoring well construction and well development.

4.0 Decontamination

All reusable equipment that comes into contact with soil should be decontaminated as follows prior to moving to the next sampling location.

Split spoons, stainless steel bowls and spoons, and any other tools used for soil classification must be decontaminated between boring locations. If collecting soil samples for chemical analysis, split spoons and any tools used for sample processing must be decontaminated between each sample; alternatively, disposable bowls and spoons may be used. Equipment decontamination will consist of a tap water rinse to remove soil particles, followed by scrubbing with brushes and an alconox (or similar)/clean water solution and a final rinse with distilled or deionized water.

5.0 Investigation-Derived Waste

Unless otherwise specified in the project work plan, waste soils and other drilling materials generated during soil boring activities will be contained, transported, disposed of in accordance with applicable laws, and stored in a designated area until transported off-site for disposal.

The approach to handling and disposal of these materials is as follows. For investigation-derived waste (IDW) that is contained, such as waste soils, 55-gallon drums approved by the Washington State Department of Transportation (WSDOT) will be supplied by the driller and used for temporary storage pending profiling and disposal. Each container holding IDW will be sealed and labeled as to its contents (e.g., "soil cuttings"), the dates on which the wastes were placed in the

container, the owner's name, contact information for the field person who generated the waste, and the site name.


Whenever possible, IDW contained within drums will be characterized relative to applicable waste criteria using data from the sampling locations. Material that is designated for off-site disposal will be transported to an off-site facility that is permitted to accept the waste. Manifests will be used as appropriate for disposal.

Disposable sampling materials and incidental trash such as paper towels and personal protective equipment (PPE) used in sample processing will be placed in heavy duty garbage bags or other appropriate containers and disposed of as solid waste in the municipal collection system (i.e., site dumpster).

6.0 Field Documentation

All observations should be recorded on a soil boring form appropriate for the drilling method or in a bound field notebook. Field staff should make an effort to record as much detail as possible in the field log. After the field work is complete, a set of final logs (usually electronic) that serve as the record for the project will be completed in consultation with the project manager or field manager.

Enclosure: USCS Soil Classification Field Guide



FIELD GUIDE FOR SOIL AND STRATIGRAPHIC ANALYSIS v.2

START HERE

DENSITY OR CONSISTENCY	N-VALUE		FINE GRAINED DEPOSITS	N-VALUE		q _u (tsf)	
	COARSE GRAINED DEPOSITS						
	0-4	▶ VERY LOOSE		0-2	<0.25	▶ VERY SOFT	
	5-10	▶ LOOSE		3-4	0.25-0.50	▶ SOFT	
	11-29	▶ MEDIUM DENSE		5-8	0.50-1.0	▶ MEDIUM	
	30-49	▶ DENSE		9-15	1.0-2.0	▶ STIFF	
	>50	▶ VERY DENSE		16-30	2.0-4.0	▶ VERY STIFF	
				>30	>4.0	▶ HARD	

COLOR
Use Standard Munsell Color Notation

IS THE COLOR A MATRIX COLOR? **YES** → **MATRIX COLOR** (List in sequence, dominant first) **YES** → **COATING or CONCENTRATION** (Note frequency, color, and size)

IS THE COLOR FROM A COATING OR CONCENTRATION? **NO** → **MOTTLE** (Note contrast, color, and size)

CLASSIFICATION
Unified Soil Classification System - adopted ASTM D2488

STEP 1: IS SEDIMENT COARSE GRAINED OR FINE GRAINED?

COARSE-GRAINED DEPOSITS (>50% coarse-grained sediments, <50% fines)

STEP 2: DETERMINE SAND VS. GRAVEL RATIO

INCREASING GRAIN SIZE: FINE SAND (0.075 mm), MEDIUM SAND (0.425 mm), COARSE SAND (2.0 mm), SMALL GRAVEL (4.75 mm), LARGE GRAVEL (19.0 mm), GRAVEL (75.0 mm)

STEP 3: CONTINUE WITH SAND OR GRAVEL ON FLOW CHART (REVERSE)

FINE-GRAINED DEPOSITS (>50% fines, <50% coarse-grained sediments) (organic and inorganic)

STEP 2: DETERMINE PLASTICITY AND ASSIGN USCS GROUP SYMBOL

INCREASING PLASTICITY: NON PLASTIC, LOW PLASTICITY (ML), MEDIUM PLASTICITY (CL), HIGH PLASTICITY (CH)

STEP 3: CONTINUE WITH GROUP SYMBOL ON FLOW CHART (REVERSE)

MOISTURE

MOISTURE ABSENT ▶ DRY
DAMP ▶ MOIST
VISIBLE WATER ▶ WET

FOR NON-PLASTIC FINES

WATER RISES TO SURFACE SLOWLY ▶ SLOW DILATENCY
WATER RISES TO SURFACE QUICKLY ▶ RAPID DILATENCY

PLASTICITY
(See with CLASSIFICATION)

WILL NOT SUPPORT 6mm DIAMETER ROLL IF HELD ON END
6mm DIA. ROLL CAN BE REPEATEDLY ROLLED AND SUPPORTS ITSELF, 4mm DIA. ROLL DOES NOT
4mm DIA. ROLL CAN BE REPEATEDLY ROLLED AND SUPPORTS ITSELF, 2mm DIA. ROLL DOES NOT
2mm DIA. ROLL CAN BE REPEATEDLY ROLLED AND SUPPORTS ITSELF

▶ NON-PLASTIC (6mm)
▶ LOW PLASTICITY (4)
▶ MEDIUM PLASTICITY (2)
▶ HIGH PLASTICITY (2)

COHESIVENESS

6mm DIAMETER ROLL CANNOT BE FORMED ▶ NONCOHESIVE
6mm DIAMETER ROLL CAN BE FORMED ▶ COHESIVE

SEDIMENTARY STRUCTURE

UNIFORM BEDS >30cm ▶ MASSIVE
BEDS 3cm to 30cm ▶ THICKLY BEDDED
BEDS 0.5cm to 3cm ▶ BEDDED
BEDS <0.5cm ▶ THINLY BEDDED
▶ LAMINATED

SECONDARY SOIL STRUCTURE (IN SOLIUM ONLY)

Spheroidal peds or granules usually packed loosely ▶ GRANULAR
Irregular, roughly cubelike peds with planar faces (angular or subangular) ▶ BLOCKY
Flat and horizontal peds ▶ PLATY
Vertical, pillarlike peds with flat tops ▶ PRISMATIC
Vertical, pillarlike peds with curved tops (which are commonly "bleached") ▶ COLUMNAR

WEATHERING ZONE ABBREVIATION

MODIFIER SYMBOL (if present)	1st SYMBOL	2nd SYMBOL	LAST SYMBOL (if present)
MOTTLED ▶ M	OXIDIZED ▶ O	LEACHED ▶ L	SECONDARY CARBONATE ▶ 2
JOINTED ▶ J	REDUCED ▶ R	UNLEACHED ▶ U	
	UNOXIDIZED ▶ U		

EXAMPLE: solum OJL, MOJL, MOJL2, MOJU; MRJU, RJU, RU, UU

SECONDARY GRAIN SIZE INFORMATION

< 5% ▶ TRACE
6% to 15% ▶ LITTLE
16% to 30% ▶ FEW
31% to 49% ▶ SOME

UNIFORM (poorly graded) ▶ FINE SAND, MEDIUM-GRAINED SAND, COARSE-GRAINED SAND
NON-UNIFORM (well graded) ▶ FINE SAND, MEDIUM-GRAINED SAND, COARSE-GRAINED SAND, FINE GRAVEL, COARSE GRAVEL

FOR GLACIAL DIAMICTONS ▶ CLAST FRACTION, CLAST LITHOLOGY

DEPOSITIONAL ENVIRONMENT

VARIOUS DEPOSITIONAL ENVIRONMENTS (interpretation) ▶ EOLIAN (LOESS), FLUVIAL, ALLUVIAL, LACUSTRINE, COASTAL, RESEDIMENTED

GLACIAL DEPOSITIONAL PROCESSES ▶ SUBGLACIAL, GLACIOFLUVIAL, GLACIOLACUSTRINE, RESEDIMENTED

GENERALIZED RESEDIMENTATION PROCESSES ▶ MASS SLUMP, SEDIMENT FLOW, COLLUVIUM

STRATIGRAPHIC NAME

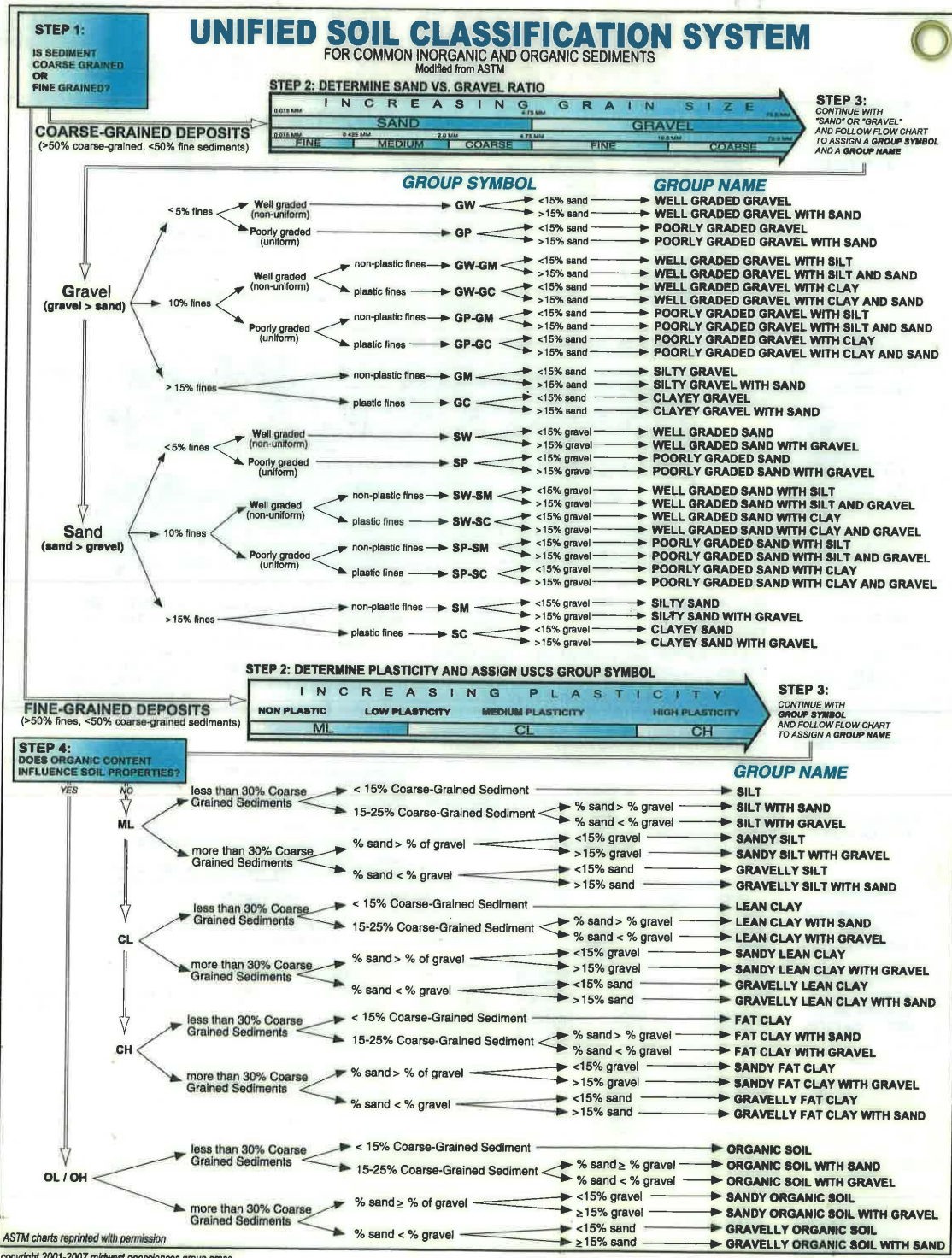
USE FORMAL STATE GEOLOGICAL SURVEY NOMENCLATURE WHEN POSSIBLE;
IF NOT POSSIBLE, ASSIGN SITE-SPECIFIC UNIT NAME ACCORDING TO DEPOSITIONAL ENVIRONMENT / FACIES ASSEMBLAGE

STRATIGRAPHIC CONTACT

< 10 cm ▶ SHARP (or ABRUPT for pedogenic alternation)
> 10 cm (Note transition interval) ▶ GRADATIONAL (or TRANSITIONAL for weathering zone change)

010106

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Smith-Kem Site

Remedial Investigation Work Plan

Appendix B

Health and Safety Plan

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List of Abbreviations and Acronyms

Acronym/ Abbreviation	Definition
AST	Aboveground storage tank
BNSF	BNSF Railway
Ecology	Washington State Department of Ecology
°F	Degrees Fahrenheit
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations Training
HSO	Health and Safety Officer
OSHA	Occupational Safety and Health Administration
PID	Photoionization detector
PM	Project Manager
PPE	Personal protective equipment
Shell	Shell Oil Products US
Site	Smith-Kem Site
SS	Site Supervisor
SSO	Site Safety Officer
STEL	Short-term exposure limit
TWA	Time-weighted average
VOC	Volatile organic compound
WAC	Washington Administrative Code
Work Plan	Smith-Kem Remedial Investigation Work Plan

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1.0 Plan Objectives and Applicability

This Health and Safety Plan (HASP) has been written to comply with the standards prescribed by the Occupational Safety and Health Administration (OSHA) and the Washington Industrial Safety and Health Act (WISHA).

The purpose of this HASP is to establish protection standards and mandatory safe practices and procedures for all personnel involved with investigation activities including soil boring installation; monitoring well installation and development; groundwater monitoring; and soil and groundwater sample collection on behalf of Shell Oil Products US (Shell) and Smith Kem at the Smith-Kem Site (Site). This HASP assigns responsibilities, establishes standard operating procedures, and provides for contingencies that may occur during field work activities. The plan consists of Site descriptions, a summary of work activities, an identification and evaluation of chemical and physical hazards, monitoring procedures, personnel responsibilities, decontamination and disposal practices, emergency procedures, and administrative requirements.

The provisions and procedures outlined by this HASP apply to all Floyd|Snider personnel on-site. Contractors, subcontractors, other oversight personnel, and all other persons involved with the field work activities described herein are required to develop and comply with their own HASP. All Floyd|Snider staff conducting field activities are required to read this HASP and indicate that they understand its contents by signing the Health and Safety Officer/Site Supervisor's (HSO/SS) copy of this plan.

It should be noted that this HASP is based on information that was available as of the date indicated on the title page. It is possible that additional hazards that are not specifically addressed by this HASP may exist at the work site, or may be created as a result of on-site activities. It is the firm belief of Floyd|Snider that active participation in health and safety procedures and acute awareness of on-site conditions by all workers is crucial to the health and safety of everyone involved. Should project personnel identify a site condition that is not addressed by this HASP or have any questions or concerns about site conditions, they should immediately notify the HSO/SS and an addendum will be provided to this HASP.

The HSO/SS has field responsibility for ensuring that the provisions outlined herein adequately protect worker health and safety and that the procedures outlined by this HASP are properly implemented. In this capacity, the HSO/SS will conduct regular site inspections to ensure that this HASP remains current with potentially changing site conditions. The HSO/SS has the authority to make health and safety decisions that may not be specifically outlined in this HASP should site conditions warrant such actions. In the event that the HSO/SS leaves the Site while work is in progress, an alternate Site Safety Officer (SSO) will be designated. Personnel responsibilities are further described in Section 4.0.

This HASP has been reviewed by the Project Manager (PM) and the HSO/SS prior to commencement of work activities. All Floyd|Snider personnel shall review the plan and be familiar with on-site health and safety procedures. A copy of the HASP will be on-site at all times.

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2.0 Emergency Contacts and Information

2.1 DIAL 911

In the event of any emergency, DIAL 911 to reach fire, police, and first aid.

2.2 HOSPITAL AND POISON CONTROL

Nearest Hospital Location and Telephone: (Refer to Figure B.1 for map and directions to the hospital.)	Kittitas Valley Healthcare 603 South Chestnut St. Ellensburg, WA 98926 (509) 962-9841
Washington Poison Control Center:	(800) 222-1222

2.3 PROVIDE INFORMATION TO EMERGENCY PERSONNEL

All Floyd|Snider project personnel should be prepared to give the following information:

Information to give to Emergency Personnel	
Site Location: (Refer to Figure B.2 for map showing the Site.)	Smith-Kem Site 200 South Railroad Avenue Ellensburg, WA 98926
Number that you are calling from:	Look on the phone you are calling from.
Describe accident and/or incident and numbers of personnel needing assistance.	Type of Accident Type(s) of Injuries

2.4 FLOYD|SNIDER AND WASHINGTON STATE DEPARTMENT OF ECOLOGY EMERGENCY CONTACTS

After contacting emergency response crews as necessary, contact the Floyd|Snider PM or a Principal to report the emergency. The Principal may then contact the Washington State Department of Ecology (Ecology) or direct the field staff to do so.

Floyd|Snider Emergency Contacts:

Allison Geiselbrecht, PM	Office: (206) 292-2078	Cell: (206) 722-2460
Kate Snider, Principal	Office: (206) 292-2078	Cell: (206) 375-0762
Teri Floyd, Principal	Office: (206) 292-2078	Cell: (206) 713-1329
Tom Colligan, Principal	Office: (206) 292-2078	Cell: (206) 276-8527

Washington State Department of Ecology Emergency Contacts:

John Mefford Direct Line: (509) 454-7836

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3.0 Background Information

3.1 SITE BACKGROUND

Floyd|Snider will conduct field investigation and data collection activities at the Site, which is located at 200 South Railroad Avenue in Ellensburg, Washington. The Site is zoned as “Industrial Heavy” by Kittitas County and is approximately 1.98 acres in size. The Site is currently owned by Ad Gro, LLC. The Site is bounded by an industrial property to the north and to the south by various light-industrial and/or other commercial type businesses. A BNSF Railway (BNSF) rail yard is located to the east, and residential properties are located to the west of South Railroad Avenue.

The Site has a long history as a bulk fuel storage facility owned and operated by Shell. Historical documentation suggests that Shell stored oil products (including diesel products) at the facility from 1926 until the early 1970s. Based on historical documentation, Shell’s operations consisted of transferring oil products to the original warehouse building and platforms from the BNSF (formerly Northern Pacific Railroad [NPRR]) rail spur via above ground piping runs. The warehouse building and associated aboveground storage tanks (ASTs) were used for storage of oil products.

From 1948 until 1972, Shell leased a portion of the property to Smith-Kem. Specifically, Smith-Kem leased a loading dock area on the east side of the warehouse building for its operations. Smith-Kem sold Shell-branded agricultural products on the property. The company began providing then-new anhydrous ammonia fertilizers, known as Shell NH₃, to local farmers as well as farmers in the Columbia Basin (Steward 1998). During the 1950s, anhydrous ammonia tanks were shipped in on railroad cars and then handled manually during transfer at the Site. Between 1991 and 1992, Shell NH₃ liquid product, was transported by truck to customers (Erickson 2016). In April 2015, the McGregor Company acquired portions of the business and continued operations on the Site. The McGregor Company began leasing the property and its associated structures from Ad Gro, LLC on April 1, 2015, and is the current operator on the property. The McGregor Company is currently operating under the name Smith-Kem, but it is a distinct and separate legal entity from the Smith-Kem named as a potentially liable party in Agreed Order No. DE 12908.

Shell originally installed one 12,000-gallon and two 25,000-gallon mild steel ASTs for the storage of diesel fuel. A former pump house, located south of the office building, transferred fuel directly from railcars to the ASTs. Once Shell’s operations ceased in the early 1970s, Smith-Kem re-purposed the 12,000-gallon AST and one of the 25,000-gallon ASTs for the storage of fertilizer products. In the late 1980s, the steel tanks were replaced with tanks made of fiberglass. Kittitas Valley Fire and Rescue indicated that no spills of hazardous materials had been reported to the Fire Marshal’s office for the Site. Fire and Rescue also stated that they have inspection records from 1955 indicating that two 25,000-gallon AST fuel tanks, and one 12,000-gallon AST fuel tank were in use (Miller, Joe C. 2016. Personal communication from Joe Miller, Kittitas Valley Fire and Rescue, to Lisa Meoli, Floyd|Snider. 29 March).

One 500- to 600-gallon UST was formerly located near the southwestern corner of the office building (the exact location is unknown) and used for the storage of white gas and later for zinc chelates. The tank was decommissioned and removed in the late 1970s. It is unknown if other USTs are located on the Site. However, the current owner is not aware of other USTs formerly or currently located on the Site.

As the fertilizer operation expanded in the late 1970s to early 1980s, and to comply with Washington State Department of Agriculture and insurance requirements, a 70-foot by 90-foot concrete secondary containment was constructed around the fertilizer tank farm located north of the fertilizer building. Six ASTs containing fertilizer products, an 8,000-gallon diesel AST and a 2,000-gallon gasoline AST, were also located within the containment area. The diesel and gasoline ASTs were used for refueling equipment. These were installed after or concurrent with the secondary containment structure installation.

The objective of the Remedial Investigation (RI) and Feasibility Study (FS) is to conduct a comprehensive site-wide evaluation and investigation that involves characterization of soil and groundwater to fill data gaps identified in the Smith-Kem Remedial Investigation Work Plan (Work Plan).

3.2 SCOPE OF WORK

The scope of work for this field investigation and data collection activities is described in detail in the Work Plan. Floyd|Snider will conduct the following fieldwork activities:

- Installation of soil borings using a roto-sonic drilling rig and the collection of soil for analytical testing.
- Construction of both permanent and temporary groundwater monitoring wells using a roto-sonic drilling rig and collection of soil samples for analytical testing.
- Development of new monitoring wells.
- Collection of groundwater samples from new and existing monitoring wells.

4.0 Primary Responsibilities and Requirements

4.1 PROJECT MANAGER

The PM will have overall responsibility for the completion of the project, including the implementation and review of this HASP. The PM will review health and safety issues as needed and as consulted, and will have authority to allocate resources and personnel to safely accomplish the field work.

The PM will direct all Floyd|Snider personnel involved in field work at the Site. If the project scope changes, the PM will notify the HSO/SS so that the appropriate addendum can be included in the HASP. The PM will ensure that all Floyd|Snider personnel on-site have received the required training, are familiar with the HASP, and understand the procedures to follow should an accident and/or incident occur on-site.

4.2 HEALTH AND SAFETY OFFICER AND SITE SUPERVISOR

The HSO/SS will approve this HASP and any amendments, thereof, and will ultimately be responsible for full implementation of all elements of the HASP.

The HSO/SS will advise the PM and project personnel on all potential health and safety issues of the field investigation activities to be conducted at the Site. The HSO/SS will specify required exposure monitoring to assess Site health and safety conditions, modify the Site HASP based on field assessment of health and safety accidents and/or incidents, and recommend corrective action if needed. The HSO/SS will report all accidents and/or incidents to the PM. If the HSO/SS observes unsafe working conditions by Floyd|Snider personnel or any contractor personnel, the HSO/SS will suspend all work until the hazard has been addressed.

4.3 SITE SAFETY OFFICER

The SSO may be a person dedicated to this task, to assist the HSO/SS during field work activities. The SSO will ensure that all personnel have appropriate personal protective equipment (PPE) on-site and PPE is properly used. The SSO will assist the HSO/SS in field observation of Floyd|Snider personnel safety. If a health or safety hazard is observed, the SSO shall suspend all work activity. The SSO will conduct on-site safety meetings daily before work commences. All health and safety equipment will be calibrated daily and records kept in the daily field logbook and/or accompanying field daily forms. The SSO may perform exposure monitoring if needed and will ensure that equipment is properly maintained.

4.4 FLOYD|SNIDER PROJECT PERSONNEL

All Floyd|Snider project personnel involved in field work activities will take precautions to prevent accidents and/or incidents from occurring to themselves and others in the work areas. Employees will report all accidents, incidents, and/or other unsafe working conditions to the HSO/SS or SSO immediately. Employees will inform the HSO/SS or SSO of any physical conditions that could impact their ability to perform field work.

4.5 TRAINING REQUIREMENTS

All Floyd|Snider project personnel must comply with applicable regulations specified in the Washington Administrative Code (WAC) Chapter 296-843, Hazardous Waste Operations Training, administered by the Washington State Department of Labor and Industries. Project personnel will be 40-hour Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) trained and maintain their training with an annual 8-hour refresher. Personnel with limited tasks and minimal exposure potential will be required to have 24-hour training and a site hazard briefing, and be escorted by a trained employee. Personnel with defined tasks that do not include potential contact with disturbed site soils or waste, groundwater, or exposures to visible dust (e.g., surveying) are not required to have any level of hazardous waste training beyond a site emergency briefing and hazard orientation by the HSO/SS. Floyd|Snider project personnel will fulfill the medical surveillance program requirements.

In addition to the 40-hour course and 8-hour refreshers, the HSO/SS will have completed an 8-hour HAZWOPER Supervisor training as required by WAC 296-843-20015. At least one person on-site during field work will have current cardiopulmonary resuscitation (CPR)/First Aid certification. All field personnel must have a minimum of 3 days of hazardous materials field experience under the direction of a skilled supervisor. Documentation is readily available at the Floyd|Snider's main office.

Additional site-specific training that covers on-site hazards, PPE requirements, use and limitations, decontamination procedures, and emergency response information as outlined in this HASP will be given by the HSO/SS before on-site work activities begin. Daily health and safety meetings will be documented on the Daily Tailgate Safety Meeting form included as Attachment B.1.

4.6 MEDICAL SURVEILLANCE

All Floyd|Snider field personnel are required to participate in Floyd|Snider's medical surveillance program, which includes biennial audiometric and physical examinations for employees involved in HAZWOPER projects. The program requires medical clearance before respirator use or participating in HAZWOPER activities. Medical examinations must be completed before conducting field work activities and on a biennial basis.

5.0 Hazard Evaluation and Risk Analysis

In general, there are three broad hazard categories that may be encountered during site work: chemical exposure hazards, fire/explosion hazards, and physical hazards. Sections 5.1 through 5.3 discuss the specific hazards that fall within each of these broad categories.

5.1 CHEMICAL EXPOSURE HAZARDS

This section describes potential chemical hazards associated with soil boring installation, monitoring well installation and development, groundwater monitoring, and soil and groundwater sample collection. Based on previous site investigation information, the following chemicals have been detected at this Site:

- Metals in soil and groundwater.
- Diesel-range and heavy oil-range hydrocarbons in soil and groundwater.
- Gasoline-range hydrocarbons in soil and groundwater.
- Pesticides/herbicides by soil and groundwater.

Human health hazards of these chemicals are discussed in the table below. This information covers potential toxic effects which might occur if relatively significant acute and/or chronic exposure were to happen. This information does not mean that such effects will occur from planned site activities. Potential routes of exposure include inhalation, dermal contact, ingestion, and eye contact. The primary exposure route of concern during site work is ingestion of contaminated water or soil, though such exposure is considered unlikely and highly preventable. In general, the chemicals which may be encountered at this Site are not expected to be present at concentrations which could produce significant exposures. The types of planned work activities and use of monitoring procedures and protective measures will limit potential exposures at this Site. The use of appropriate PPE and decontamination practices will assist in controlling exposure through all pathways to the key contaminants of concern listed in the table below.

Chemical Hazard	DOSH Permissible Exposure Limits (8-hr TWA/STEL)	Greatest Historical Concentration	Routes of Exposure	Potential Toxic Effects
Metals				
Arsenic	0.01 mg/m ³ in air	Not previously analyzed	Inhalation, skin absorption, ingestion, skin/eye contact	Ulceration of nasal septum, dermatitis, GI disturbance, respiratory irritation, hyperpigmentation of skin
Cadmium	0.005 mg/m ³ in air	Not previously analyzed	Inhalation, ingestion	Pulmonary edema, dyspnea (breathing difficulty), chills, nausea, vomiting, anemia, muscle aches, headache, anosmia (loss of smell)
Chromium	0.5 mg/m ³ in air	Not previously analyzed	Inhalation, ingestion, skin/eye contact	Eye irritation, dermatitis
Copper	0.1 mg/m ³ in air	Not previously analyzed	Inhalation, ingestion, skin/eye contact	Eye irritation, respiratory system irritation, cough, dyspnea (breathing difficulty), wheezing
Lead	0.05 mg/m ³ / Action Level of 0.03 mg/m ³	30.5 mg/kg	Inhalation, ingestion, skin/eye contact	Weakness, insomnia, facial pallor, weight loss, constipation, abdominal pain, anemia, tremors, eye irritation, hypotension
Mercury	0.05 mg/m ³ in air	Not previously analyzed	Inhalation, skin absorption, ingestion, skin/eye contact	Eye and skin irritation, cough, chest pain, dyspnea, bronchitis, pneumonia, tremors, insomnia, GI disturbance, indecision, lassitude, irritability, headache, salivation
Zinc	5 mg/m ³ in air	Not previously analyzed	Inhalation	Metal fume fever, chills, muscle aches, nausea, fever, dry throat, cough, blurred vision, headache, vomiting, low back pain, chest tightness, dyspnea, metallic taste, lassitude

Chemical Hazard	DOSH Permissible Exposure Limits (8-hr TWA/STEL)	Greatest Historical Concentration	Routes of Exposure	Potential Toxic Effects
Total Petroleum Hydrocarbons				
Diesel- and Heavy Oil-Range Hydrocarbons	None established	7,400 mg/kg in soil (diesel) 6,800 mg/kg in soil (oil) 24,000 µg/L in groundwater (diesel)	Inhalation, skin/eye contact	Irritation to eyes, pulmonary function
Gasoline-Range Hydrocarbons	None	472 mg/kg in soil 0.58 mg/L in groundwater	Inhalation, skin absorption, ingestion, skin/eye contact	Irritation to eyes, skin, and mucus membranes, headache, fatigue, blurred vision, dizziness, slurred speech, confusion, convulsions, liver and kidney damage
Pesticides/Herbicides				
Organochlorine Pesticides	Varies, generally ≤0.5 mg/m ³ (skin)	17 µg/L in groundwater (Toxaphene)	Inhalation, skin absorption, ingestion, skin/eye contact	Eye, skin, nose, and throat irritation, headache, nausea, respiratory difficulty, cyanosis aplastic anemia, muscle spasms, liver and kidney damage, convulsions
Chlorinated Herbicides	Varies, generally ≤10 mg/m ³	260 µg/L in groundwater (2,4-D)	Inhalation, skin absorption, ingestion, skin/eye contact	Lassitude, stupor, hyporeflexia, muscle twitches, convulsions, dermatitis, liver and kidney damage
Organophosphate Pesticides	Varies, generally ≤0.25 mg/m ³	Not previously analyzed	Inhalation, skin absorption, ingestion, skin/eye contact	Wheezing, larynx spasms, salivation, bluish lips, blurred vision, nausea, vomiting abdominal cramps, diarrhea, skin irritation, dizziness, chest tightness
Other Pesticides and Herbicides	Varies, generally ≤5 mg/m ³	Not previously analyzed	Inhalation, skin absorption, ingestion, skin/eye contact	Eye and skin irritation/sensitivity, lassitude, salivation, dyspnea, liver damage, incoordination, blurred vision, vomiting, upper respiratory irritation

Chemical Hazard	DOSH Permissible Exposure Limits (8-hr TWA/STEL)	Greatest Historical Concentration	Routes of Exposure	Potential Toxic Effects
Miscellaneous				
Ammonia	25 ppm (18 mg/m ³)	1,300 mg/L in groundwater	Inhalation, ingestion (solution), skin/eye contact (solution/liquid)	Eye, nose, throat irritation, dyspnea, wheezing, chest pain, pulmonary edema, pink frothy sputum, skin burns, vesiculation, frostbite (liquid)
Laboratory Preservatives (HCl, MeOH, H ₂ SO ₄ , HNO ₃)	Not applicable	Not applicable	Dermal contact, eye contact	Irritation to skin or eyes.

Abbreviations:

- 2,4-D 2,4-Dichlorophenoxyacetic
- DOSH Department of Safety and Health
- GI Gastro-intestinal
- HCl Hydrochloric acid
- H₂SO₄ Sulfuric Acid
- HNO₃ Nitric acid
- hr Hour
- MeOH Methanol
- µg/L Micrograms per liter
- mg/kg Milligrams per kilogram
- mg/L Milligrams per liter
- mg/m³ Milligrams per cubic meter
- ppm Parts per million
- STEL Short-term exposure limit
- TWA Time-weighted average

Chemical and physical properties for hazardous substances expected at the Site, including those listed above are located in the Material Safety Data Sheets notebook maintained in the field vehicle.

5.2 FIRE AND EXPLOSION HAZARDS

Flammable and combustible liquid hazards may occur from fuels and lubricants brought to the property to support heavy equipment. When on-site storage is necessary, such material will be stored in containers approved by the Washington State Department of Transportation (WSDOT) in a location not exposed to strike hazards and provided with secondary containment. A minimum 2-A:20-B fire extinguisher will be located within 25 feet of the storage location and where refueling occurs. Any subcontractors bringing flammable and combustible liquid hazards to the Site are responsible for providing appropriate material for containment and spill response, and such hazards should be addressed in their respective HASP. Transferring of flammable liquids

(e.g., gasoline) will occur only after making positive metal-to-metal connection between the containers. A bonding strap may be necessary to achieve this. Storage of ignition and combustible materials will be kept away from storage and fueling operations.

5.3 PHYSICAL HAZARDS

When working in or around any hazardous or potentially hazardous substances or situations, all site personnel should plan all activities before starting any task. Site personnel shall identify health and safety hazards involved with the work planned and consult with the HSO/SS as to how the task can be performed in the safest manner. Personnel will also consult the HSO/SS if they have any concerns or uncertainties.

All field personnel will adhere to general safety rules including wearing appropriate PPE, hard hats, steel-toed boots, safety vests, and safety glasses. Eating, drinking, and/or use of tobacco or cosmetics will be restricted in all work areas. Personnel will prevent splashing of liquids containing chemicals and minimize dust emissions.

The following table summarizes a variety of physical hazards that may be encountered on the Site during work activities. For convenience, these hazards have been categorized into several general groupings with recommended preventative measures.

Hazard	Cause	Prevention
Head Strike	Falling and/or sharp objects, bumping hazards.	Hard hats will be worn by all personnel at all times when overhead hazards exist, such as during drilling activities and around large, heavy equipment.
Foot/ankle Twist, Crush, Slip/trip/fall	Sharp objects, dropped objects, uneven and/or slippery surfaces.	Steel-toed boots must be worn at all times on-site while heavy equipment is present. Pay attention to footing on uneven or wet terrain and do not run. Keep work areas organized and free from unmarked trip hazards.
Hand Cuts, Splinters, and Chemical Contact	Hands or fingers pinched or crushed, chemical hazards including dermal exposure to nitric acid or sulfuric acid preservative. Cut or splinters from handling sharp/rough objects and tools.	Nitrile safety gloves will be worn to protect the hands from dust and chemicals. Leather or cotton outer gloves will be used when handling sharp-edged rough materials or equipment. Refer to the preventive measures for Mechanical Hazards below.

Hazard	Cause	Prevention
Eye Damage from Flying Materials, or Splash Hazards	Sharp objects, poor lighting, exposure due to flying debris or splashes.	Safety glasses will be worn at all times on-site. If a pressure washer is used to decontaminate heavy equipment, a face shield will be worn over safety glasses or goggles. Care will be taken during decontamination procedures and groundwater sampling to avoid splashing or dropping equipment into decontamination water. Face shields may be worn over safety glasses if splashing is occurring during sampling, decontamination, or well slug testing.
Electrical Hazards	Underground utilities, overhead utilities, electrical cord hazards.	<p>Utility locator service will be used prior to any investigation to locate all underground utilities. Visual inspection of work areas will be conducted prior to starting work. Whenever possible, avoid working under overhead high voltage lines.</p> <p>Make sure that no damage to extension cords occurs. If an extension cord is used, make sure it is the proper size for the load that is being served and inspected prior to use for defects. The plug connection on each end should be of good integrity. Insulation must be intact and extend to the plugs at either end of the cord.</p> <p>All portable power tools will be inspected for defects before use and must either be a double-insulated design or grounded with a ground-fault circuit interrupter (GFCI).</p>
Mechanical Hazards	<p>Heavy equipment such as drill rigs, service trucks, mowing equipment, saws, drills, etc.</p> <p>Conducting work in road right of ways (on the road shoulder).</p>	<p>Ensure the use of competent operators, backup alarms, regular maintenance, daily mechanical checks, and proper guards. Subcontractors will supply their own HASP. All project personnel will make eye contact with operator and obtain a clear OK before approaching or working within swing radius of heavy equipment, staying clear of swing radius. Obey on-site speed limits.</p> <p>Personnel will stand clear of machinery at all times unless specific instructions are given by the operator or other person in authority. Safety toe rubber or leather boots will be worn at all times when working around machinery and hardhats will be worn when overhead hazards are present. When possible, appropriate guards will be in place during equipment use.</p>

Hazard	Cause	Prevention
Traffic Hazards	Vehicle traffic and hazards when working near public right-of-ways and around site.	When working around active Site operations, orange cones and/or flagging will be placed around the work area. Multiple field staff will work together (buddy system) and spot traffic for each other if necessary. Avoid working with your back to traffic whenever possible. Further details on traffic hazards are provided in Section 5.3.4.
Hearing Damage due to Noise	Machinery creating more than 85 decibels TWA, less than 115 decibels continuous noise, or peak at less than 140 decibels.	Wear earplugs or protective ear muffs when a conversational level of speech is difficult to hear at a distance of 3 feet; when in doubt, a sound level meter may be used on-site to document noise exposure.
Strains from Improper Lifting	Injury due to improper lifting techniques, overreaching/ overextending, or lifting overly heavy objects.	Use proper lifting techniques and mechanical devices where appropriate. The proper lifting procedure first involves testing the weight of the load by tipping it. If in doubt, ask for help. Do not attempt to lift a heavy load alone. Take a good stance and plant your feet firmly with legs apart, one foot farther back than the other. Make sure you stand on a level area with no slick spots or loose gravel. Use as much of your hands as possible, not just your fingers. Keep your back straight, almost vertical. Bend at the hips, holding load close to your body. Keep the weight of your body over your feet for good balance. Use large leg muscles to lift. Push up with one foot positioned in the rear as you start to lift. Avoid quick, jerky movements and twisting motions. Turn the forward foot and point it in the direction of the eventual movement. Never try to lift more than you are accustomed to.
Cold Stress	Cold temperatures and related exposure on and offshore.	Workers will wear appropriate clothing, stay dry, and take breaks in a heated environment when working in freezing temperatures. Further details on cold stress are provided in Section 5.3.1.

Hazard	Cause	Prevention
Heat Exposure	High temperatures exacerbated by PPE and/or dehydration.	Workers will ensure adequate hydration, shade, and breaks when temperatures are elevated. Further details on heat stress are provided in Section 5.3.2.
Accidents due to Inadequate Lighting	Improper illumination.	Work will proceed during daylight hours only or under sufficient artificial light.

5.3.1 Cold Stress

Phase 1 field work will be completed in the summer of 2016 and exposure to cold temperature is unlikely. Subsequent phases may be completed in colder months. Exposure to moderate levels of cold can cause the body’s internal temperature to drop to a dangerously low level, causing hypothermia. Symptoms of hypothermia include slow, slurred speech; mental confusion; forgetfulness; memory lapses; lack of coordination; and drowsiness.

To prevent hypothermia, site personnel will stay dry and avoid exposure. Site personnel will have access to a warm, dry area, such as a vehicle, to take breaks from the cold weather and warm up. Site personnel will be encouraged to wear sufficient clothing in layers such that outer clothing is wind- and waterproof and inner layers retain warmth (wool or polypropylene), if applicable. Site personnel will keep hands and feet well protected at all times. The signs and symptoms and treatment for hypothermia are summarized below:

Signs and Symptoms

- Mild hypothermia (body temperature of 98–90 degrees Fahrenheit [°F])
 - Shivering.
 - Lack of coordination, stumbling, fumbling hands.
 - Slurred speech.
 - Memory loss.
 - Pale, cold skin.
- Moderate hypothermia (body temperature of 90–86°F)
 - Shivering stops.
 - Unable to walk or stand.
 - Confused and irrational.
- Severe hypothermia (body temperature of 86–78°F)
 - Severe muscle stiffness.

- Very sleepy or unconscious.
- Ice-cold skin.
- Death.

Treatment of Hypothermia (Proper treatment depends on the severity of the hypothermia.)

- Mild hypothermia
 - Move to warm area.
 - Stay active.
 - Remove wet clothes and replace with dry clothes or blankets and cover the head.
 - Drink warm (not hot) sugary drinks.
- Moderate hypothermia
 - All of the above, plus:
 - call 911 for an ambulance,
 - cover all extremities completely, and
 - place very warm objects such as hot packs or water bottles on the victim's head, neck, chest, and groin.
- Severe hypothermia
 - Call 911 for an ambulance.
 - Treat the victim very gently.
 - Do not attempt to re-warm—the victim should receive treatment in a hospital.

Frostbite

Frostbite occurs when the skin actually freezes and loses water. In severe cases, amputation of the frostbitten area may be required. While frostbite usually occurs when the temperatures are 30°F or lower, windchill factors can allow frostbite to occur in above-freezing temperatures. Frostbite typically affects the extremities, particularly the feet and hands. Frostbite symptoms include cold, tingling, stinging, or aching feelings in the frostbitten area followed by numbness and skin discoloration from red to purple, then to white or very pale skin. Should any of these symptoms be observed, wrap the area in soft cloth—do not rub the affected area—and seek medical assistance. Call 911 if the condition is severe.

Protective Clothing

Wearing the right clothing is the most important way to avoid cold stress. The type of fabric also makes a difference. Cotton loses its insulation value when it becomes wet. Wool, on the other

hand, retains its insulation even when wet. The following are recommendations for working in cold environments:

- *Wear at least three layers* of clothing:
 - An outer layer to break the wind and allow some ventilation (like Gortex or nylon).
 - A middle layer of down or wool to absorb sweat and provide insulation even when wet.
 - An inner layer of cotton or synthetic weave to allow ventilation.
- Wear a hat—up to 40 percent of body heat can be lost when the head is left exposed.
- Wear insulated boots or other footwear.
- Keep a change of dry clothing available in case work clothes become wet.
- Do not wear tight clothing—loose clothing allows better ventilation.

Work Practices

- **Drinking:** Drink plenty of liquids, avoiding caffeine and alcohol. It is easy to become dehydrated in cold weather.
- **Work Schedule:** If possible, heavy work should be scheduled during the warmer parts of the day. Take breaks out of the cold in heated vehicles.
- **Buddy System:** Try to work in pairs to keep an eye on each other and watch for signs of cold stress.

5.3.2 Heat Stress

To avoid heat-related illness, current regulations in WAC 296-62-095 through 296-62-09570 will be followed during all outdoor work activities. These regulations apply to any outdoor work environment from May 1 through September 30, annually when workers are exposed to temperatures above 89°F when wearing breathable clothing, above 77°F when wearing double-layered woven clothing such as jackets or coveralls, or above 52°F when wearing non-breathing clothing such as chemical resistant suits or Tyvek. Floyd|Snider will identify and evaluate temperature, humidity, and other environmental factors associated with heat-related illness including but not limited to the provision of rest breaks that are adjusted for environmental factors, and encourage frequent consumption of drinking water. Drinking water will be provided and made readily accessible in sufficient quantity to provide at least 1 quart per employee per hour. All Floyd|Snider personnel will be informed and trained for responding to signs or symptoms of possible heat-related illness and accessing medical aid.

Employees showing signs or demonstrating symptoms of heat-related illness must be relieved from duty and provided with a sufficient means to reduce body temperature, including rest areas or temperature controlled environments (i.e., air conditioned vehicle). Any employee showing

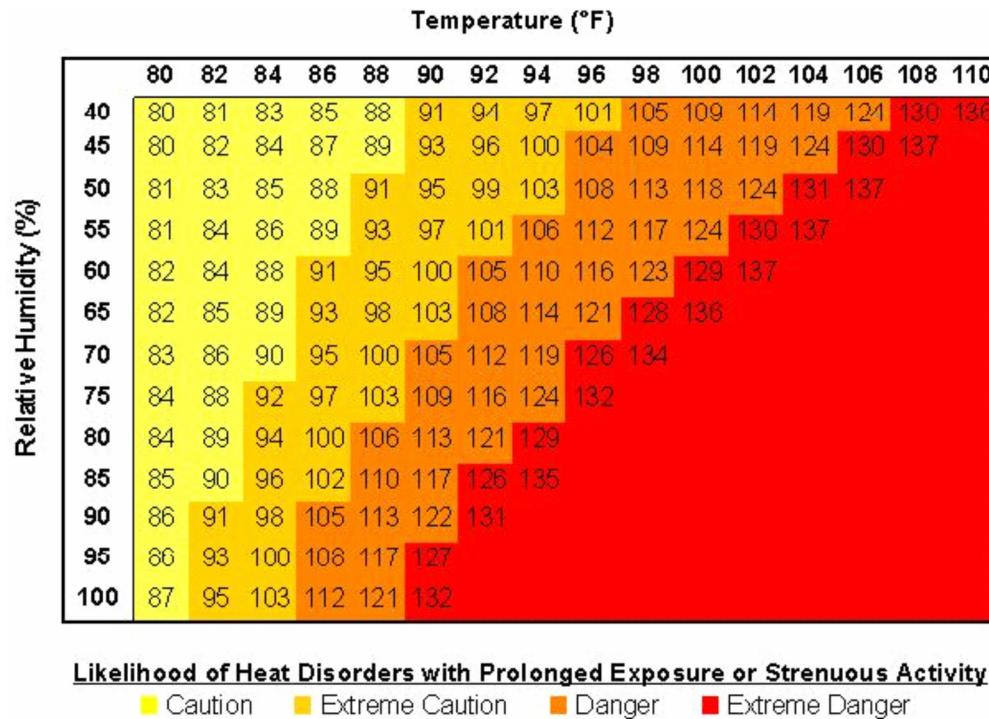
signs or demonstrating symptoms of heat-related illness must be carefully evaluated to determine whether it is appropriate to return to work or if medical attention is necessary.

Any incidence of heat-related illness must be immediately reported to the employer directly through the HSO/SS.

The signs, symptoms, and treatment of heat stress are given in the table on the next page.

Condition	Signs/Symptoms	Treatment
Heat Cramps	Painful muscle spasms and heavy sweating.	Increase water intake, rest in shade/cool environment.
Heat Syncope	Brief fainting and blurred vision.	Increase water intake, rest in shade/cool environment.
Dehydration	Fatigue, reduced movement, headaches.	Increase water intake, rest in shade/cool environment.
Heat Exhaustion	Pale and clammy skin, possible fainting, weakness, fatigue, nausea, dizziness, heaving, sweating, blurred vision, body temperature slightly elevated.	Lie down in cool environment, increase water intake, and loosen clothing; call 911 for ambulance transport if symptoms continue once in cool environment.
Heat Stroke	Cessation of sweating, skin hot and dry, red face, high body temperature, unconsciousness, collapse, convulsions, confusion or erratic behavior, life threatening condition.	Medical Emergency! Call 911 for ambulance transport. Move victim to shade and immerse in water.

If site temperatures are forecast to exceed 85°F and physically demanding site work will occur in impermeable clothing, the HSO/SS will promptly consult with a certified industrial hygienist (CIH) and a radial pulse monitoring method will be implemented to ensure that heat stress is properly managed among the affected workers. The following heat index chart indicates the relative risk of heat stress:



5.3.3 Biohazards

Bees and other insects may be encountered during the field work tasks. Persons with allergies to bees will make the HSO/SS aware of their allergies and will avoid areas where bees are identified. Controls such as repellents, hoods, nettings, masks, or other personal protection may be used. Report any insect bites or stings to the HSO/SS and seek first aid if necessary.

Site personnel will maintain a safe distance from any urban wildlife encountered, including raccoons and rodents, to preclude a bite from a sick or injured animal. Personnel will be gloved and will use tools to lift covers from catch basins and monitoring wells.

5.3.4 Traffic Hazards

While work is being performed at the active Site, barricades should be utilized. Spotters will be used to ensure traffic is monitored during work activities because signs, signals, and barricades do not always provide appropriate protection. All workers will wear reflective high visibility neon/orange vests.

6.0 Site Monitoring

The following sections describe site monitoring techniques and equipment that will be used during site field activities. The HSO/SS, or a designated alternate, is responsible for site control and monitoring activities.

6.1 SITE MONITORING

Since the Site is currently active, and noise generating activities will be conducted within the site boundary, noise levels are expected to be below the allowable levels.

Air monitoring will not be conducted as previous investigations have generally characterized the type and concentrations of volatile chemicals present at the Site. Visual monitoring for dust will be conducted by the HSO/SS to ensure inhalation of contaminated soil particles does not occur. It is not anticipated that dust will be generated given that the Site is primarily concrete and asphalt. However, if visible dust is present in the work area, work will cease and the area will be cleared until the dust settles.

Concentrations of volatile organic compounds (VOCs) in soil and groundwater at the Site are present at concentrations that are not expected to result in vapor concentrations that exceed allowable OSHA levels. All work will be conducted outdoors in an open-air ventilated environment. A photoionization detector (PID) will be used on-site for screening of soil samples collected. This PID will also be used to monitor vapor concentrations in breathing air of total volatile chemicals in parts per million that can be detected using this method. Should the PID read a sustained concentration of total volatile chemicals above the lowest action level sustained for 15 minutes, the HSO/SS will stop work and evacuate the area until vapor concentrations return to background levels. As needed, actions may be taken to reduce exposure to vapor concentrations in the work area by covering exposed soil or drilling cuttings, and leaving the work area until odor dissipates.

The HSO/SS will visually inspect the work site at least daily to identify any new potential hazards. If new potential hazards are identified, immediate measures will be taken to eliminate or reduce the risks associated with these hazards.

Ambient air background PID readings should be measured prior to the start and during drilling activities to factor in other sources of volatiles, from upwind of the work area. Air monitoring levels from the work area should be adjusted to account for the background concentration.

Monitoring Equipment	Readings ¹	Action ²
PID	<1 ppmv (8-hour TWA for volatiles); <5 ppm for 15 mins	Continue operations in Level D PPE
	>5 and <10 ppmv; intermittent	Identify source of concentrations if possible (vehicle emissions, exposed contaminated material, etc.) Implement engineering controls to reduce concentrations for continued operations (move work area upwind of operating equipment, cover exposed contaminated material, etc.); resume work only if PID indicates VOC is less than the OSHA PEL of 5 ppmv in breathing zone.
	>10 ppmv; sustained	Stop operations and evacuate area, identify source of concentrations if possible (vehicle emissions, exposed contaminated material, etc.) Implement engineering controls to reduce concentrations for continued operations (move work area upwind of operating equipment, cover exposed contaminated material, etc.); resume work only if PID indicates VOC is less than the OSHA PEL of 5 ppmv in breathing zone.

Notes:

- 1 Action levels prior to and during drilling activities.
- 2 OSHA short-term exposure limit (STEL) is a 15-minute TWA exposure that should not be exceeded at any time during a workday.

Abbreviation:

PEL Permissible Exposure Limit
ppmv Parts per million volatile

7.0 Hazard Analysis by Task

The following section identifies potential hazards associated with each task listed in Section 3.2 of this HASP. Tasks have been grouped according to the types of potential hazard associated with them.

Task	Potential Hazard
Installation of Soil Borings and Wells, Soil Sampling	Exposure to loud noise; overhead hazards; head, foot, ankle, hand, and eye hazards; electrical and mechanical hazards; lifting hazards; dust inhalation hazards; potential dermal or eye exposure to site contaminants in groundwater and soil; fall hazards; traffic hazards; and heat and cold exposure hazards.
Groundwater Sampling from Monitoring Wells, Well Development, and Decontamination	Chemical hazards include potential dermal or eye exposure to site contaminants in groundwater. Physical hazards include slip, trip, or fall hazards; heat and cold exposure hazards; and biological hazards (less common during the winter months).

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8.0 Personal Protective Equipment

All work involving heavy equipment, drilling, and well installation will proceed in Level D PPE, which shall include hard hat, steel-toed boots, hearing protection, eye protection, and protective gloves.

All personnel will be properly fitted and trained in the use of PPE. The level of protection will be upgraded by the HSO/SS whenever warranted by conditions present in the work area. The HSO/SS will periodically inspect equipment such as gloves and hard hats for defects.

For all work involving potential exposure to soil or groundwater, workers will wear nitrile gloves and Level D PPE. Safety vests will be worn when working around heavy equipment and in the active Site areas. Personnel will wear rain suits on windy, rainy days to prevent hypothermia.

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9.0 Site Control and Communication

9.1 SITE CONTROL

Pedestrians and other unauthorized personnel will not be allowed in the work area; however the site is not fenced. Access to the work site will be restricted to designated personnel. The purpose of site control is to minimize the public's potential exposure to site hazards, to prevent vandalism in the work area and access by children and other unauthorized persons, and to provide adequate facilities for workers. Work area controls and decontamination areas will be provided to limit the potential for chemical exposure associated with site activities, and transfer of contaminated media from one area of the Site to another. Staff will decontaminate all equipment and gear as necessary prior to exiting the work area.

9.2 COMMUNICATION

All site work will occur in teams and the primary means of communication on-site and with off-site contacts will be via cell phones. An agreed-upon system of alerting via air horns and/or vehicle horns may be used around heavy equipment to signal an emergency if shouting is ineffective.

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10.0 Decontamination

Decontamination procedures will be strictly followed to prevent off-site spread of contaminated soil or water. Decontamination effectiveness will be assessed by visual inspection by the HSO/SS. Refer to Appendix A of the Work Plan (Sampling and Analysis Plan/Quality Assurance Project Plan) for additional details.

Before eating, drinking, and use of tobacco, hands must be thoroughly washed.

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11.0 Emergency Response and Contingency Plan

This section defines the emergency action plan for the Site. It will be rehearsed with all site personnel and reviewed whenever the plan is modified or the HSO/SS believes that site personnel are unclear about the appropriate emergency actions.

A point of refuge will be identified by the HSO/SS and communicated to the field team each day. This point will be clear of adjacent hazards and preferably upwind or crosswind for the entire day. In an emergency, all site personnel and visitors will evacuate to the point of refuge for roll call. It is important that each person on-site understand their role in an emergency, and that they remain calm and act efficiently to ensure everyone's safety.

After each emergency is resolved, the entire project team will meet and debrief on the incident—the purpose is not to fix blame, but to improve the planning and response to future emergencies. The debriefing will review the sequence of events, what was done well, and what can be improved. The debriefing will be documented in a written format and communicated to the PM. Modifications to the emergency plan will be approved by the PM.

Reasonably foreseeable emergency situations include medical emergencies, accidental release of hazardous materials (such as gasoline or diesel) or hazardous waste, and general emergencies such as vehicle accident, fire, thunderstorm, and earthquake. Expected actions for each potential incident are outlined below.

11.1 MEDICAL EMERGENCIES

In the event of a medical emergency, the following procedures should be used:

1. Stop any imminent hazard if you can safely do so.
2. Remove ill, injured, or exposed person(s) from immediate danger if moving them will clearly not cause them harm and no hazards exist to the rescuers.
3. Evacuate other on-site personnel to a safe place in an upwind or crosswind direction until it is safe for work to resume.

If serious injury or life-threatening condition exists, call 911 for paramedics, the fire department, and police.

Clearly describe the location, injury, and conditions to the dispatcher. Designate a person to go to the Site entrance and direct emergency equipment to the injured person(s). Provide the responders with a copy of this HASP to alert them to chemicals of potential concern.

4. Trained personnel may provide first aid/CPR if it is necessary and safe to do so. Remove contaminated clothing and PPE only if this can be done without endangering the injured person.
5. Call the HSO/SS and PM.
6. Immediately implement steps to prevent recurrence of the accident.

A map showing the nearest hospital location is attached to this HASP (refer to Section 2.0 for number and address).

11.2 ACCIDENTAL RELEASE OF HAZARDOUS MATERIALS OR WASTES

1. Evacuate all on-site personnel to a safe place in an upwind direction until the HSO/SS determines that it is safe for work to resume.
2. Instruct a designated person to contact the PM and confirm a response.
3. Contain the spill, if it is possible and can be done safely.
4. If the release is not stopped, call 911 to alert the fire department.
5. Contact the Washington State Emergency Response Commission at 1-800-258-5990 to report the release.
6. Initiate cleanup.
7. The PM will coordinate follow-up written reporting to Ecology in the event of a reportable release of hazardous materials or wastes.

11.3 GENERAL EMERGENCIES

In the case of fire, explosion, earthquake, or imminent hazards, work shall be halted and all on-site personnel will be immediately evacuated to a safe place. The local police/fire department shall be notified if the emergency poses a continuing hazard by calling 911.

In the event of a thunderstorm, outdoor work will be discontinued until the threat of lightning has abated. During the incipient phase of a fire, the available fire extinguisher(s) may be used by persons trained in putting out fires, if it is safe for them to do so. Contact the fire department as soon as feasible.

11.4 EMERGENCY COMMUNICATIONS

In the case of an emergency, an air horn or car horn will be used as needed to signal the emergency. One long (5-second) blast will be given as the emergency/stop work signal. If the air horn is not working, a vehicle horn and/or overhead waving of arms will be used to signal the emergency. In any emergency, all personnel will evacuate to the designated refuge area and await further instruction.

11.5 EMERGENCY EQUIPMENT

The following minimum emergency equipment will be readily available on-site and functional at all times:

- First Aid Kit—contents approved by the HSO/SS.

- Sorbent materials capable of absorbing the volume of liquids/fuels brought to the Site by Floyd|Snider personnel.
- Portable fire extinguisher (2-A:10 B/C min).
- A copy of the current HASP.

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12.0 Administrative

12.1 MEDICAL SURVEILLANCE

Floyd|Snider personnel involved with field activities must be covered under Floyd|Snider's medical surveillance program that includes biennial physical examinations. These medical monitoring programs must be in compliance with all applicable worker health and safety regulations.

12.2 RECORD KEEPING

The HSO/SS, or a designated alternate, will be responsible for keeping attendance lists of personnel present at site health and safety meetings, accident reports, and signatures of all personnel who have read this HASP.

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13.0 Approvals

Project Manager

Date

Project Health & Safety Officer

Date

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14.0 Signature Page

I have read this Health and Safety Plan and understand its contents. I agree to abide by its provisions and will immediately notify the HSO/SS if site conditions or hazards not specifically designated herein are encountered.

Name (Print)	Signature	Date

Smith-Kem Site
Remedial Investigation Work Plan

Appendix B
Health and Safety Plan

Figures

Direction to Hospital from Site:

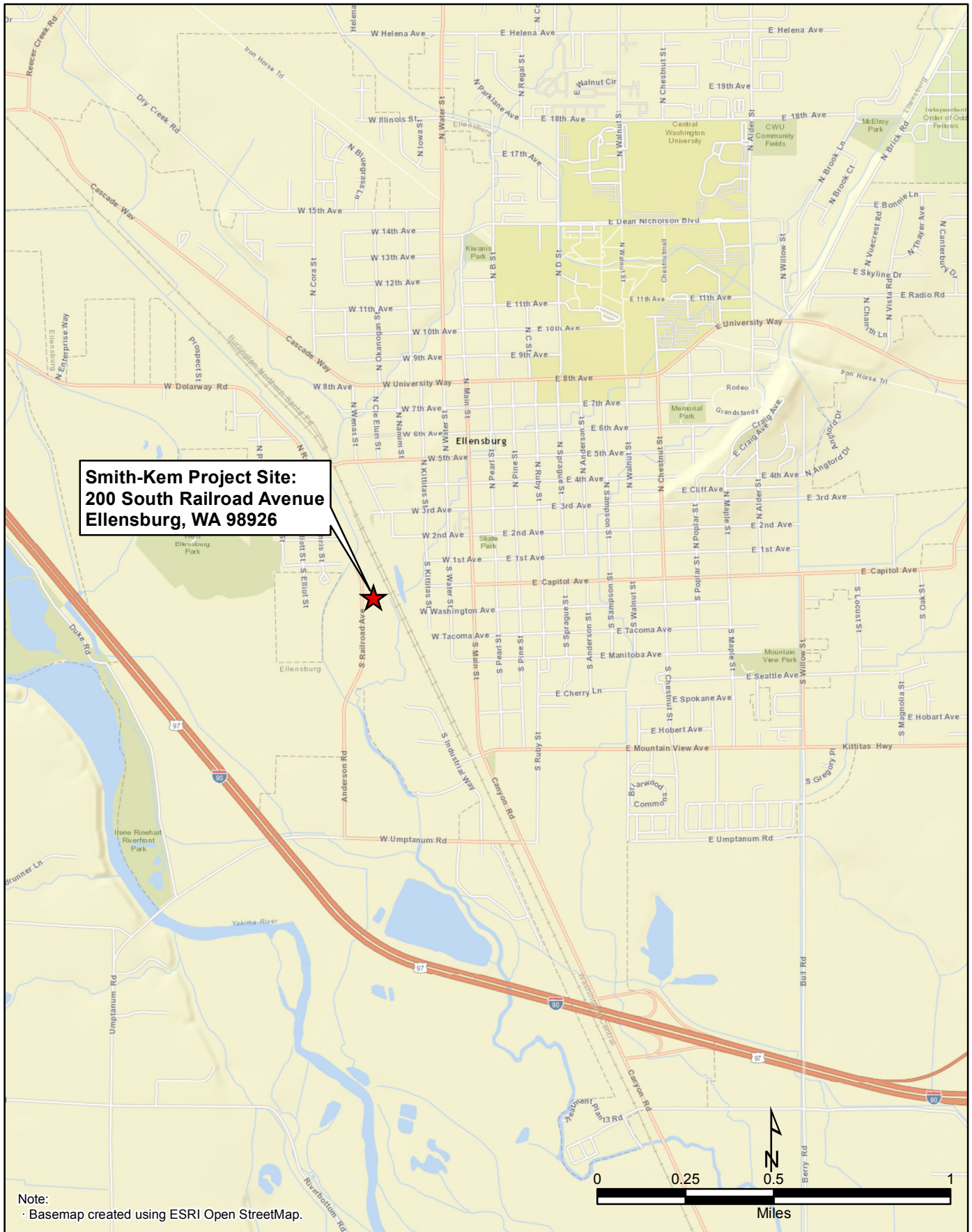
- Start out going south on South Railroad Avenue/Anderson Road toward Umptanum Road.
- Turn left onto Umptanum Road.
- Turn left onto Canyon Road.
- Turn right onto West Mountain View Avenue.
- Turn Left at South Chestnut Street.
- Finish at KVH Hospital, 603 South Chestnut Street—it's on the left.

Driving Distance: 2.2 miles Driving Time: 6 Minutes.

**Smith-Kem Site Address:
200 South Railroad Ave
Ellensburg, WA 98926**

**KVH Hospital Address:
603 South Chestnut Street
Ellensburg, WA 98926**





Smith-Kem Site
Remedial Investigation Work Plan

Appendix B
Health and Safety Plan

Attachment B.1
Daily Tailgate Safety Meeting Form

DAILY TAILGATE SAFETY MEETING AND DEBRIEF FORM

Instructions:

To be completed by supervisor prior to beginning of work each day, when changes in work procedures occur, or when additional hazards are present. Please maintain a copy of this form with the site-specific HASP for the record.

PROJECT NAME AND ADDRESS:

WORK COMPLETED/TOOLS USED:

--	--

TOPICS/HAZARDS DISCUSSED:

Chemicals of concern:
Slip, trip, fall:
Heat or cold stress:
Required PPE:
Other Potential Hazards:
<ul style="list-style-type: none"> • Environmental:
<ul style="list-style-type: none"> • Physical:
<ul style="list-style-type: none"> • Biological:
<ul style="list-style-type: none"> • Other :

INFORMAL TRAINING CONDUCTED (Name, topics):

NAMES OF EMPLOYEES:

ADDITIONAL HAZARDS IDENTIFIED AT END OF WORK DAY:

Near Misses/Incidents? If so proceed to Page 2 Near Miss and Incident Reporting Form

Supervisor's Signature/Date: _____

NEAR MISS AND INCIDENT REPORTING FORM

INCIDENTS:

INJURIES:

NEAR MISSES:

CORRECTIVE ACTIONS:

Supervisor's Signature/Date: _____

Smith-Kem Site
Remedial Investigation Work Plan

Appendix C
Previous Site Investigation

Limited Site Characterization Report

For the Smith-Kem, Inc. Facility
200 Railroad Avenue,
Ellensburg, WA

Prepared For:

Belsaas & Smith Construction
103 E. 4th Ave., #209
Ellensburg, WA 98926

Prepared By:



DAVID L. GREEN



1705 S. 24th Ave.
Yakima, WA 98926

July 26, 2007

Executive Summary

The Smith-Kem, Inc. facility is located at 200 Railroad Ave., Ellensburg, WA. The facility utilized an Aboveground Storage Tank (AST) system to support retail sale of petroleum products. Belsaas & Smith Construction (BSC) retained Sage earth Sciences, Inc. (Sage) to perform subsurface exploration activities to investigate for the presence of petroleum hydrocarbons in soil and/or groundwater adjacent to the AST system at the facility. The scope of work for this project did not include investigation of the AST system currently located on the site.

BSC provided backhoe services to excavate two (2) exploratory test pits on June 11, 2007 and twelve (12) additional exploratory test pits on July 02, 2007. Petroleum stained soils were observed in the vicinity of the existing AST system. Sage submitted selected soil and groundwater samples, collected from within the exploratory test pits, and to Friedman & Bruya, Inc. (FBI), Seattle, WA for NWTPH-HCID (hydrocarbon identification) and/or NWTPH-Dx (diesel range petroleum hydrocarbons) analyses.

Based upon our field observations and FBI independent laboratory analysis of soil and groundwater samples (Appendix C), Sage found that site soil and groundwater is impacted by diesel range petroleum hydrocarbons at concentrations exceeding the *Method A Groundwater & Soil Cleanup Levels* of WAC 173-340-720 & 740 (Appendix D). Remedial action is required to reduce diesel concentrations in site soil and groundwater to acceptable levels.

Petroleum impacted soil appears to be limited to the vicinity of the AST's. Petroleum impacted groundwater appears to extend from the area of the AST's toward the east and northeast. The extent of diesel impacted soil has not been determined in the east and northeast directions.

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- Appendix B: Daily Field Sampling Log
- Appendix C: FBI Analytical Data Reports
- Appendix D: *Method A Cleanup Levels* of WAC 173-340-720 & 740

1.0 Introduction

1.1 Purpose

The purpose of this Limited Site Characterization Report is to describe findings and actions taken associated subsurface exploration activities to investigate for the presence of petroleum hydrocarbons in soil and/or groundwater adjacent to an Above-ground Storage Tank (AST) System at the Smith-Kem, Inc. facility, located in Ellensburg, Washington. The limited investigation was performed to ascertain if site soil and/or groundwater conditions comply with regulatory requirements established by the Washington State Department of Ecology (WSDOE).

1.2 Scope of Work

Belsaas & Smith Construction (BSC) of Ellensburg, WA retained Sage Earth Sciences, Inc. (Sage) to provide soil and groundwater sampling services. Sage collected the samples from exploratory test pits established by BSC, adjacent to the AST system. Soil and groundwater samples were submitted to Friedman and Bruya, Inc. (FBI), Seattle, WA for independent laboratory analysis.

2.0 Background Information

2.1 Site Location

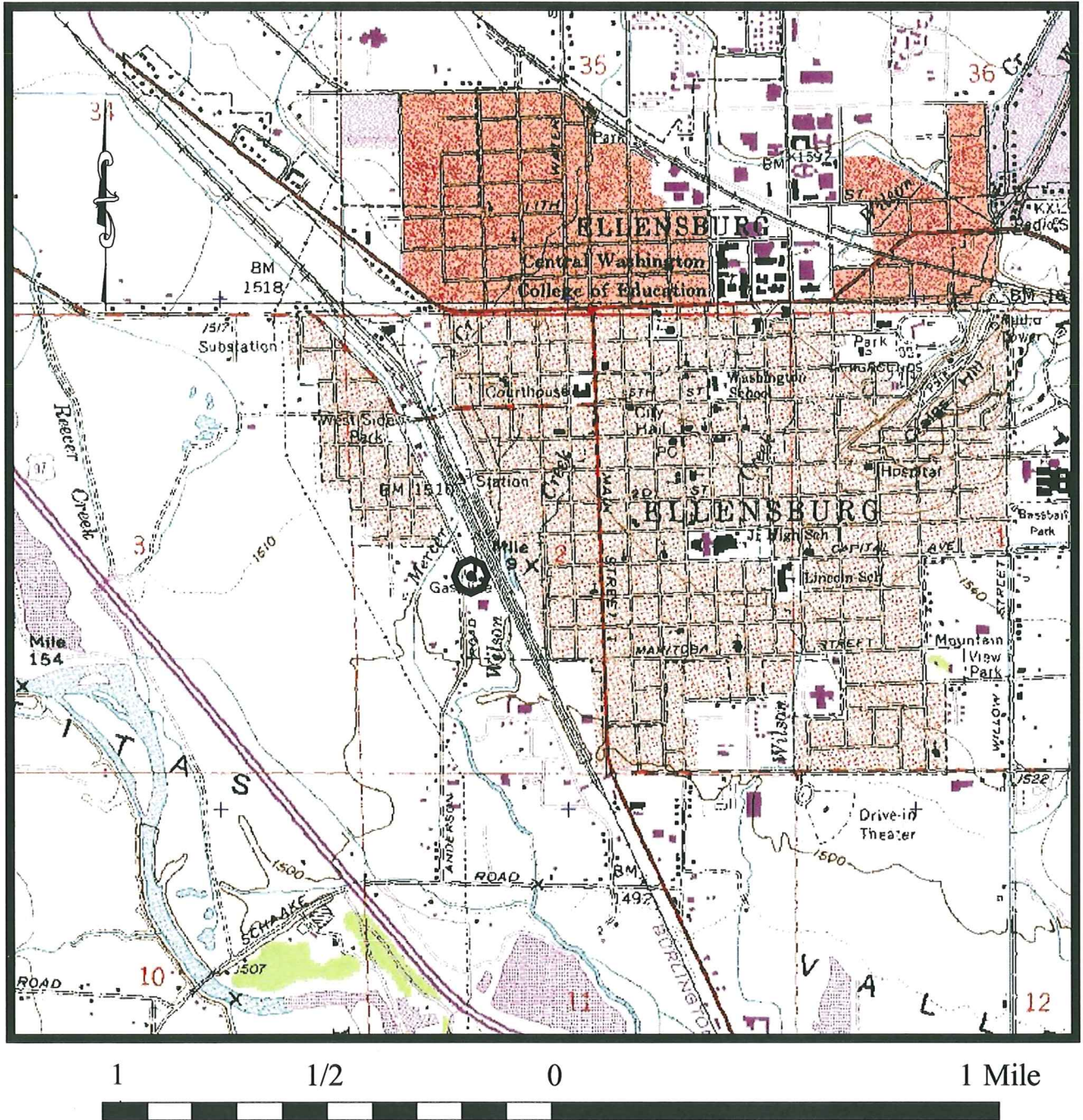
The facility is located at 200 Railroad Ave., Ellensburg, WA. It is situated within the NE 1/4 of the SW 1/4, Section 02, Township 17 North, Range 18 East, Willamette Meridian. The site latitude is approximately N 46° 59' 27.0" and the longitude is approximately W 120° 33' 16.9". Figure 1 shows the location of the site.

2.2 Site Description & Adjacent Land Use

The facility is owned and operated by:

Ad Gro LLC, dba Smith-Kem, Inc.
200 N. Railroad Ave./P.O. Box 774
Ellensburg, WA 98926
(509) 925-5977

The authorized site contact is Mr. Andrew Erickson.



Graphic Scale

Contour Interval - 40 Feet

 = Site Location

Figure 1. Site Location Map

The property is currently occupied by the Smith-Kem, Inc. facility as shown by Figure 2. The facility utilized an Aboveground Storage Tank (AST) system. South Railroad Avenue lies immediately west of the subject property. A residential dwelling is situated west of the site, across Railroad Ave. Consolidated Electrical Distribution lies immediately south of the site. Railroad tracks lie immediately east of the subject property.

The local topography slopes gently toward south. Mercer Creek lies approximately 450 feet west of the site. Wilson Creek lies approximately 200 feet southeast of the site.

2.3 AST Information

The scope of work for this project did not include investigation of the AST system currently located on the site.

2.4 Soils Description

The site is covered with ¾" minus imported gravel from ground surface to depths up to one (1) foot Below Ground Surface (BGS). This soil unit is classified as "GP" according to the Unified Soil Classification System (USCS). Clayey, silty sand (mud), with a thickness of up to one and one-half (1.5) feet underlies the imported gravel at locations adjacent to the road, near the office building. This soil unit is classified as "ML" according to the USCS. Underlying soil consists of cobbles and small boulders up to approximately one and one-half (1.5) foot in diameter with silty, coarse sand. This soil unit extends to a depth of approximately seven (7) feet BGS and is classified as "GP" according to the USCS.

2.5 Hydrogeology

Groundwater was encountered during excavation activities at depths ranging from five (5.0) feet to seven and one-half (7.5) feet BGS at the site. Determination of site hydrogeologic characteristics was not included in Sage's scope of work for this project.

3.0 Limited Site Characterization

BSC provided backhoe services to excavate two (2) exploratory test pits (TP-1 & TP-2) on June 11, 2007. BSC provided backhoe services to excavate twelve (12) additional exploratory test pits (TP-3 through TP-14) on July 02, 2007. The exploratory test pit locations are shown by Figure 2. Rodney L. Heit, an environmental assessor licensed by the International Code Council, performed limited site characterization services by collecting soil and groundwater samples from within the exploratory test pits. Sage collected twenty-one (21) soil samples and fourteen (14) samples of groundwater exposed within the exploratory test pits at the locations shown by Figure 2. Sage collected the samples using methods described by Appendix A. Sample descriptions are documented by the *Daily Field Sampling Log* (Appendix B). Selected soil samples were submitted to Friedman & Bruya, Inc., Seattle, WA for NWTPH-HCID (Hydrocarbon Identification) and/or NWTPH-Dx (Total Petroleum Hydrocarbons as diesel extended to include motor oil range compounds). A summary of soil sample analysis results is presented in Table 1. A summary of groundwater sample analysis results is presented in Table 2. A discussion of each exploratory test pit is described below.

3.1 Test Pit #1

BSC excavated an exploratory test pit (TP-1) immediately west of the ammonia storage tank on June 11, 2007 using a backhoe. Figure 2 shows the location of TP-1. Petroleum stained soil and odors were observed at depths beyond 4.9 feet BGS. Groundwater was encountered at approximately 5.0 feet BGS and the excavation was advanced to approximately 5.5 feet BGS. Inspection of the groundwater found a petroleum sheen.

Sage collected two (2) soil samples (S1 & S2) during the excavating process at a depth of 3.0 feet and 5.0 feet BGS, respectively. Sage collected one (1) groundwater sample (W3) from within this test pit.

NWTPH-HCID and NWTPH-Dx analysis of sample S1 & S2 found:

- no detectable (less than 20 ppm) gasoline range petroleum hydrocarbons,
- diesel range petroleum hydrocarbons at concentrations ranging from 1,800 parts per million (ppm) up to 7,400 ppm and
- no detectable (less than 250 ppm) heavy oil range petroleum hydrocarbons.

NWTPH-Dx analysis of sample W3 found:

- diesel range petroleum hydrocarbons at a concentration of 24,000 parts per billion (ppb).

The FBI analytical results for soil samples are summarized by Table 1 while results for groundwater samples are summarized by Table 2.

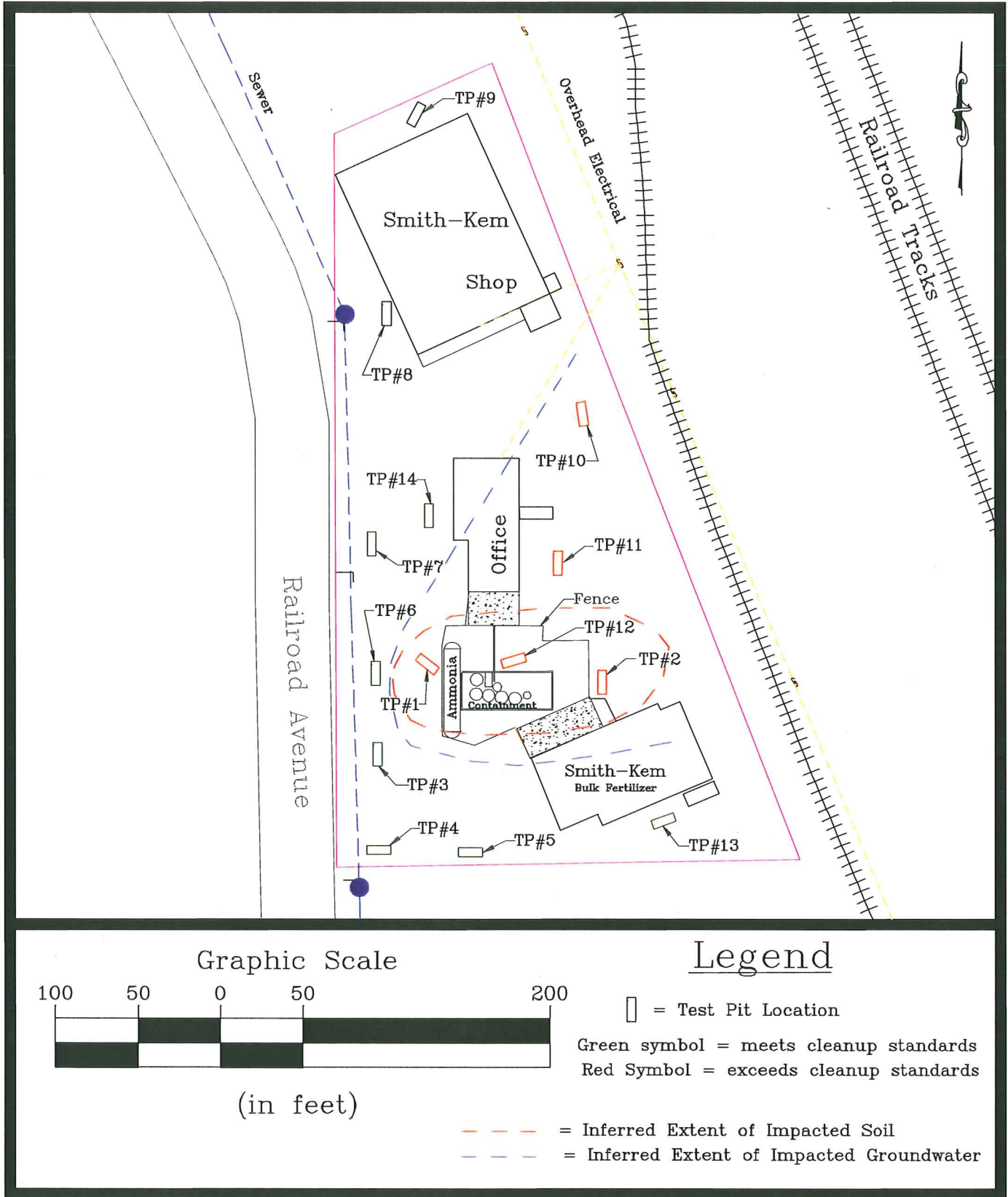


Figure 2. Exploratory Test Pit Locations

Comparison of the analytical results (Appendix C) with the *Method A Groundwater and Soil Cleanup Levels* (Cleanup Levels) of WAC 173-340-720 & 740 (Appendix D) indicates that soil and groundwater remediation is required at the TP-1 location.

Table 1. FBI Analytical Results for Subsurface Soil Samples					
Test Pit ID	Sample	Depth (feet)	TPH as Gasoline (mg/Kg)	TPH as Diesel (mg/Kg)	TPH as Heavy Oil (mg/Kg)
TP-1	BSC-0407-S1	3.0	<20	1,800	<250
TP-1	BSC-0407-S2	5.0	<20	7,400	<250
TP-2	BSC-0407-S4	3.0	<20	<50	<250
TP-2	BSC-0407-S5	5.3	<20	<50	<250
TP-3	BSC-0407-S7	3.5	NA	NA	NA
TP-3	BSC-0407-S8	4.6	NA	<50	NA
TP-4	BSC-0407-S10	3.0	NA	NA	NA
TP-4	BSC-0407-S11	4.6	NA	<50	NA
TP-5	BSC-0407-S13	3.2	NA	NA	NA
TP-5	BSC-0407-S14	5.0	NA	<50	NA
TP-6	BSC-0407-S16	3.5	NA	NA	NA
TP-6	BSC-0407-S17	5.0	NA	<50	NA
TP-7	BSC-0407-S19	3.5	NA	NA	NA
TP-7	BSC-0407-S20	4.5	NA	<50	NA
TP-8	BSC-0407-S22	4.5	NA	NA	NA
TP-9	BSC-0407-S24	7.0	NA	NA	NA
TP-10	BSC-0407-S26	4.6	<20	<50	<250
TP-11	BSC-0407-S28	4.6	NA	<50	NA
TP-12	BSC-0407-S30	4.5	<20	>50	<250
TP-13	BSC-0407-S32	4.6	NA	<50	NA
TP-14	BSC-0407-S34	4.6	NA	<50	NA

Red Font indicates that concentration exceeds Method A Cleanup Levels of WAC 173-340-740
Green Font indicates that concentration does not exceed Method A Cleanup Levels of WAC 173-340-740
Mg/Kg = milligrams per kilogram or parts per million, NA = Sample not analyzed using the analytical method indicated

3.2 Test Pit #2

BSC excavated an exploratory test pit (TP-2) thirty feet east of the AST containment area on June 11, 2007 using a backhoe. Figure 2 shows the location of TP-2. Petroleum stained soil and odors were observed at depths beyond 5.25 feet BGS. Groundwater was encountered at approximately 6.0 feet BGS and the excavation was advanced to approximately 7.0 feet BGS. Inspection of the groundwater found a slight petroleum sheen.

Sage collected two (2) soil samples (S4 & S5) during the excavating process at a depth of 3.0 feet and 5.25 feet BGS, respectively. Sage collected one (1) groundwater sample (W6) from within this test pit.

NWTPH-HCID analysis of sample S4 & S5 found:

- no detectable (less than 20 ppm) gasoline range petroleum hydrocarbons,
- no detectable (less than 50 ppm) diesel range petroleum hydrocarbons and
- no detectable (less than 250 ppm) heavy oil range petroleum hydrocarbons.

NWTPH-Dx analysis of sample W6 found:

- diesel range petroleum hydrocarbons at a concentration of 1,000 ppb.

The FBI analytical results for soil samples are summarized by Table 1 while results for groundwater samples are summarized by Table 2. Comparison of the analytical results (Appendix C) with the *Method A Groundwater and Soil Cleanup Levels* (Cleanup Levels) of WAC 173-340-720 & 740 (Appendix D) indicates that groundwater remediation is required at the TP-2 location.

Test Pit ID	Sample	Depth (feet)	TPH as Diesel (µg/L)
TP-1	BSC-0407-W3	5.5	24,000
TP-2	BSC-0407-W6	6.0	1,000
TP-3	BSC-0407-W9	5.0	<250
TP-4	BSC-0407-W12	5.2	<250
TP-5	BSC-0407-W15	5.3	<250
TP-6	BSC-0407-W18	5.3	340
TP-7	BSC-0407-W21	5.0	<250
TP-8	BSC-0407-W23	6.0	NA
TP-9	BSC-0407-W25	7.5	NA
TP-10	BSC-0407-W27	5.0	600
TP-11	BSC-0407-W29	5.0	1,800
TP-12	BSC-0407-W31	6.0	NA
TP-13	BSC-0407-W33	5.5	<250
TP-14	BSC-0407-W35	5.2	<250

Red Font indicates that concentration exceeds Method A Cleanup Levels of WAC 173-340-720
Green Font indicates that concentration does not exceed Method A Cleanup Levels of WAC 173-340-720
 µg/L = micrograms per Liter or parts per billion, NA = Sample not analyzed using the analytical method indicated

3.3 Test Pit #3

BSC excavated an exploratory test pit (TP-3) forty feet southwest of the ammonia tank on July 02, 2007 using a backhoe. Figure 2 shows the location of TP-3. No petroleum stained soil or odors were observed within TP-3. Groundwater was encountered at approximately 5.0 feet BGS and the excavation was advanced to approximately 6.0 feet BGS. Inspection of the groundwater found no petroleum sheen.

Sage collected two (2) soil samples (S7 & S8) during the excavating process at a depth of 3.5 feet and 4.7 feet BGS, respectively. Sage collected one (1) groundwater sample (W9) from within this test pit.

NWTPH-Dx analysis of sample S8 found no detectable (less than 50 ppm) diesel range petroleum hydrocarbons. NWTPH-Dx analysis of sample W9 found no detectable (less than 250 ppb) diesel range petroleum hydrocarbons.

The FBI analytical results for soil samples are summarized by Table 1 while results for groundwater samples are summarized by Table 2. Comparison of the analytical results (Appendix C) with the *Method A Groundwater and Soil Cleanup Levels* (Cleanup Levels) of WAC 173-340-720 & 740 (Appendix D) indicates that no soil or groundwater remediation is required at the TP-3 location.

3.4 Test Pit #4

BSC excavated an exploratory test pit (TP-4) forty feet southwest of the ammonia tank on July 02, 2007 using a backhoe. Figure 2 shows the location of TP-4. No petroleum stained soil or odors were observed within TP-4. Groundwater was encountered at approximately 5.1 feet BGS and the excavation was advanced to approximately 6.0 feet BGS. Inspection of the groundwater found no petroleum sheen.

Sage collected two (2) soil samples (S10 & S11) during the excavating process at a depth of 3.0 feet and 4.7 feet BGS, respectively. Sage collected one (1) groundwater sample (W12) from within this test pit.

NWTPH-Dx analysis of sample S11 found no detectable (less than 50 ppm) diesel range petroleum hydrocarbons. NWTPH-Dx analysis of sample W12 found no detectable (less than 250 ppb) diesel range petroleum hydrocarbons.

The FBI analytical results for soil samples are summarized by Table 1 while results for groundwater samples are summarized by Table 2. Comparison of the analytical results (Appendix C) with the *Method A Groundwater and Soil Cleanup Levels* (Cleanup Levels) of WAC 173-340-720 & 740 (Appendix D) indicates that no soil or groundwater remediation is required at the TP-4 location.

3.5 Test Pit #5

BSC excavated an exploratory test pit (TP-5) 85 feet south of the AST containment area on July 02, 2007 using a backhoe. Figure 2 shows the location of TP-5. No petroleum stained soil or odors were observed within TP-5. Groundwater was encountered at approximately 5.3 feet BGS and the excavation was advanced to approximately 6.0 feet BGS. Inspection of the groundwater found no petroleum sheen.

Sage collected two (2) soil samples (S13 & S14) during the excavating process at a depth of 3.1 feet and 5.0 feet BGS, respectively. Sage collected one (1) groundwater sample (W15) from within this test pit.

NWTPH-Dx analysis of sample S14 found no detectable (less than 50 ppm) diesel range petroleum hydrocarbons. NWTPH-Dx analysis of sample W15 found no detectable (less than 250 ppb) diesel range petroleum hydrocarbons.

The FBI analytical results for soil samples are summarized by Table 1 while results for groundwater samples are summarized by Table 2. Comparison of the analytical results (Appendix C) with the *Method A Groundwater and Soil Cleanup Levels* (Cleanup Levels) of WAC 173-340-720 & 740 (Appendix D) indicates that no soil or groundwater remediation is required at the TP-5 location.

3.6 Test Pit #6

BSC excavated an exploratory test pit (TP-6) 40 feet west of the ammonia tank on July 02, 2007 using a backhoe. Figure 2 shows the location of TP-6. No petroleum stained soil or odors were observed within TP-6. Groundwater was encountered at approximately 5.3 feet BGS and the excavation was advanced to approximately 6.0 feet BGS. Inspection of the groundwater found a slight petroleum sheen.

Sage collected two (2) soil samples (S16 & S17) during the excavating process at a depth of 3.5 feet and 5.0 feet BGS, respectively. Sage collected one (1) groundwater sample (W18) from within this test pit.

NWTPH-Dx analysis of sample S17 found no detectable (less than 50 ppm) diesel range petroleum hydrocarbons. NWTPH-Dx analysis of sample W18 found diesel range petroleum hydrocarbons at a concentration of 340 ppb.

The FBI analytical results for soil samples are summarized by Table 1 while results for groundwater samples are summarized by Table 2. Comparison of the analytical results (Appendix C) with the *Method A Groundwater and Soil Cleanup Levels* (Cleanup Levels) of WAC 173-340-720 & 740 (Appendix D) indicates that no soil or groundwater remediation is required at the TP-6 location.

3.7 Test Pit #7

BSC excavated an exploratory test pit (TP-7) 100 feet northwest of the AST containment area on July 02, 2007 using a backhoe. Figure 2 shows the location of TP-7. No petroleum stained soil or odors were observed within TP-7. Groundwater was encountered at approximately 5.0 feet BGS and the excavation was advanced to approximately 6.0 feet BGS. Inspection of the groundwater found no petroleum sheen.

Sage collected two (2) soil samples (S19 & S20) during the excavating process at a depth of 3.5 feet and 4.5 feet BGS, respectively. Sage collected one (1) groundwater sample (W21) from within this test pit.

NWTPH-Dx analysis of sample S20 found no detectable (less than 50 ppm) diesel range petroleum hydrocarbons. NWTPH-Dx analysis of sample W21 found no detectable (less than 250 ppb) diesel range petroleum hydrocarbons.

The FBI analytical results for soil samples are summarized by Table 1 while results for groundwater samples are summarized by Table 2. Comparison of the analytical results (Appendix C) with the *Method A Groundwater and Soil Cleanup Levels* (Cleanup Levels) of WAC 173-340-720 & 740 (Appendix D) indicates that no soil or groundwater remediation is required at the TP-7 location.

3.8 Test Pit #8

BSC excavated an exploratory test pit (TP-8) 220 feet north-northwest of the AST containment area on July 02, 2007 using a backhoe. Figure 2 shows the location of TP-8. No petroleum stained soil or odors were observed within TP-8. Groundwater was encountered at approximately 6.0 feet BGS and the excavation was advanced to approximately 7.0 feet BGS. Inspection of the groundwater found no petroleum sheen.

Sage collected one (1) soil sample (S22) during the excavating process at a depth of 4.5 feet BGS. Sage collected one (1) groundwater sample (W23) from within this test pit.

Sage did not select any samples, collected from within this test pit, for analysis. However, Sage observed no indication of petroleum impacted soil or groundwater at this location.

3.9 Test Pit #9

BSC excavated an exploratory test pit (TP-9) 335 feet north of the AST containment area on July 02, 2007 using a backhoe. Figure 2 shows the location of TP-9. No petroleum stained soil or odors were observed within TP-9. Groundwater was encountered at approximately 7.5 feet BGS and the excavation was advanced to approximately 8.0 feet BGS. Inspection of the groundwater found no petroleum sheen.

Sage collected one (1) soil sample (S24) during the excavating process at a depth of 7.0 feet BGS. Sage collected one (1) groundwater sample (W25) from within this test pit.

Sage did not select any samples, collected from within this test pit, for analysis. However, Sage observed no indication of petroleum impacted soil or groundwater at this location.

3.10 Test Pit #10

BSC excavated an exploratory test pit (TP-10) 150 feet north-northeast of the AST containment area on July 02, 2007 using a backhoe. Figure 2 shows the location of TP-10. No petroleum stained soil or odors were observed within TP-10. Groundwater was encountered at approximately 5.0 feet BGS and the excavation was advanced to approximately 6.0 feet BGS. Inspection of the groundwater found no petroleum sheen.

Sage collected one (1) soil sample (S26) during the excavating process at a depth of 4.7 feet BGS. Sage collected one (1) groundwater sample (W27) from within this test pit.

NWTPH-HCID analysis of sample S26 found:

- no detectable (less than 20 ppm) gasoline range petroleum hydrocarbons,
- no detectable (less than 50 ppm) diesel range petroleum hydrocarbons and
- no detectable (less than 250 ppm) heavy oil range petroleum hydrocarbons.

NWTPH-Dx analysis of sample W10 found:

- diesel range petroleum hydrocarbons at a concentration of 600 ppb.

The FBI analytical results for soil samples are summarized by Table 1 while results for groundwater samples are summarized by Table 2. Comparison of the analytical results (Appendix C) with the *Method A Groundwater and Soil Cleanup Levels* (Cleanup Levels) of WAC 173-340-720 & 740 (Appendix D) indicates that groundwater remediation is required at the TP-10 location.

3.11 Test Pit #11

BSC excavated an exploratory test pit (TP-11) 60 feet north-northeast of the AST containment area on July 02, 2007 using a backhoe. Figure 2 shows the location of TP-11. No petroleum stained soil or odors were observed within TP-11. Groundwater was encountered at approximately 5.0 feet BGS and the excavation was advanced to approximately 6.0 feet BGS. Inspection of the groundwater found no petroleum sheen.

Sage collected one (1) soil sample (S28) during the excavating process at a depth of 4.7 feet BGS. Sage collected one (1) groundwater sample (W29) from within this test pit.

NWTPH-Dx analysis of sample S28 found no detectable (less than 50 ppm) diesel range petroleum hydrocarbons. NWTPH-Dx analysis of sample W29 found diesel range petroleum hydrocarbons at a concentration of 1,800 ppm.

The FBI analytical results for soil samples are summarized by Table 1 while results for groundwater samples are summarized by Table 2. Comparison of the analytical results (Appendix C) with the *Method A Groundwater and Soil Cleanup Levels* (Cleanup Levels) of WAC 173-340-720 & 740 (Appendix D) indicates that groundwater remediation is required at the TP-10 location.

3.12 Test Pit #12

BSC excavated an exploratory test pit (TP-12) immediately north of the AST containment area on July 02, 2007 using a backhoe. Figure 2 shows the location of TP-12. Petroleum stained soil and odors were observed within TP-12 at depths beyond 3.5 feet BGS. Groundwater was encountered at approximately 6.0 feet BGS and the excavation was advanced to approximately 7.0 feet BGS. Inspection of the groundwater found a thin layer (less than 1/8 inch) of petroleum on the groundwater surface.

Sage collected one (1) soil sample (S30) during the excavating process at a depth of 4.5 feet BGS. Sage collected one (1) groundwater sample (W31) from within this test pit.

NWTPH-HCID analysis of sample S30 found:

- no detectable (less than 20 ppm) gasoline range petroleum hydrocarbons,
- detectable (greater than 50 ppm) diesel range petroleum hydrocarbons and
- no detectable (less than 250 ppm) heavy oil range petroleum hydrocarbons.

Since petroleum was observed on the groundwater surface, sample W31 was not selected for analysis.

The FBI analytical results for soil samples are summarized by Table 1. Visual inspection of soil and groundwater within TP-12 indicates that soil and groundwater remediation is required at the TP-12 location.

3.13 Test Pit #13

BSC excavated an exploratory test pit (TP-13) 95 feet southeast of the AST containment area on July 02, 2007 using a backhoe. Figure 2 shows the location of TP-13. No petroleum stained soil or odors were observed within TP-13. Groundwater was encountered at approximately 5.5 feet BGS and the excavation was advanced to approximately 6.0 feet BGS. Inspection of the groundwater found no petroleum sheen.

Sage collected one (1) soil sample (S32) during the excavating process at a depth of 4.7 feet BGS. Sage collected one (1) groundwater sample (W33) from within this test pit.

NWTPH-Dx analysis of sample S32 found no detectable (less than 50 ppm) diesel range petroleum hydrocarbons. NWTPH-Dx analysis of sample W33 found no detectable (less than 250 ppb) diesel range petroleum hydrocarbons.

The FBI analytical results for soil samples are summarized by Table 1 while results for groundwater samples are summarized by Table 2. Comparison of the analytical results (Appendix C) with the *Method A Groundwater and Soil Cleanup Levels* (Cleanup Levels) of WAC 173-340-720 & 740 (Appendix D) indicates that no soil or groundwater remediation is required at the TP-13 location.

3.14 Test Pit #14

BSC excavated an exploratory test pit (TP-14) 90 feet north-northwest of the AST containment area on July 02, 2007 using a backhoe. Figure 2 shows the location of TP-14. No petroleum stained soil or odors were observed within TP-14. Groundwater was encountered at approximately 5.1 feet BGS and the excavation was advanced to approximately 6.0 feet BGS. Inspection of the groundwater found no petroleum sheen.

Sage collected one (1) soil sample (S34) during the excavating process at a depth of 4.7 feet BGS. Sage collected one (1) groundwater sample (W35) from within this test pit.

NWTPH-Dx analysis of sample S34 found no detectable (less than 50 ppm) diesel range petroleum hydrocarbons. NWTPH-Dx analysis of sample W35 found no detectable (less than 250 ppb) diesel range petroleum hydrocarbons.

The FBI analytical results for soil samples are summarized by Table 1 while results for groundwater samples are summarized by Table 2. Comparison of the analytical results (Appendix C) with the *Method A Groundwater and Soil Cleanup Levels* (Cleanup Levels) of WAC 173-340-720 & 740 (Appendix D) indicates that no soil or groundwater remediation is required at the TP-14 location.

4.0 Conclusions & Recommendations

4.1 Conclusions

Based upon our field observations and FBI independent laboratory analysis of soil and groundwater samples (Appendix C), Sage found that site soil and groundwater is impacted by diesel range petroleum hydrocarbons at concentrations exceeding the *Method A Groundwater & Soil Cleanup Levels* of WAC 173-340-720 & 740 (Appendix D). Remedial action is required to reduce diesel concentrations in site soil and groundwater to acceptable levels.

Petroleum impacted soil appears to be limited to the vicinity of the AST's. Petroleum impacted groundwater appears to extend from the area of the AST's toward the east and northeast. The inferred extent of petroleum impacted soil and groundwater is shown by Figure 2. However, the extent of diesel impacted soil has not been determined in the east and northeast directions.

4.2 Impacted Soil Removal

Sage recommends removal and treatment/disposal of diesel impacted soil to reduce impacts to groundwater. Impacted soil removal activities should be conducted during the period when the groundwater table attains its seasonal low.

4.3 Groundwater Monitoring Program

Sage recommends additional hydrogeologic investigation and monitoring to:

- Determine the extent of groundwater contamination,
- Ensure that the plume does not migrate off-site,
- Ensure that petroleum concentrations are reduced to acceptable levels and
- Determine seasonal fluctuations of the groundwater level.

The additional hydrogeologic investigation should include determining underground utility locations and installation of at least three (3) groundwater-monitoring wells. The wells must be surveyed to allow determination of the precise groundwater flow direction. The site specific groundwater flow direction must be determined to ensure that a minimum of one (1) groundwater monitoring well is located downgradient of the release site.

Please note that additional wells may be required to determine the extent of groundwater contamination. A sufficient quantity of monitoring wells must be installed to determine groundwater flow direction, gradient, and extent of groundwater contamination. Upon determining the extent of groundwater contamination, a remedial action plan could be developed to reduce contaminant concentrations to acceptable levels.

Upon conducting the additional hydrogeologic investigation, Sage recommends implementing a groundwater-monitoring program to monitor groundwater gradients (flow direction) as well as diesel concentrations in groundwater.

Upon completion of impacted soil removal activities and monitoring well installation, Sage recommends collection and analysis of groundwater samples on a quarterly schedule while groundwater levels in the monitoring wells should be measured on a monthly basis for the first year of the monitoring program. Groundwater samples should be analyzed for diesel range petroleum hydrocarbons. Groundwater level measurements should be performed to ensure that a downgradient monitoring well is in place in the case of changing groundwater flow directions.

When petroleum hydrocarbon concentrations do not exceed risk based "Cleanup Levels" established in WAC 173-340-720 of four consecutive quarters, you may request a "no further action" determination from the Washington State Department of Ecology.

5.0 Limitations

In performance of this project, Sage Earth Sciences has conducted its activities in accordance with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. The conclusions and recommendations are based upon our field observations and independent laboratory analyses. Since the scope of work for this project is confined to limited site characterization to investigate for the presence of petroleum hydrocarbon impacted soil and/or groundwater, this document does not imply that the property is free of other environmental constraints. This report is solely for the use and information of our client. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and other parameters indicated. Sage Earth Sciences, Inc. is not responsible for the impacts of changes in environmental standards, practices, or regulations subsequent to the performance of services. Sage Earth Sciences, Inc. does not warrant the accuracy of information supplied by the client and/or others, nor use of segregated portions of this report. Sage Earth Sciences, Inc. assumes no liability for conditions we were not authorized to evaluate, or conditions not generally recognized as predictable when services were performed. This report is copyright 2007 by Sage Earth Sciences, Inc. No portion of this document may be copied or duplicated in any manner without expressed written consent by Sage Earth Sciences, Inc.

Appendix A

Excavation Soil Sampling Methodology

Soil sampling locations were chosen at locations considered representative of soil conditions. To collect representative soil samples, Sage Earth Sciences, Inc. uses the methodology outlined below.

1. Select a new sample jar whose volume is adequate for the appropriate analysis.
2. Remove a minimum of six (6) inches of soil to minimize the loss of volatile compounds.
3. Immediately transfer the soil to the sample container, using the container itself to collect the sample. Using new disposable vinyl gloves, pack the soil tightly into the container to prevent the loss of volatile compounds. Ensure that the container is filled completely to exclude any airspace in the sample.
4. Label the jar with a unique identification number, the analytical procedure to be used, the time and date of sample collection and the person who collected the sample.
5. Enter the sample on the Chain-of-Custody form and the Daily Field Sampling Log.
6. Place the sample in wet ice to cool the samples to approximately four (4) degrees Celsius.
7. Place the samples in a shipping cooler packed with absorbent material and blue ice for shipment.
8. Secure the Chain-of-Custody form to the underside of the cooler lid in a sealable plastic bag with tape.
9. Upon completion of sampling activities, secure the lid of the cooler with strapping tape and affix custody seals across the lid/cooler interface. Place appropriate shipping waybills atop the cooler.
10. Ship the samples to the laboratory via commercial courier.

Groundwater Sampling Methodology – Low Flow Purging

Prior to introducing groundwater-sampling equipment into the exploratory test pit, Sage collected a Depth to Water (DTW) measurement and visually checked for the presence of floating petroleum sheen or product on the water table. DTW measurements are recorded on the Daily Field Sampling Log.

Groundwater samples were collected using a Geotech Series II[®] Peristaltic Pump using a flow rate less than 1.0 liter per minute. New polyethylene and norprene tubing was used at each groundwater sampling location.

The peristaltic pump operates by mechanical peristalsis so the sample is only exposed to new polyethylene sampling tubing and norprene tubing. Water was pumped from depths immediately below the water table. Pumped water was discharged directly into laboratory supplied sample containers. Sample containers consisted of:

- 500 mL amber jars with no preservative for NWTPH-Dx analysis.

Upon filling each sample container, the following methodology for sample handling was used:

1. Replace the sample container cap.
2. Label sample containers with a unique identification number, the analytical procedure to be used, the time/date of sample collection, and sample preservation method.
3. Log each sample on the Chain-of-Custody form.
4. Place samples in coolers containing wet ice to cool the samples to $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ until transferred to a refrigerator at the Sage office for temporary storage.
5. Samples were packed on the day of transport in a shipping cooler packed with absorbent material and blue ice for shipment to the fixed laboratory.
6. The signed Chain-of-Custody forms were taped on the underside of the cooler lid in a sealed plastic bag.
7. The lid of the cooler was secured with strapping tape and custody seals were affixed across the lid/cooler interface. Appropriate waybills were taped to the top of the cooler.
8. The samples were transported to the fixed analytical laboratory via commercial carrier.

Appendix B



Earth Sciences, Inc.

SAGEESI982D1

Field Staff Rodney Nest Date 6-11-07

Job # BSE-0107 Page 1 of 1

Table with 9 columns: Time, Sample #, Sample Location, Matrix, Staining, Odor, Depth, TOV, TLC. Rows contain handwritten data for samples S1, S2, W3, S4, S5, and W6.

Ambient Vapors NA Units
TLC Standards NA



Field Staff RODNEY Heit

Date 07-02-07

Job # BSL-0407

Page 1 of 1

Sunny warm

Time	Sample #	Sample Location	Matrix	Staining	Odor	Depth	TOV	TLC
9:15	S7	Test Pit #3	Soil	None	None	3-5	NA	NA
9:25	S8	" "	Soil	None	None	4-8		
9:35	W9	" "	Water	None	None	5-0		
9:54	S10	Test Pit #4	Soil	None	None	3-0		
10:05	S11	" "	Soil	Black soils?	None	4-8		
10:11	W12	" "	Water	None	None	5-2		
10:30	S13	Test Pit #5	Soil	None	None	3-2		
10:38	S14	" "	Soil	None	None	5-0		
10:44	W15	" "	Water	None	None	5-4		
11:05	S16	Test Pit #6	Soil	None	None	3-5		
11:10	S17	" "	Soil	None	None	5-0		
11:18	W18	" "	Water	shen & slight	None	5-4		
11:31	S19	Test Pit #7	Soil	DARK BROWN soils	None	3-6		
11:42	S20	" "	Soil	None	None	4-6		
11:59	W21	" "	Water	None	None	5-0		
12:16	S22	Test Pit #8	Soil	None	None	4-6		
12:25	W23	" "	Water	None	None	6-0		
12:45	S24	Test Pit #9	Soil	Blue grey soils	organic sewer like	7-0		
12:56	W25	" "	Water	None	None	7-6		
1:15	S26	Test Pit #10	Soil	None	None	4-8		
1:26	W27	" "	Water	None	None	5-0		
1:47	S28	Test Pit #11	Soil	None	None	4-8		
2:01	W29	" "	Water	None	None	5-0		
2:25	S30	Test Pit #12	Soil	yellow to 1-2 shinsg	Disc heavy/cheap	4-6		
2:33	W31	" "	Water	shen film product	Disc	6-0		
2:39	S32	Test Pit #13	Soil	None	None	4-8		
2:45	W33	" "	Water	None	None	5-5		
3:25	S34	Test Pit #14	Soil	None	None	4-8		
3:45	W35	" "	Water	None	None	5-2		

Ambient Vapors
TLC Standards

NA Units
NA

Appendix C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
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June 19, 2007

Rodney Heit, Project Manager
Sage Earth Sciences, Inc.
1705 S 24th Ave
Yakima, WA 98902

Dear Mr. Heit:

Included are the results from the testing of material submitted on June 12, 2007 from the BSE-0107, F&BI 706116 project. There are 5 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
SES0619R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/19/07
Date Received: 06/12/07
Project: BSE-0107, F&BI 706116
Date Extracted: 06/12/07
Date Analyzed: 06/12/07

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID
Results Reported as Not Detected (ND) or Detected (D)**

THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
BSE-0107-S1 706116-01	ND	D	ND	96
BSE-0107-S2 706116-02	ND	D	ND	106
BSE-0107-S4 706116-04	ND	ND	ND	94
BSE-0107-S5 706116-05	ND	ND	ND	99
Method Blank	ND	ND	ND	101

ND - Material not detected at or above 20 mg/kg gas, 50 mg/kg diesel and 250 mg/kg heavy oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/19/07
Date Received: 06/12/07
Project: BSE-0107, F&BI 706116
Date Extracted: 06/13/07
Date Analyzed: 06/14/07

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
USING METHOD NWTPH-D_x**

Extended to Include Motor Oil Range Compounds

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u> (C ₁₀ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 53-144)
BSE-0107-S1 706116-01	1,800	110
BSE-0107-S2 706116-02	7,400	118
Method Blank	<50	108

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/19/07
Date Received: 06/12/07
Project: BSE-0107, F&BI 706116
Date Extracted: 06/15/07
Date Analyzed: 06/15/07

**RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
USING METHOD NWTPH-Dx
Extended to Include Motor Oil Range Compounds
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u> (C ₁₀ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 52-134)
BSE-0107-W3 706116-03	24,000	126
BSE-0107-W6 706116-06	1,000	103
Method Blank	<250	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/19/07

Date Received: 06/12/07

Project: BSE-0107, F&BI 706116

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL EXTENDED USING METHOD NWTPH-D_x**

Laboratory Code: 706140-11 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	94	93	71-137	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	111	70-129

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/19/07

Date Received: 06/12/07

Project: BSE-0107, F&BI 706116

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	97	106	73-142	9



SAMPLE CUSTODY

1705 South 24th Avenue
Yakima, WA 98902
Phone (509) 834-2333
Fax (509) 834-2334
info@sage-earth-sciences.com

Sampler: Rodney L Heit
Project ID: BSE-0107
Location: S-K
* Turn-around Time (3 Days)
Sampler Signature: Rodney L Heit
Date: 6-11-07

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	Sample Size	# of Containers	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	Method 8260B	Method 8270	Method 6010	Methamphetamine (Methanol Solvent)	Asbestos by Bulk PLM	Lab Archive	Notes:
BSE-0107-S1	01	6-11-07	9:21 AM	Soil	402	1	X		X							Please complete HClO ₅ AND CALL ASAP. Notes: Please CALL ASAP UPON completion of LAB ANALYSES HClO ₅ Thank you RLH
BSE-0107-S2	02	6-11-07	9:45 AM	Soil	802	1	X		X							
BSE-0107-W3	03	6-11-07	10:06 PM	Water	800	1			X							
BSE-0107-S4	04	6-11-07	10:40	SOIL	802	1	X		X							
BSE-0107-S5	05	6-11-07	10:49	SOIL	802	1	X		X							
BSE-0107-W6	06	6-11-07	11:05	Water	800	1			X							

Laboratory Destination:

Friedman & Bruya, Inc.
3012 - 16th Avenue West
Seattle, WA 98119-2029
Phone (206) 285-8282
Fax (206) 283-5044

Relinquished By	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
Relinquished By	Rodney L Heit	Rodney Heit	Sage Earth Sciences, Inc.	6-11-07	11:09
Received By	M Lan	Nhan Phan	Fe BI	6-12-07	09:00
Relinquished By					
Received By					

Samples received at 18 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

July 12, 2007

Rodney Heit, Project Manager
Sage Earth Sciences, Inc.
1705 S 24th Ave
Yakima, WA 98902

Dear Mr. Heit:

Included are the results from the testing of material submitted on July 6, 2007 from the BSC-0407, F&BI 707072 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
SES0712R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/12/07
Date Received: 07/06/07
Project: BSC-0407, F&BI 707072
Date Extracted: 07/10/07
Date Analyzed: 07/10/07 and 07/11/07

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID
Results Reported as Not Detected (ND) or Detected (D)**

THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
BSC-0407-S26 707072-20	ND	ND	ND	98
BSC-0407-S30 707072-24	ND	D	ND	111
Method Blank	ND	ND	ND	109

ND - Material not detected at or above 20 mg/kg gas, 50 mg/kg diesel and 250 mg/kg heavy oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/12/07
Date Received: 07/06/07
Project: BSC-0407, F&BI 707072
Date Extracted: 07/09/07
Date Analyzed: 07/09/07 and 07/10/07

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
USING METHOD NWTPH-Dx**

Extended to Include Motor Oil Range Compounds

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u> (C ₁₀ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 53-144)
BSC-0407-S8 707072-02	<50	105
BSC-0407-S11 707072-05	<50	108
BSC-0407-S14 707072-08	<50	107
BSC-0407-S17 707072-11	<50	113
BSC-0407-S20 707072-14	<50	105
BSC-0407-S28 707072-22	<50	106
BSC-0407-S32 707072-26	<50	109
BSC-0407-S34 707072-28	<50	109
Method Blank	<50	108

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/12/07
 Date Received: 07/06/07
 Project: BSC-0407, F&BI 707072
 Date Extracted: 07/09/07
 Date Analyzed: 07/09/07 and 07/10/07

**RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES
 FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
 USING METHOD NWTPH-Dx
 Extended to Include Motor Oil Range Compounds
 Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u> (C ₁₀ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 68-143)
BSC-0407-W9 707072-03	<250	93
BSC-0407-W12 707072-06	<250	90
BSC-0407-W15 707072-09	<250	100
BSC-0407-W18 707072-12	340	106
BSC-0407-W21 707072-15	<250	98
BSC-0407-W27 707072-21	600	88
BSC-0407-W29 707072-23	1,800	89
BSC-0407-W33 707072-27	<250	95
BSC-0407-W35 707072-29	<250	100
Method Blank	<250	114

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/12/07

Date Received: 07/06/07

Project: BSC-0407, F&BI 707072

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL EXTENDED USING METHOD NWTPH-D_x**

Laboratory Code: 707085-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	89	90	71-137	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	111	70-129

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/12/07

Date Received: 07/06/07

Project: BSC-0407, F&BI 707072

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
EXTENDED USING METHOD NWTPH-D_x**

Laboratory Code: Laboratory Control Sample

<u>Analyte</u>	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	102	93	67-141	9

Data Qualifiers & Definitions

- a** - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1** - More than one compound of similar molecule structure was identified with equal probability.
- b** - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca** - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c** - The presence of the analyte indicated may be due to carryover from previous sample injections.
- d** - The sample was diluted. Detection limits may be raised due to dilution.
- ds** - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv** - The sample was diluted due to insufficient sample volume. Detection limits are raised due to dilution
- fb** - The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc** - The compound is a common laboratory and field contaminant.
- fp** - Compounds in the sample matrix interfered with quantitation of the analyte. The reported concentration may be a false positive.
- hr** - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht** - The sample was extracted outside of holding time. Results should be considered estimates.
- ip** - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j** - The result is below normal reporting limits. The value reported is an estimate.
- J** - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl** - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr** - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc** - The presence of the compound indicated is likely due to laboratory contamination.
- L** - The reported concentration was generated from a library search.
- nm** - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc** - The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr** - The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve** - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo** - The value reported fell outside the control limits established for this analyte.
- x** - The pattern of peaks present is not indicative of diesel.
- y** - The pattern of peaks present is not indicative of motor oil.



SAMPLE CHAIN OF CUSTODY

1705 South 24th Avenue
 Yakima, WA 98902
 Phone (509) 834-2333
 Fax (509) 834-2334
 info@sage-earth-sciences.com

SAGEESI982D1

Sampler: Rodney Heit
 Project ID: BSC-0407
 Location: Ellensburg, WA.
 Turn-around Time: STANDARD
 Sampler Signature: *Rodney L Heit*
 Date: 07-02-07

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	Sample Size	# of Containers	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	Method 826B	Method 8270	Method 6010	Methamphetamine (Methanol Solvent)	Asbestos by Bulk PLM	Lab Archive	Notes:
BSC-0407-57	01	07-02-07	9:15	Soil	4oz	1									X	
BSC-0407-58	02		9:25	Soil	4oz	1		X								
BSC-0407-59	03		9:35	Water	500 ml	1		X								
BSC-0407-510	04		9:54	Soil	4oz	1			X						X	
BSC-0407-511	05		10:05	Soil	4oz	1			X							
BSC-0407-512	06		10:11	Water	500 ml	1			X							
BSC-0407-513	07		10:30	Soil	4oz	1			X						X	
BSC-0407-514	08		10:38	Soil	4oz	1			X							
BSC-0407-515	09		10:44	Water	500 ml	1			X							
BSC-0407-516	10		11:05	Soil	4oz	1			X						X	
BSC-0407-517	11		11:10	Soil	4oz	1			X							
BSC-0407-518	12		11:18	Water	500 ml	1			X							
BSC-0407-519	13		11:31	Soil	4oz	1			X						X	
BSC-0407-520	14		11:42	Soil	4oz	1			X							

Laboratory Destination:

Friedman & Bruya, Inc.
 3012 - 16th Avenue West
 Seattle, WA 98119-2029
 Phone (206) 285-8282
 Fax (206) 283-5044

Relinquished By	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
Relinquished By	<i>Rodney L Heit</i>	Rodney L Heit	Sage Earth Sciences, Inc.	07-05-07	9:08 Am
Received By	<i>J. Devo</i>	DD RD	FBI	7-06-07	9:30
Relinquished By					
Received By					

Samples received at 21 °C

T 1 7 U 1 2 17E ut-uu-01 1104 2-3



SAMPLE CHAIN OF CUSTODY

1705 South 24th Avenue
 Yakima, WA 98902
 Phone (509) 834-2333
 Fax (509) 834-2334
 info@sage-earth-sciences.com

Sampler: Rodney L Heit
 Project ID: BSC-0407
 Location: Ellensburg, WA.
 Turn-around Time: STANDARD
 Sampler Signature: *Rodney L Heit*
 Date: 07-02-07

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	Sample Size	# of Containers	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	Method 826B	Method 8270	Method 6010	Methamphetamine (Methanol Solvent)	Asbestos by Bulk PLM	Lab Archive	Notes:
BSC-0407-W21	15	07-02-07	11:59	Water	500 ml	1			X							
BSC-0407-S22	16		12:16	Soil	4 oz	1									X	
BSC-0407-W23	17		12:25	Water	500 ml	1									X	
BSC-0407-S24	18		12:45	Soil	4 oz	1									X	
BSC-0407-W25	19		12:56	Water	500 ml	1									X	
BSC-0407-S26	20		1:15	Soil	4 oz	1	X									
BSC-0407-W27	21		1:26	Water	500 ml	1			X							
BSC-0407-S28	22		1:47	Soil	4 oz	1			X							
BSC-0407-W29	23		2:01	Water	500 ml	1			X							
BSC-0407-S30	24		2:25	Soil	4 oz	1	X									
BSC-0407-W31	25		2:33	Water	500 ml	1									X	
BSC-0407-S32	26		2:39	Soil	4 oz	1			X							
BSC-0407-W33	27		2:46	Water	500 ml	1			X							
BSC-0407-S34	28		3:25	Soil	4 oz	1			X							

Laboratory Destination:

Friedman & Bruya, Inc.
 3012 - 16th Avenue West
 Seattle, WA 98119-2029
 Phone (206) 285-8282
 Fax (206) 283-5044

Relinquished By	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
Relinquished By	<i>Rodney L Heit</i>	Rodney L Heit	Sage Earth Sciences, Inc.	07-05-07	9:08 am
Received By	<i>DOVO</i>	DOVO	FBI	07-06-07	2:30 AM
Relinquished By					
Received By					

Samples received at 21 °C



SAMPLE CHAIN OF CUSTODY
 1705 South 24th Avenue
 Yakima, WA 98902
 Phone (509) 834-2333
 Fax (509) 834-2334
 info@sage-earth-sciences.com

Sampler: Rodney Heit
 Project ID: BSC-0407
 Location: Ellensburg, WA.
 Turn-around Time: STANDARD
 Sampler Signature: *Rodney Heit*
 Date: 07-02-07

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	Sample Size	# of Containers	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	Method 8260B	Method 8270	Method 6010	Methamphetamine (Methanol Solvent)	Asbestos by Bulk PLM	Lab Archive	Notes:
BSC-0407-W35	29	07-02-07	3:45	Water	500 ml	1			X							

Laboratory Destination:
 Friedman & Bruya, Inc.
 3012 - 16th Avenue West
 Seattle, WA 98119-2029
 Phone (206) 285-8282
 Fax (206) 283-5044

Relinquished By	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
Relinquished By	<i>Rodney Heit</i>	Rodney L Heit	Sage Earth Sciences, Inc.	07-03-07	9:08 AM
Received By	<i>D. DeW</i>	DU VO	FBI	07-03-07	9:30
Relinquished By					
Received By					

Appendix D

Table 720-1
Method A Cleanup Levels for Ground Water.^a

Hazardous Substance	CAS Number	Cleanup Level
Arsenic	7440-38-2	5 ug/liter ^b
Benzene	71-43-2	5 ug/liter ^c
Benzo(a)pyrene	50-32-8	0.1 ug/liter ^d
Cadmium	7440-43-9	5 ug/liter ^e
Chromium (Total)	7440-47-3	50 ug/liter ^f
DDT	50-29-3	0.3 ug/liter ^g
1,2 Dichloroethane (EDC)	107-06-2	5 ug/liter ^h
Ethylbenzene	100-41-4	700 ug/liter ⁱ
Ethylene dibromide (EDB)	106-93-4	0.01 ug/liter ^j
Gross Alpha Particle Activity		15 pCi/liter ^k
Gross Beta Particle Activity		4 mrem/yr ^l
Lead	7439-92-1	15 ug/liter ^m
Lindane	58-89-9	0.2 ug/liter ⁿ
Methylene chloride	75-09-2	5 ug/liter ^o
Mercury	7439-97-6	2 ug/liter ^p
MTBE	1634-04-4	20 ug/liter ^q
Naphthalenes	91-20-3	160 ug/liter ^r
PCB mixtures		0.1 ug/liter ^s
Radium 226 and 228		5 pCi/liter ^t
Radium 226		3 pCi/liter ^u
Tetrachloroethylene	127-18-4	5 ug/liter ^v
Toluene	108-88-3	1,000 ug/liter ^w
Total Petroleum Hydrocarbons ^x		
[Note: Must also test for and meet cleanup levels for other petroleum components--see footnotes!]		
Gasoline Range Organics		800 ug/liter
Benzene present in ground water		1,000 ug/liter
No detectable benzene in ground water		
Diesel Range Organics		500 ug/liter
Heavy Oils		500 ug/liter
Mineral Oil		1,000 ug/liter
1,1,1 Trichloroethane	71-55-6	200 ug/liter ^y
Trichloroethylene	79-01-5	5 ug/liter ^z
Vinyl chloride	75-01-4	0.2 ug/liter ^{aa}
Xylenes	1330-20-7	1,000 ug/liter ^{bb}

Footnotes:

- a **Caution on misusing this table.** This table has been developed for specific purposes. It is intended to provide conservative cleanup levels for drinking water beneficial uses at sites undergoing routine cleanup actions or those sites with relatively few hazardous substances. This table may not be appropriate for defining cleanup levels at other sites. For these reasons, the values in this table should not automatically be used to define cleanup levels that must be met for financial, real estate, insurance coverage or placement, or similar transactions or purposes. Exceedances of the values in this table do not necessarily mean the ground water must be restored to those levels at all sites. The level of restoration depends on the remedy selected under WAC 173-340-350 through 173-340-390.
- b **Arsenic.** Cleanup level based on background concentrations for state of Washington.
- c **Benzene.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- d **Benzo(a)pyrene.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61), adjusted to a 1×10^{-5} risk. This value may also be used as the total concentration that all carcinogenic PAHs must meet using the toxicity equivalency methodology in WAC 173-340-708(8).
- e **Cadmium.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.62).
- f **Chromium (Total).** Cleanup level based on concentration derived using Equation 720-1 for hexavalent chromium. This is a total value for chromium III and chromium VI. If just chromium III is present at the site, a cleanup level of 100 ug/l may be used (based on WAC 246-290-310 and 40 C.F.R. 141.62).
- g **DDT (dichlorodiphenyltrichloroethane).** Cleanup levels based on concentration derived using Equation 720-2.
- h **1,2 Dichloroethane (ethylene dichloride or EDC).** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- i **Ethylbenzene.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- j **Ethylene dibromide (1,2 dibromoethane or EDB).** Cleanup level based on concentration derived using Equation 720-2, adjusted for the practical quantitation limit.
- k **Gross Alpha Particle Activity, excluding uranium.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.15).
- l **Gross Beta Particle Activity, including gamma activity.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.15).
- m **Lead.** Cleanup level based on applicable state and federal law (40 C.F.R. 141.80).
- n **Lindane.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- o **Methylene chloride (dichloromethane).** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- p **Mercury.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.62).
- q **Methyl tertiary-butyl ether (MTBE).** Cleanup level based on federal drinking water advisory level (EPA-822-F-97-009, December 1997).
- r **Naphthalenes.** Cleanup level based on concentration derived using Equation 720-1. This is a total value for naphthalene, 1-methyl naphthalene and 2-methyl naphthalene.
- s **PCB mixtures.** Cleanup level based on concentration derived using Equation 720-2, adjusted for the practical quantitation limit. This cleanup level is a total value for all PCBs.
- t **Radium 226 and 228.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.15).
- u **Radium 226.** Cleanup level based on applicable state law (WAC 246-290-310).
- v **Tetrachloroethylene.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- w **Toluene.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- x **Total Petroleum Hydrocarbons (TPH).** TPH cleanup values have been provided for the most common petroleum products encountered at contaminated sites. Where there is a mixture of products or the product composition is unknown, samples must be tested using both the NWTPH-Gx and NWTPH-Dx methods and the lowest applicable TPH cleanup level must be met.
- **Gasoline range organics** means organic compounds measured using method NWTPH-Gx. Examples are aviation and automotive gasoline. The cleanup level is based on protection of ground water for noncarcinogenic effects during drinking water use. Two cleanup levels are provided. The higher value is based on the assumption that no benzene is present in the ground water sample. If any detectable amount of benzene is present in the ground water sample, the lower TPH cleanup level must be used. No interpolation between these cleanup levels is allowed. The ground water cleanup level for any carcinogenic components of the petroleum [such as benzene, EDB and EDC] and any noncarcinogenic components [such as ethylbenzene, toluene, xylenes and MTBE], if present at the site, must also be met. See Table 830-1 for the minimum testing requirements for gasoline releases.
- **Diesel range organics** means organic compounds measured using NWTPH-Dx. Examples are diesel, kerosene, and #1 and #2 heating oil. The cleanup level is based on protection from noncarcinogenic effects during drinking water use. The ground water cleanup level for any carcinogenic components of the petroleum [such as benzene and PAHs] and any noncarcinogenic components [such as ethylbenzene, toluene, xylenes and naphthalenes], if present at the site, must also be met. See Table 830-1 for the minimum testing requirements for diesel releases.
- **Heavy oils** means organic compounds measured using NWTPH-Dx. Examples are #6 fuel oil, bunker C oil, hydraulic oil and waste oil. The cleanup level is based on protection from noncarcinogenic effects during drinking water use, assuming a product composition similar to diesel fuel. The ground water cleanup level for any carcinogenic components of the petroleum [such as benzene, PAHs and PCBs] and any noncarcinogenic components [such as ethylbenzene, toluene, xylenes and naphthalenes], if present at the site, must also be met. See Table 830-1 for the minimum testing requirements for heavy oil releases.
- **Mineral oil** means non-PCB mineral oil, typically used as an insulator and coolant in electrical devices such as transformers and capacitors measured using NWTPH-Dx. The cleanup level is based on protection from noncarcinogenic

effects during drinking water use. Sites using this cleanup level must analyze ground water samples for PCBs and meet the PCB cleanup level in this table unless it can be demonstrated that: (1) The release originated from an electrical device manufactured after July 1, 1979; or (2) oil containing PCBs was never used in the equipment suspected as the source of the release; or (3) it can be documented that the oil released was recently tested and did not contain PCBs. Method B (or Method C, if applicable) must be used for releases of oils containing greater than 50 ppm PCBs. See Table 830-1 for the minimum testing requirements for mineral oil releases.

- y **1,1,1 Trichloroethane.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- z **Trichloroethylene.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- aa **Vinyl chloride.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61), adjusted to a 1×10^{-5} risk.
- bb **Xylenes.** Cleanup level based on xylene not exceeding the maximum allowed cleanup level for total petroleum hydrocarbons and on prevention of adverse aesthetic characteristics. This is a total value for all xylenes.

Table 740-1
Method A Soil Cleanup Levels for Unrestricted Land Uses.^a

Hazardous Substance	CAS Number	Cleanup Level
Arsenic	7440-38-2	20 mg/kg ^b
Benzene	71-43-2	0.03 mg/kg ^c
Benzo(a)pyrene	50-32-8	0.1 mg/kg ^d
Cadmium	7440-43-9	2 mg/kg ^e
Chromium		
Chromium VI	18540-29-9	19 mg/kg ^{fl}
Chromium III	16065-83-1	2,000 mg/kg ^{f2}
DDT	50-29-3	3 mg/kg ^g
Ethylbenzene	100-41-4	6 mg/kg ^h
Ethylene dibromide (EDB)	106-93-4	0.005 mg/kg ⁱ
Lead	7439-92-1	250 mg/kg ^j
Lindane	58-89-9	0.01 mg/kg ^k
Methylene chloride	75-09-2	0.02 mg/kg ^l
Mercury (inorganic)	7439-97-6	2 mg/kg ^m
MTBE	1634-04-4	0.1 mg/kg ⁿ
Naphthalenes	91-20-3	5 mg/kg ^o
PCB Mixtures		1 mg/kg ^p
Tetrachloroethylene	127-18-4	0.05 mg/kg ^q
Toluene	108-88-3	7 mg/kg ^r
Total Petroleum Hydrocarbons^s		
[Note: Must also test for and meet cleanup levels for other petroleum components--see footnotes!]		
Gasoline Range Organics		100 mg/kg
Gasoline mixtures Without benzene and consisting of no more than 20% aromatic hydrocarbons between EC 8 and EC 16		30 mg/kg
All other gasoline mixtures		
Diesel Range Organics		2,000 mg/kg
Heavy Oils		2,000 mg/kg
Mineral Oil		4,000 mg/kg
1,1,1 Trichloroethane	71-55-6	2 mg/kg ^t
Trichloroethylene	79-01-5	0.03 mg/kg ^u
Xylenes	1330-20-7	9 mg/kg ^v

Footnotes:

- a Caution on misusing this table.** This table has been developed for specific purposes. It is intended to provide conservative cleanup levels for sites undergoing routine cleanup actions or for sites with relatively few hazardous substances, and the site qualifies under WAC 173-340-7491 for an exclusion from conducting a simplified or site-specific terrestrial ecological evaluation, or it can be demonstrated using a terrestrial ecological evaluation under WAC 173-340-7492 or 173-340-7493 that the values in this table are ecologically protective for the site. This table may not be appropriate for defining cleanup levels at other sites. For these reasons, the values in this table should not automatically be used to define cleanup levels that must be met for financial, real estate, insurance coverage or placement, or similar transactions or purposes. Exceedances of the values in this table do not necessarily mean the soil must be restored to these levels at a site. The level of restoration depends on the remedy selected under WAC 173-340-350 through 173-340-390.
- b Arsenic.** Cleanup level based on direct contact using Equation 740-2 and protection of ground water for drinking water use using the procedures in WAC 173-340-747(4), adjusted for natural background for soil.
- c Benzene.** Cleanup level based on protection of ground water for drinking water use, using the procedures in WAC 173-340-747 (4) and (6).
- d Benzo(a)pyrene.** Cleanup level based on direct contact using Equation 740-2. This value may also be used as the total concentration that all carcinogenic PAHs must meet using the toxicity equivalency methodology in WAC 173-340-708(8).
- e Cadmium.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4), adjusted for the practical quantitation limit for soil.
- fl Chromium VI.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- f2 Chromium III.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4). Chromium VI must also be tested for and the cleanup level met when present at a site.
- g DDT (dichlorodiphenyltrichloroethane).** Cleanup level based on direct contact using Equation 740-2.
- h Ethylbenzene.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- i Ethylene dibromide (1,2 dibromoethane or EDB).** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4), adjusted for the practical quantitation limit for soil.
- j Lead.** Cleanup level based on preventing unacceptable blood lead levels.
- k Lindane.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4), adjusted for the practical quantitation limit.
- l Methylene chloride (dichloromethane).** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- m Mercury.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- n Methyl tertiary-butyl ether (MTBE).** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- o Naphthalenes.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4). This is a total value for naphthalene, 1-methyl naphthalene and 2-methyl naphthalene.
- p PCB Mixtures.** Cleanup level based on applicable federal law (40 C.F.R. 761.61). This is a total value for all PCBs.
- q Tetrachloroethylene.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- r Toluene.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- s Total Petroleum Hydrocarbons (TPH).** TPH cleanup values have been provided for the most common petroleum products encountered at contaminated sites. Where there is a mixture of products or the product composition is unknown, samples must be tested using both the NWTPH-Gx and NWTPH-Dx methods and the lowest applicable TPH cleanup level must be met.
- Gasoline range organics** means organic compounds measured using method NWTPH-Gx. Examples are aviation and automotive gasoline. The cleanup level is based on protection of ground water for noncarcinogenic effects during drinking water use using the procedures described in WAC 173-340-747(6). Two cleanup levels are provided. The lower value of 30 mg/kg can be used at any site. When using this lower value, the soil must also be tested for and meet the benzene soil cleanup level. The higher value of 100 mg/kg can only be used if the soil is tested and found to contain no benzene and less than 20% of the gasoline mixture consists of aromatic petroleum hydrocarbons between EC 8 and EC 16. No interpolation between these cleanup levels is allowed. In both cases, the soil cleanup level for any other carcinogenic components of the petroleum [such as EDB and EDC], if present at the site, must also be met. Also, in both cases, soil cleanup levels for any noncarcinogenic components [such as toluene, ethylbenzene, xylenes, naphthalene, and MTBE], also must be met if these substances are found to exceed ground water cleanup levels at the site. See Table 830-1 for the minimum testing requirements for gasoline releases.
- Diesel range organics** means organic compounds measured using method NWTPH-Dx. Examples are diesel, kerosene, and #1 and #2 heating oil. The cleanup level is based on preventing the accumulation of free product on the ground water, as described in WAC 173-340-747(10). The soil cleanup level for any carcinogenic components of the petroleum [such as benzene and PAHs], if present at the site, must also be met. Soil cleanup levels for any noncarcinogenic components [such as toluene, ethylbenzene, xylenes and naphthalenes], also must be met if these substances are found to exceed the ground water cleanup levels at the site. See Table 830-1 for the minimum testing requirements for diesel releases.
- Heavy oils** means organic compounds measured using NWTPH-Dx. Examples are #6 fuel oil, bunker C oil, hydraulic oil and waste oil. The cleanup level is based on preventing the accumulation of free product on the ground water, as described in WAC 173-340-747(10) and assuming a product composition similar to diesel fuel. The soil cleanup level for any carcinogenic components of the petroleum [such as benzene, PAHs and PCBs], if present at the site, must also be met. Soil cleanup levels for any noncarcinogenic components [such as toluene, ethylbenzene, xylenes and naphthalenes], also must be met if found to exceed the ground water cleanup levels at the site. See Table 830-1 for the minimum testing requirements for heavy oil releases.
- Mineral oil** means non-PCB mineral oil, typically used as an insulator and coolant in electrical devices such as transformers

and capacitors, measured using NWTPH-Dx. The cleanup level is based on preventing the accumulation of free product on the ground water, as described in WAC 173-340-747(10). Sites using this cleanup level must also analyze soil samples and meet the soil cleanup level for PCBs, unless it can be demonstrated that: (1) The release originated from an electrical device that was manufactured after July 1, 1979; or (2) oil containing PCBs was never used in the equipment suspected as the source of the release; or (3) it can be documented that the oil released was recently tested and did not contain PCBs. Method B must be used for releases of oils containing greater than 50 ppm PCBs. See Table 830-1 for the minimum testing requirements for mineral oil releases.

- t** **1,1,1 Trichloroethane.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- u** **Trichloroethylene.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- v** **Xylenes.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4). This is a total value for all xylenes.



**CONESTOGA-ROVERS
& ASSOCIATES**

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TRANSMITTAL

DATE: September 29, 2014 REFERENCE NO.: 062027

PROJECT NAME: 200 South Railroad Avenue, Ellensburg, WA

To: Mr. John Mefford, LG
Toxics Cleanup Program/Central Regional Office
Washington State Department of Ecology
15 W Yakima Avenue, Suite 200
Yakima, WA 98902

Please find enclosed: Draft Final
 Originals Other
 Prints

Sent via: Mail Same Day Courier
 Overnight Courier Other

QUANTITY	DESCRIPTION
1	Subsurface Investigation Report

As Requested For Review and Comment
 For Your Use _____

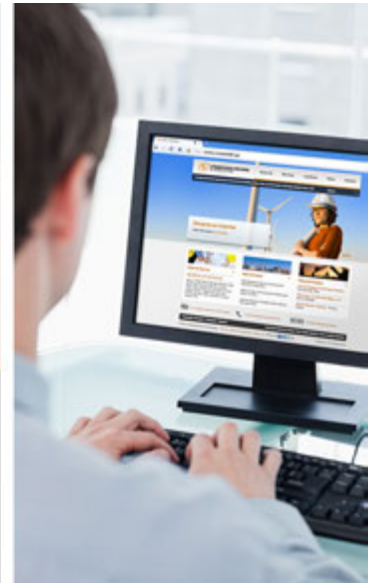
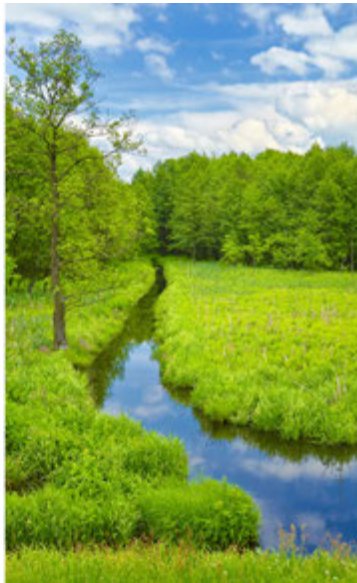
COMMENTS:

Copy to: Perry Pineda, Shell Oil Products US;
Andy Erickson, SmithKem

Completed by: Brian Peters
[Please Print]

Signed: 

Filing: **Correspondence File**



Subsurface Investigation Report

Smith Kem Facility
Shell Oil Products Us
200 Railroad Avenue South
Ellensburg, Washington

Conestoga-Rovers & Associates

20818 44th Ave. West, Suite 190
Lynnwood, Washington 98036

September 2014 • 062027 • Report No. 4



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Subsurface Investigation Report

Smith Kem Facility
Shell Oil Products Us
200 Railroad Avenue South
Ellensburg, Washington

Location No. 7970446
Incident No. 7970447
Agency No. 12832256

Christina McClelland

Brian Peters, LG

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BRIAN C. PETERS

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Section 1.0 Introduction

1.1 General

Conestoga-Rovers & Associates (CRA) prepared this report on behalf of Shell Oil Products US (SOPUS; herein referred to as 'Shell') to document the subsurface investigations performed in 2013 at the Smith-Kem facility located at 200 Railroad Avenue South, Ellensburg, Kittitas County, Washington (Property; Figure 1).

The objectives of these investigations were to identify the source of the groundwater impact in the vicinity of the existing building to the eastern property boundary and to establish a permanent monitoring well network in the areas indicating petroleum hydrocarbon impacts to groundwater, to evaluate groundwater quality conditions over time, and to determine the groundwater flow direction and potential seasonal variability in groundwater flow.

1.2 Site Description and Background

The site is a former Shell bulk terminal facility that currently operates as Smith-Kem, Inc., a fertilizer storage and distribution facility. According to historical Sanborn Maps, the original Shell bulk oil facility at the site was constructed in approximately 1928, consisting of a warehouse building, loading platform, two fire hydrants, two oil pumps, and two aboveground storage tanks (ASTs). The former configuration of the facility is presented on Figure 2 and is based on the historical records research and discussions with the current property owner. Shell sold the Property, including all buildings and land improvements, to James R. and Jean Smith of Ellensburg, Washington, on November 30, 1972.

The 1928 Sanborn Map indicates that the warehouse building was used for bulk oil products storage in the northern half of the building and vehicle storage in the southern half of the building. Shell used at least two ASTs at the Property, but the exact number of ASTs used for bulk oil storage by the Shell facility is currently unknown. Historical documentation suggests that Shell stored oil products (and perhaps diesel products) at the facility, but there is no documentation indicating that gasoline was stored or used as part of Shell former operations. There are multiple ASTs currently at the Property, and evidence on the concrete pad of the containment area of at least four additional historical ASTs. Currently, the site operates as a fertilizer storage and distribution facility.

Based on historical documentation, the Shell facility is believed to have received, stored, and distributed bulk oil products, though exact unloading, storage, and distribution procedures are unknown. Additionally, aboveground piping may have historically run from the rail spur along the eastern property boundary to the eastern wall of the original warehouse building (Figure 2).

In July 2007, Sage Earth Sciences, Inc. sampled soil and groundwater from 14 test pits (TP-1 through TP-14) at the site. Select soil and grab groundwater samples were submitted for analysis, and total petroleum hydrocarbons (TPH) as diesel (TPHd) were reported at concentrations greater than the Washington State Department of Ecology's (Ecology) Model Toxics Control Act (MTCA) Method A cleanup level in soil at location TP-1 (Figure 3), and in groundwater in test pits TP-1, TP-2, TP-10, and TP-11. TPHd results were reported as combined with TPH as heavy oil (TPHo) results, and concentrations reported by Sage are the sum of the TPHd and TPHo ranges in samples analyzed. Separate phase hydrocarbons (SPH) were observed floating on groundwater in test pit TP-12 at an approximate thickness of 1/8 inch, at approximately 7 feet below ground surface (bgs). A petroleum sheen was reportedly observed on groundwater in test pit TP-1 at approximately 5.5 feet bgs.

On March 17, 2008, a release of petroleum hydrocarbons was reported to Ecology. The Property was entered into Ecology's Voluntary Cleanup Program (VCP) in June 2012, and was subsequently removed from the VCP in October 2012 by the current property owner. In a letter dated November 15, 2012, Shell accepted responsibility as a potentially liable party (PLP) for the petroleum hydrocarbon release associated with historical bulk oil facility operations. However, Shell did not accept PLP status for any historical releases of metals or pesticides related to the fertilizer storage, production, or distribution operations at the site, which are believed to have shared the site since the late 1940s.

A summary of previous site activities and correspondence is included as Appendix A.

Section 2.0 Site Investigation Activities

2.1 June 2013 Investigation

CRA performed a site investigation on June 10 through 13, 2013 for the purpose of confirming soil and groundwater conditions as reported by Sage in 2007. Eleven soil borings were advanced across the site by Cascade Drilling LLP (Cascade), under CRA's direction, in areas previously identified as being impacted as well as areas intended to define the extent of any historical release of petroleum hydrocarbons. Ten of the borings were converted to temporary monitoring wells for the purpose of collecting representative groundwater quality data across the site in order to design a permanent monitoring well network.

Soil borings were advanced to approximately 15 feet bgs in borings SB-1 through 10, and 1.5 feet bgs in boring SB-11. Select soil samples were collected from each boring dependent upon conditions encountered in the field. Temporary monitoring wells were installed in borings SB-1 through SB-10. The temporary wells were installed with 2-inch polyvinyl chloride (PVC)

perforated screen from approximately 3 to 13 feet bgs and blank PVC casing from ground surface to 3 feet bgs. The annular space was filled with clean sand to approximately 2 feet bgs. CRA used a peristaltic pump to collect groundwater samples after a minimal purge time to remove suspended sediment. Upon collection of groundwater samples, the wells were properly decommissioned by filling the well casing with hydrated bentonite chips and sealed at the surface with concrete.

Boring logs are presented in Appendix B. The depths of soil samples selected for laboratory analysis along with analytical results are presented in Table 1. Analytical results for groundwater samples are presented in Table 2.

The results of soil sample laboratory analysis indicated that only two of the samples (SB-6 at 7 feet bgs and SB-11 at 0.5 feet bgs) contained TPH as gasoline (TPHg) concentrations exceeding the MTCA Method A cleanup level. Petroleum hydrocarbon compounds in all other soil samples were either below MTCA Method A cleanup levels or below the laboratory reporting limits. The results of groundwater sample laboratory analysis indicated the majority of petroleum hydrocarbon impact in the diesel and heavy oil range was located in the vicinity of the suspected former above ground piping run to the railroad spur located on the eastern side of the site, however, minor TPH compounds were detected in the majority of the groundwater samples from the central and northern portion of the site.

2.2 October 2013 Site Investigation

Between September 30 and October 4, 2013, Cascade, under CRA's direction, advanced ten soil borings (MW-1 through MW-8, SB-12 and SB-13) using a hollow-stem auger drill rig to depths ranging from 10 to 14 feet bgs. Eight of the borings were completed as monitoring wells. The boring logs and well construction details are presented in Appendix B.

Soil samples were collected at 2, 5, and 10 feet bgs using a split-spoon sampler for field screening and soil classification. Select soil samples from each boring were submitted for laboratory analysis. Laboratory analytical data are presented in Table 1, and included in Appendix C.

2.3 Well Development, Survey, and Groundwater Sampling

Wells MW-1 through MW-8 were developed by Blaine Tech Services, Inc. (Blaine) on October 28, 2013. Well development included surging and bailing to remove sediment within the well casing. Well development continued until conditions (temperature, pH, conductivity, and turbidity) stabilized. Blaine sampled all wells on November 11, 2013 and again on March 20, 2014. Blaine field data sheets are included in Appendix D. All monitoring wells were

surveyed for coordinate positions by a licensed surveyor. Survey data are included in Appendix E.

2.4 Investigation Derived Waste

Investigation derived waste (IDW) generated during the investigation included soil cuttings, decontamination water, and purge water. Purge water was transported by Blaine to a bulk tank for storage and subsequent disposal. All other waste was stored on the Property in United States Department of Transportation compliant 55-gallon drums. IDW was removed from the Property on March 20, 2014 in accordance with SOPUS waste disposal requirements. Waste disposal documentation is not yet available, but will be provided under separate cover.

Section 3.0 Investigation Results

3.1 Site Geology and Hydrogeology

The Property is underlain by alluvium consisting of sand, silty sand, and gravel with or without cobbles to the total explored depth of 15 feet bgs. Lenses of silt were present in a few of the boring locations, but this does not appear to be laterally continuous. Boring logs are included as Appendix B.

Groundwater was encountered during drilling at depths of approximately 3.5 to 5 feet bgs. Historical groundwater elevations are presented on Table 2. Based on the three sampling events conducted, groundwater appears to flow toward the southwest.

3.2 Analytical Results – Soil

A total of sixteen soil samples were submitted to TestAmerica for analysis from the October 2013 investigation. The soil samples were analyzed for TPHg by Method NWTPH-Gx, TPH as diesel (TPHd) and TPH as oil (TPHo) by Method NWTPH-Dx, and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8260B. Select samples were analyzed for 1,2-dibromoethane (EDB) and 1,2-dichloroethane (EDC) by EPA Method 8260B, total lead by EPA Method 6020, methyl tertiary butyl ether (MTBE) and diisopropyl ether (DIPE) by EPA Method 8260B, naphthalenes and carcinogenic polynuclear aromatic hydrocarbons (cPAHs) by EPA Method 8270, and polychlorinated biphenyls (PCBs) by EPA Method 8082.

Only two of the sixteen soil samples contained any concentrations exceeding MTCA Method A cleanup levels. Soil collected from MW-1 at 2 feet bgs contained cPAHs exceeding the MTCA Method A cleanup level, and soil collected from MW-5 at 5 feet bgs contained TPHg exceeding the MTCA Method A cleanup levels. All other concentrations were either below laboratory

reporting limits or below MTCA Method A cleanup levels. Soil sample analytical results for the current investigation as well as historical soil analytical data are presented in Table 1. A soil investigation data map is included as Figure 3. Laboratory analytical reports for the current investigation are included in Appendix C.

3.3 Analytical Results – Groundwater

Blaine sampled all site monitoring wells on November 11, 2013, March 20, 2014, May 22, 2014, and August 5, 2014. Groundwater samples were analyzed for TPHg by Method NWTPH-Gx, TPHd and TPHo by Method NWTPH-Dx, BTEX by EPA Method 8260B, EDB by EPA Method 8011, EDC by EPA Method 8260B, MTBE, tertiary butyl alcohol (TBA), DIPE, ethyl tertiary butyl ether (ETBE), and tertiary amyl methyl ether (TAME) by EPA Method 8260B. Blaine's field data sheets for the each of the sampling events are included in Appendix D.

Groundwater from monitoring wells MW-4 and MW-6 contained TPHd concentrations exceeding MTCA Method A cleanup levels during November 2013 and March 2014, however, TPHd concentrations were below MTCA Method A cleanup levels in all wells in May and August 2014. No other concentrations exceeded MTCA Method A cleanup levels in any wells. All groundwater monitoring data collected to date are presented in Table 2. The laboratory analytical reports for the groundwater sampling events are provided in Appendix F. A groundwater elevation contour and chemical concentration map for the August 2014 event is included as Figure 4. The groundwater flow direction has been consistently to the southwest for all four sampling events.

Section 4.0 Conclusions and Recommendations

Results of CRA's 2013 investigations and previous investigations indicate that soil impacted by TPHg, TPHd, and TPHo, lead, and/or cPAHs is present in three locations on the Property; along the eastern Property boundary adjacent to the railroad tracks (SB-6 and MW-5), beneath and adjacent to the current office in the center of the Property (S1, S2, S4, MW-1, and SB-11), and to the west of several former ASTs (TP-1). Grab groundwater analytical results indicated groundwater impacts in the same areas; however, monitoring well results indicate low level groundwater impacts solely in wells MW-4 (along the northeast Property boundary) and MW-6 (south of the current shipping containers and north of the former pumps). Concentrations in groundwater from the monitoring wells are an order of magnitude lower than concentrations in grab groundwater, indicating that grab groundwater results may have been elevated due to suspended solids in the sample. Furthermore, petroleum hydrocarbon impacts to groundwater in wells MW-4 and MW-6 have been below MTCA Method A cleanup levels for the past two quarterly sampling events.

CRA recommends continued groundwater sampling events to determine compliance with seasonal changes in groundwater elevation and flow direction. Based on the current data, CRA will engage Ecology and begin to evaluate options for progression of the site toward a No Further Action determination.

Figures

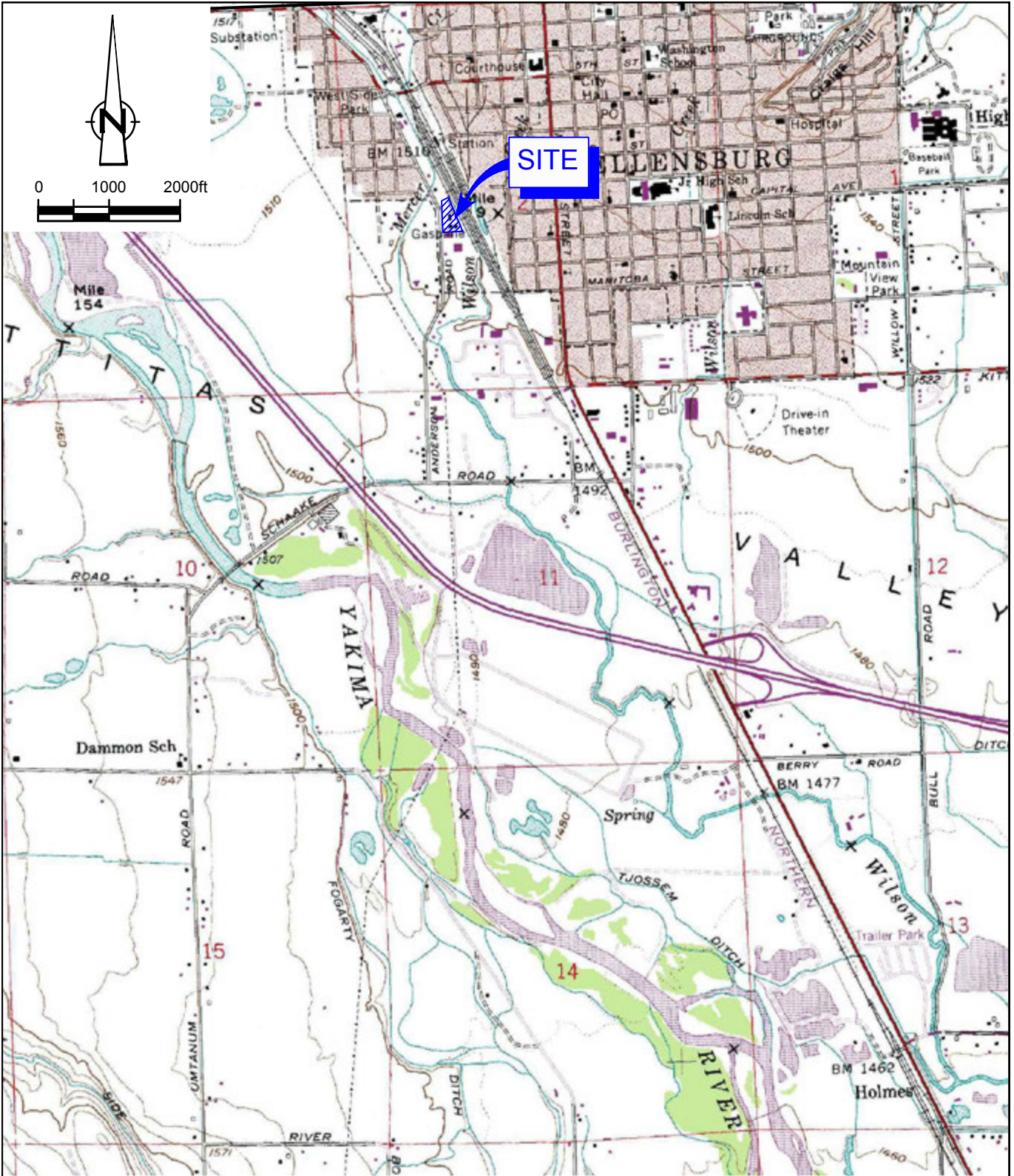
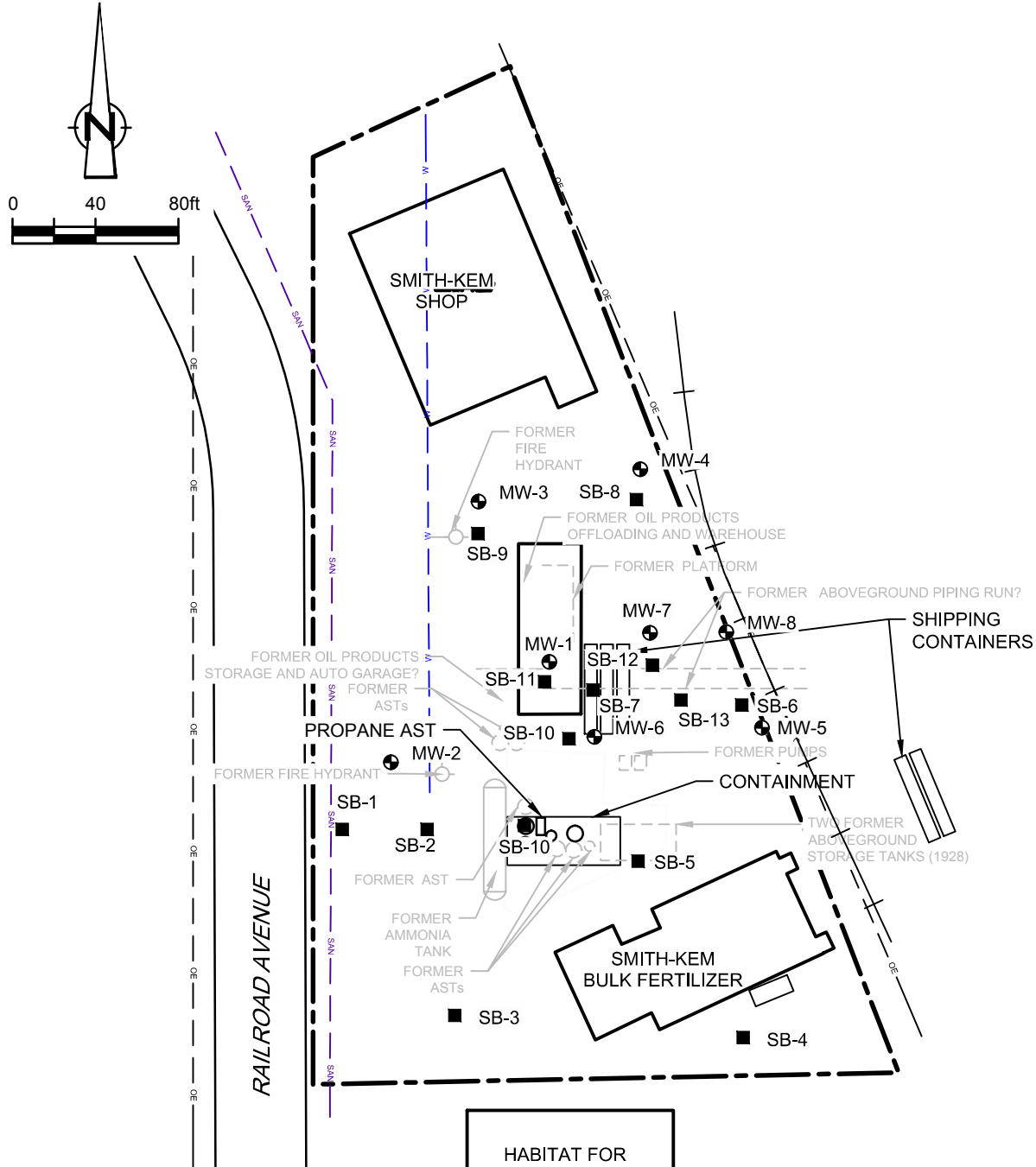


figure 1

VICINITY MAP
 SMITH-KEM FACILITY
 SHELL OIL PRODUCTS US
 200 RAILROAD AVENUE SOUTH
Ellensburg, Washington



SOURCE: USGS QUADRANGLE MAP - ELLENSBURG SOUTH WA-046120H5
 DATE-1978



- LEGEND**
- PROPERTY BOUNDARY
 - RAILROAD
 - x — FENCE
 - w — WATER LINE
 - SAN — SEWER LINE
 - OE — OVERHEAD ELECTRIC
 - MW-5 ● MONITORING WELL LOCATION
 - SB-11 ■ SOIL BORING LOCATION

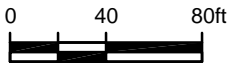
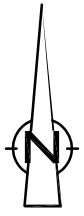
NOTES:
 1. CONCRETE CONTAINMENT BERM WAS BUILT BY SMITH-KEM.
 2. OFFICE BUILDING IS ORIGINAL SHELL FACILITY STRUCTURE.



figure 2
SITE PLAN
SMITH-KEM FACILITY
SHELL OIL PRODUCTS US
200 RAILROAD AVENUE SOUTH
Ellensburg, Washington



SOURCE: LIMITED SITE CHARACTERIZATION REPORT, JULY 26, 2007;
 1928 SANBORN MAP



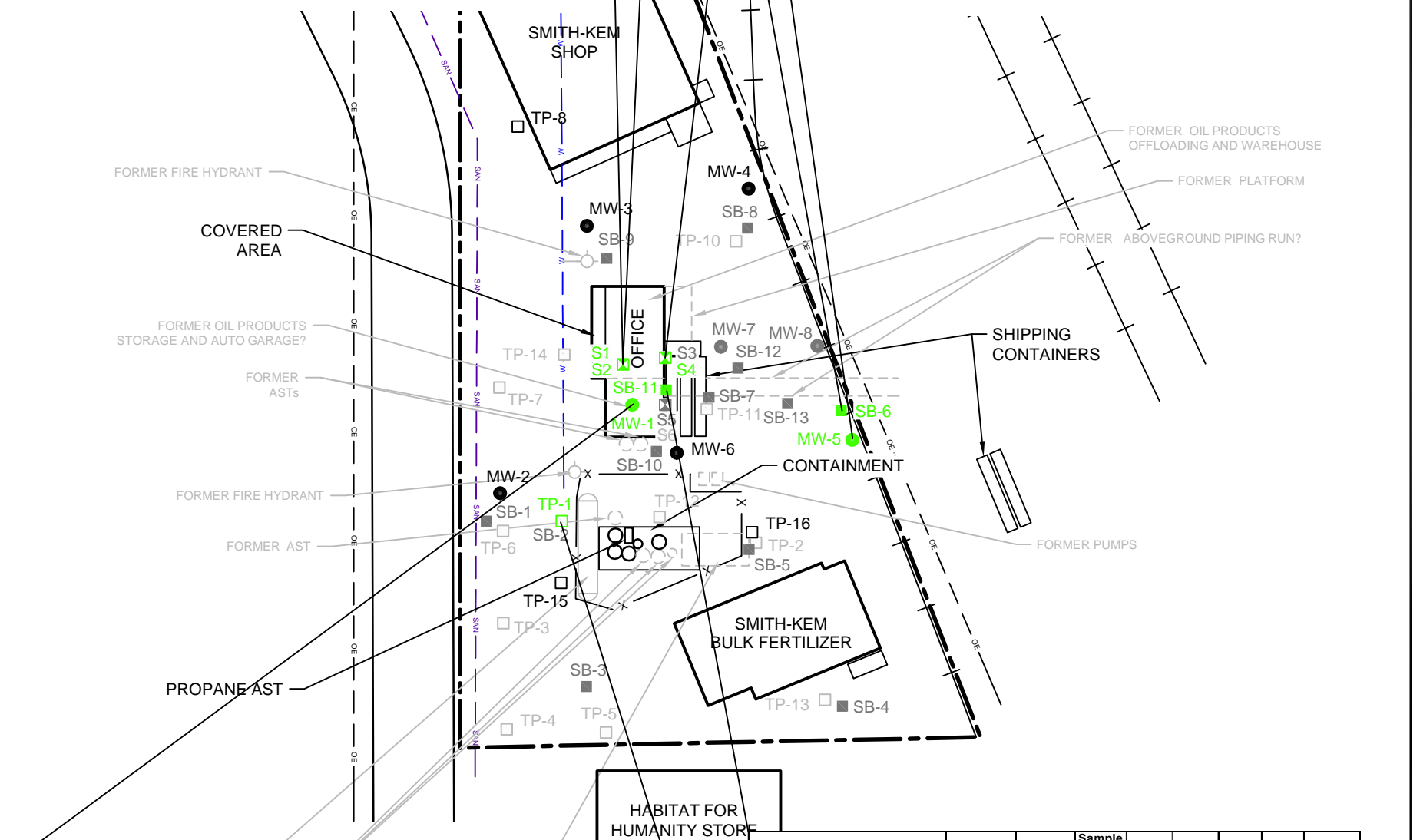
Sample ID	Consultant	Date	Sample Depth ft	TPHg mg/kg	TPHd mg/kg	TPHo mg/kg	Lead mg/kg	cPAHs mg/kg
SK1-0112-S4	SAGE 2012	7/17/2012	1	<20 b	3,400	1,200	---	---

Sample ID	Consultant	Date	Sample Depth ft	TPHg mg/kg	TPHd mg/kg	TPHo mg/kg	Lead mg/kg	cPAHs mg/kg
SK1-0112-S2	SAGE 2012	7/17/2012	1	<20 b	770	3,300	---	---

Sample ID	Consultant	Date	Sample Depth ft	TPHg mg/kg	TPHd mg/kg	TPHo mg/kg	Lead mg/kg	cPAHs mg/kg
SO-062027-061313-SB-6-7	CRA 2013	6/13/2013	7.0	103	34.8	<4.97	---	---

Sample ID	Consultant	Date	Sample Depth ft	TPHg mg/kg	TPHd mg/kg	TPHo mg/kg	Lead mg/kg	cPAHs mg/kg
SK1-0112-S1	SAGE 2012	7/17/2012	0.2	<20 b	1,500	6,800	---	---

Sample ID	Consultant	Date	Sample Depth ft	TPHg mg/kg	TPHd mg/kg	TPHo mg/kg	Lead mg/kg	cPAHs mg/kg
SO-062027-100313-MW-5-5	CRA 2013	10/3/2013	5.0	472	<4.80	<4.80	1.69	<0.00352



Sample ID	Consultant	Date	Sample Depth ft	TPHg mg/kg	TPHd mg/kg	TPHo mg/kg	Lead mg/kg	cPAHs mg/kg
SO-062027-100113-MW-1-2	CRA 2013	10/1/2013	2.0	<3.83	<4.92	12.5	30.5	0.17407

Sample ID	Consultant	Date	Sample Depth ft	TPHg mg/kg	TPHd mg/kg	TPHo mg/kg	Lead mg/kg	cPAHs mg/kg
SO-062027-061113-SB-11-0.5a	CRA 2013	6/11/2013	0.5	193	25	91.5	251	0.02

Sample ID	Consultant	Date	Sample Depth ft	TPHg mg/kg	TPHd mg/kg	TPHo mg/kg	Lead mg/kg	cPAHs mg/kg
BSE-0107-S2 (TP-1)	SAGE 2007	6/11/2007	5.0	<20 b	7,400 c	<250 b	---	---

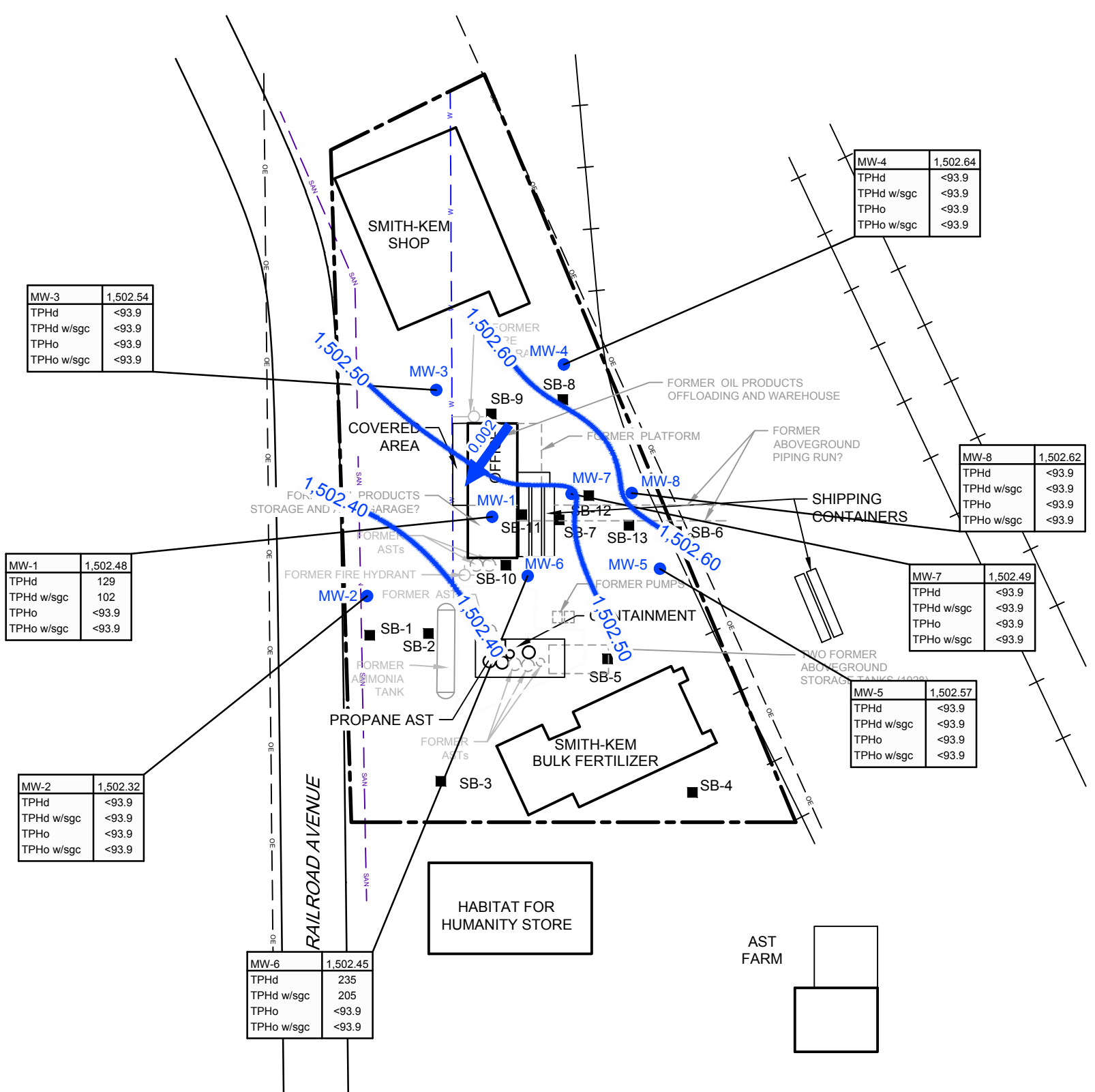
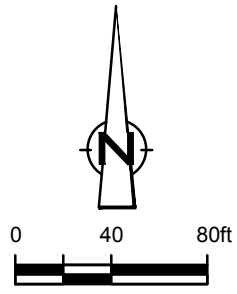
- LEGEND**
- PROPERTY BOUNDARY
 - RAILROAD
 - FENCE
 - WATER LINE
 - SEWER LINE
 - OVERHEAD ELECTRIC
 - MW-1 ● MONITORING WELL LOCATION
 - TP-1 □ TEST PIT LOCATION (SAGE ENVIRONMENTAL)
 - S1 □ SOIL SAMPLE LOCATION (SAGE ENVIRONMENTAL)
 - SB-11 ■ SOIL BORING LOCATION
 - INDICATES ALL CONCENTRATIONS WERE BELOW LABORATORY REPORTING LIMITS
 - INDICATES AT LEAST ONE CONCENTRATION WAS DETECTED ABOVE THE LABORATORY REPORTING LIMITS, BUT NO CONCENTRATION WAS GREATER THAN THE MTCA METHOD A CLEANUP LEVELS
 - INDICATES AT LEAST ONE CONCENTRATION WAS GREATER THAN THE MTCA METHOD A CLEANUP LEVELS
 - NO SOIL SAMPLES WERE SUBMITTED FOR ANALYSIS

- NOTES:**
- CONCRETE CONTAINMENT BERM WAS BUILT BY SMITH-KEM.
 - OFFICE BUILDING IS ORIGINAL SHELL FACILITY STRUCTURE.

figure 3
 SOIL INVESTIGATION DATA MAP
 SMITH-KEM FACILITY
 SHELL OIL PRODUCTS US
 200 RAILROAD AVENUE SOUTH
 Ellensburg, Washington



SOURCE: LIMITED SITE CHARACTERIZATION REPORT, JULY 26, 2007;
 1928 SANBORN MAP



MW-3	1,502.54
TPHd	<93.9
TPHd w/sgc	<93.9
TPHo	<93.9
TPHo w/sgc	<93.9

MW-4	1,502.64
TPHd	<93.9
TPHd w/sgc	<93.9
TPHo	<93.9
TPHo w/sgc	<93.9

MW-1	1,502.48
TPHd	129
TPHd w/sgc	102
TPHo	<93.9
TPHo w/sgc	<93.9

MW-8	1,502.62
TPHd	<93.9
TPHd w/sgc	<93.9
TPHo	<93.9
TPHo w/sgc	<93.9

MW-7	1,502.49
TPHd	<93.9
TPHd w/sgc	<93.9
TPHo	<93.9
TPHo w/sgc	<93.9

MW-2	1,502.32
TPHd	<93.9
TPHd w/sgc	<93.9
TPHo	<93.9
TPHo w/sgc	<93.9

MW-5	1,502.57
TPHd	<93.9
TPHd w/sgc	<93.9
TPHo	<93.9
TPHo w/sgc	<93.9

MW-6	1,502.45
TPHd	235
TPHd w/sgc	205
TPHo	<93.9
TPHo w/sgc	<93.9

- LEGEND**
- — — — — PROPERTY BOUNDARY
 - +—+—+— RAILROAD
 - x—x—x— FENCE
 - w—w—w— WATER LINE
 - san—san—san— SEWER LINE
 - oe—oe—oe— OVERHEAD ELECTRIC
 - MW-1 MONITORING WELL LOCATION
 - SB-11 SOIL BORING LOCATION

- 1,502.40 ——— GROUNDWATER ELEVATION CONTOUR, IN FEET, REFERENCED TO AN ARBITRARY DATUM
- 0.002 GROUNDWATER FLOW DIRECTION AND GRADIENT
- SAMPLE LOCATION
- GROUNDWATER ELEVATION (MSL)
- RESULT
- PARAMETER

- NOTES:**
1. TPHg = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE.
 2. w/sgc = WITH SILICA GEL CLEANUP.
 3. ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µg/L).

NOTES:

1. CONCRETE CONTAINMENT BERM WAS BUILT BY SMITH-KEM.
2. OFFICE BUILDING IS ORIGINAL SHELL FACILITY STRUCTURE.

SOURCES: LIMITED SITE CHARACTERIZATION REPORT, JULY 26, 2007;
1928 SANBORN MAP;
STATEWIDE LAND SURVEYING INC., PROJECT 2013-118, 10/28/13,
WASHINGTON STATE PLANE SOUTH, US SURVEY FEET.

figure 4
GROUNDWATER CONTOUR AND CHEMICAL CONCENTRATION MAP - AUGUST 5, 2014
 SMITH-KEM FACILITY
 SHELL OIL PRODUCTS US
 200 RAILROAD AVENUE SOUTH
 Ellensburg, Washington



Tables

SUMMARY OF SOIL ANALYTICAL DATA
200 RAILROAD AVENUE SOUTH
ELLENSBURG, WASHINGTON

Sample ID	Consultant	Date	Sample Depth MTCA Method A Cleanup Levels ft	PRIMARY VOCs										METALS								OXYGENATES					PAHs		PCBs
				TPHg	TPHd	TPHo	B	T	E	X	EDB	EDC	Arsenic	Barium	Cadmium	Chromium VI/ Chromium	Lead	Mercury	Selenium	Silver	MTBE	TBA	DIPE	ETBE	TAME	Naphthalene ¹	cPAHs ²	PCBs ¹	
				30/100	2,000	2,000	0.03	7	6	9	0.005	NE	20	NE	2	19/2,000	250	2	NE	NE	0.1	NA	NA	NA	NA	0.1	0.1	1	
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
SO-062027-061313-SB-10-11	CRA 2013	6/13/2013	11.0	<2.11	<4.90	<4.90	<0.000741	<0.000741	<0.000741	<0.00185	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
SO-062027-061313-SB-10-15	CRA 2013	6/13/2013	15.0	<3.90	<4.96	<4.96	<0.000768	<0.000768	<0.000768	<0.00192	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
SO-062027-061113-SB-11-0.5a	CRA 2013	6/11/2013	0.5	193	25	91.5	0.00503	0.0044	<0.00246	<0.00615	<0.00246	<0.00246	---	---	---	---	---	---	---	<0.00246	---	<0.00246	---	---	---	---			
SO-062027-061113-SB-11-1	CRA 2013	6/11/2013	1.0	22.7	28.6	111	0.00191	<0.00176	<0.00176	<0.00439	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
SO-062027-100113-MW-1-2	CRA 2013	10/1/2013	2.0	<3.83	<4.92	12.5	0.00268	0.00130	<0.00110	<0.00165	<0.000548	<0.00110	---	---	---	---	---	---	---	<0.00110	---	---	---	---	<0.00381 / <0.18:	0.17407	<0.0374		
SO-062027-100313-MW-1-5	CRA 2013	10/4/2013	5.0	<4.02	<4.88	<4.88	0.00230	0.00156	<0.00150	<0.00224	<0.000748	<0.00150	---	---	---	---	---	---	---	<0.00150	---	---	---	---	<0.232 / <0.00381	<0.232	<0.0387		
SO-062027-093013-MW-5-2	CRA 2013	9/30/2013	2.0	<4.99	16.3	6.80	0.00509	0.00210	<0.00124	<0.00186	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
SO-062027-100313-MW-5-5	CRA 2013	10/3/2013	5.0	472	<4.80	<4.80	<0.00115	<0.00115	<0.00522	<0.00173	<0.000575	<0.00115	---	---	---	---	---	---	---	<0.00115	---	---	---	---	<0.00352 / <0.0021	<0.00352	<0.0352		
SO-062027-100313-MW-5-10	CRA 2013	10/3/2013	10.0	9.34	947	22.6	<0.00105	<0.00105	<0.00105	<0.00158	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
SO-062027-100113-MW-7-2	CRA 2013	10/1/2013	2.0	<4.75	<5.00	<5.00	0.00177	<0.00146	<0.00146	<0.00219	<0.000730	<0.00146	---	---	---	---	---	---	---	<0.00146	---	---	---	---	<0.00383 / <0.0031	0.0313	<0.0384		
SO-062027-100313-MW-7-5	CRA 2013	10/3/2013	5.0	<4.36	<4.88	<4.88	<0.00175	<0.00175	<0.00175	<0.00263	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SO-062027-100313-MW-7-10	CRA 2013	10/3/2013	10.0	<3.02	<4.81	<4.81	<0.00122	<0.00122	<0.00122	<0.00183	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SO-062027-100113-MW-8-2	CRA 2013	10/1/2013	2.0	<4.56	6.84	10.7	0.00246	<0.00199	<0.00199	<0.00298	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SO-062027-100313-MW-8-5	CRA 2013	10/3/2013	5.0	10.6	5.81	10.3	<0.00155	<0.00155	<0.00155	<0.00233	<0.000776	<0.00155	---	---	---	---	---	---	---	<0.00155	---	---	---	---	<0.00388 / <0.0031	<0.00388	<0.0375		
SO-062027-100313-MW-8-10	CRA 2013	10/3/2013	10.0	<3.02	<5.00	<5.00	<0.00150	<0.00150	<0.00150	<0.00225	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SO-062027-100313-SB-12-5	CRA 2013	10/3/2013	5.0	3.66	<4.95	<4.95	<0.00118	<0.00118	<0.00118	<0.00178	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SO-062027-100313-SB-12-10	CRA 2013	10/3/2013	10.0	3.58	<4.98	<4.98	<0.00136	<0.00136	<0.00136	<0.00204	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SO-062027-100113-SB-13-2	CRA 2013	10/1/2013	2.0	<5.76	<4.95	<4.95	0.00506	<0.00207	<0.00207	<0.00311	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SO-062027-100313-SB-13-5	CRA 2013	10/3/2013	5.0	10.0	<4.90	<4.90	<0.00121	<0.00121	<0.00121	<0.00182	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SO-062027-100313-SB-13-10	CRA 2013	10/3/2013	10.0	<3.31	<4.98	<4.98	<0.00142	<0.00142	<0.00142	<0.00212	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	

Notes:

-- = Not analyzed

All results in milligrams per kilogram (mg/kg) unless otherwise indicated.

Results in bold indicate an exceedance of the MTCA Method A cleanup level.

bgs = below ground surface (in feet)

TPHg = Total petroleum hydrocarbons as gasoline analyzed by method NWTPH-Gx; in 1995, analyzed by method WTPH-G.

TPHd = Total petroleum hydrocarbons as diesel analyzed by NWTPH-Dx with silica gel cleanup; in 1995, analyzed by WTPH-D extended.

TPHo = Total petroleum hydrocarbons as motor oil analyzed by NWTPH-Dx with silica gel cleanup; in 1995, analyzed by WTPH-D extended.

BTEX = Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B; in 2002, analyzed by EPA Method 8021B; in 1995, analyzed by EPA Method 8020.

EDB = 1,2-Dibromoethane analyzed by EPA Method 8011.

EDC = 1,2-Dichloroethane analyzed by EPA Method 8260B.

MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B.

TBA = Tertiary-butanol analyzed by EPA Method 8260B.

DIPE = Di-isopropyl ether analyzed by EPA Method 8260B.

ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B.

TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B.

VOCs = Volatile Organic Compounds analyzed by EPA Method 8260B.

PCBs = Polychlorinated biphenyls analyzed by EPA Method 8082.

cPAHs = Carcinogenic Polycyclic Aromatic Hydrocarbons by EPA Method 8270C SIMS

<x = Not detected at reporting limit x

MTCA = Model Toxics Control Act

NE = Not established

mg/kg = milligram per kilogram

¹ Naphthalene analyzed by EPA Method 8260B and EPA Method 8270C SIM. The higher of the two results reported.

² cPAHs results above laboratory reporting are reported as the total concentration for all cPAHs using toxicity equivalency methodology in WAC 173-340-708(8)

a = Sample also analyzed for VPH/EPH per EPA Method NWVPH and NWEPH and hexane per EPA Method 8260B.

TABLE 2

SUMMARY OF GROUNDWATER MONITORING DATA
FORMER SHELL-BRANDED SERVICE STATION
200 RAILROAD AVENUE
ELLENSBURG, WASHINGTON

Sample ID	Date	TOC Model	DTW Toxics	GWE Control Act	HYDROCARBONS			VOCs					OXYGENATES					
					TPHg 800/1000	TPHd 500	TPHo 500	B 5	T 1000	E 700	X 1000	EDB 0.01	EDC 5	MTBE 20	TBA N/A	DIPE N/A	ETBE N/A	TAME N/A
MW-1	10/28/13	1,507.56	5.11	1,502.45	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	11/11/13	1,507.56	5.08	1,502.48	<500	177 / 178	<105 / <100	<1.00	<1.00	<1.00	<2.00	<0.00200	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
MW-1	03/20/14	1,507.56	4.66	1,502.90	<100	252 / 186	94.1 / <93.5	<1.00	<1.00	<1.00	<3.00	<0.0200	<1.00	---	---	---	---	
MW-1	05/22/14	1,507.56	6.22	1,501.34	<100	<93.9 / 95.5	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.0101	<1.00	---	---	---	---	
MW-1	08/05/14	1,507.56	5.08	1,502.48	<100	102 / 129	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
MW-2	10/28/13	1,506.75	4.29	1,502.46	---	---	---	---	---	---	---	---	---	---	---	---	---	
MW-2	11/11/13	1,506.75	4.27	1,502.48	<100	<95.2 / <95.2	<95.2 / <95.2	<1.00	<1.00	<1.00	<2.00	<0.00200	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
MW-2	03/20/14	1,506.75	4.02	1,502.73	<100	<93.5 / <93.5	<93.5 / <93.5	<1.00	<1.00	<1.00	<3.00	<0.0199	<1.00	---	---	---	---	
MW-2	05/22/14	1,506.75	3.89	1,502.86	<100	<93.9 / <93.9	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.0102	<1.00	---	---	---	---	
MW-2	08/05/14	1,506.75	4.43	1,502.32	<100	<93.9 / <93.9	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
MW-3	10/28/13	1,507.23	4.48	1,502.75	---	---	---	---	---	---	---	---	---	---	---	---	---	
MW-3	11/11/13	1,507.23	4.70	1,502.53	<100	<93.5 / <93.5	<93.5 / <93.5	<1.00	<1.00	<1.00	<2.00	<0.00200	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
MW-3	03/20/14	1,507.23	4.15	1,503.08	<100	<93.5 / <93.5	<93.5 / <93.5	<1.00	<1.00	<1.00	<3.00	<0.0201	<1.00	---	---	---	---	
MW-3	05/22/14	1,507.23	3.87	1,503.36	<100	<93.9 / <93.9	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.0101	<1.00	---	---	---	---	
MW-3	08/05/14	1,507.23	4.69	1,502.54	<100	<93.9 / <93.9	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
MW-4	10/28/13	1,506.25	3.51	1,502.74	---	---	---	---	---	---	---	---	---	---	---	---	---	
MW-4	11/11/13	1,506.25	3.60	1,502.65	<1,000	883 / 720	565 / 302	<10.0	<10.0	<10.0	<20.0	<0.00200	<10.0	<10.0	<100	<20.0	<10.0	<10.0
MW-4	03/20/14	1,506.25	2.70	1,503.55	<500	1,000 / 819	303 / 180	<1.00	<1.00	<1.00	<3.00	<0.0201	<1.00	---	---	---	---	
MW-4	05/22/14	1,506.25	2.67	1,503.58	<100	<94.8 / <94.8	<94.8 / <94.8	<1.00	<1.00	<1.00	<2.00	<0.0102	<1.00	---	---	---	---	
MW-4	08/05/14	1,506.25	3.61	1,502.64	<100	<93.9 / <93.9	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
MW-5	10/28/13	1,506.69	4.11	1,502.58	---	---	---	---	---	---	---	---	---	---	---	---	---	
MW-5	11/11/13	1,506.69	4.08	1,502.61	<100	<105 / <105	<105 / <105	<1.00	<1.00	<1.00	<2.00	<0.00200	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
MW-5	03/20/14	1,506.69	3.38	1,503.31	<100	<93.5 / <93.5	<93.5 / <93.5	<1.00	<1.00	<1.00	<3.00	<0.0205	<1.00	---	---	---	---	
MW-5	05/22/14	1,506.69	3.19	1,503.50	<100	<93.9 / <93.9	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.0101	<1.00	---	---	---	---	
MW-5	08/05/14	1,506.69	4.12	1,502.57	<100	<93.9 / <93.9	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
MW-6	10/28/13	1,507.17	4.72	1,502.45	---	---	---	---	---	---	---	---	---	---	---	---	---	
MW-6	11/11/13	1,507.17	4.80	1,502.37	<500	758 / 841	149 / <95.2	<1.00	<1.00	<1.00	<2.00	<0.00200	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
MW-6	03/20/14	1,507.17	4.30	1,502.87	<100	594 / 514	139 / 120	<1.00	<1.00	<1.00	<3.00	<0.0199	<1.00	---	---	---	---	
MW-6	05/22/14	1,507.17	4.12	1,503.05	<100	383 / 432	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.0101	<1.00	---	---	---	---	
MW-6	08/05/14	1,507.17	4.72	1,502.45	<100	235 / 205	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
MW-7	10/28/13	1,506.83	4.21	1,502.62	---	---	---	---	---	---	---	---	---	---	---	---	---	
MW-7	11/11/13	1,506.83	4.30	1,502.53	<100	<111 / <100	<111 / <100	<1.00	<1.00	<1.00	<2.00	<0.00200	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
MW-7	03/20/14	1,506.83	3.62	1,503.21	<100	<93.5 / <93.5	<93.5 / <93.5	<1.00	<1.00	<1.00	<3.00	<0.0204	<1.00	---	---	---	---	
MW-7	05/22/14	1,506.83	3.51	1,503.32	<100	<93.9 / <93.9	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.0100	<1.00	---	---	---	---	
MW-7	08/05/14	1,506.83	4.34	1,502.49	<100	<93.9 / <93.9	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
MW-8	10/28/13	1,506.50	3.83	1,502.67	---	---	---	---	---	---	---	---	---	---	---	---	---	
MW-8	11/11/13	1,506.50	3.90	1,502.60	<500	<96.2 / <100	<96.2 / <100	<1.00	<1.00	<1.00	<2.00	<0.00200	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
MW-8	03/20/14	1,506.50	3.25	1,503.25	<100	<93.5 / <93.5	<93.5 / <93.5	<1.00	<1.00	<1.00	<3.00	<0.203	<1.00	---	---	---	---	

TABLE 2

SUMMARY OF GROUNDWATER MONITORING DATA
FORMER SHELL-BRANDED SERVICE STATION
200 RAILROAD AVENUE
ELLENSBURG, WASHINGTON

Sample ID	Date	TOC Model	DTW Toxics	GWE Control	HYDROCARBONS			VOCs					OXYGENATES					
					TPHg 800/1000	TPHd 500	TPHo 500	B 5	T 1000	E 700	X 1000	EDB 0.01	EDC 5	MTBE 20	TBA N/A	DIPE N/A	ETBE N/A	TAME N/A
MW-8	05/22/14	1,506.50	3.05	1,503.45	<100	<93.9 / <93.9	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.0101	<1.00	---	---	---	---	---
MW-8	08/05/14	1,506.50	3.88	1,502.62	<100	<93.9 / <93.9	<93.9 / <93.9	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
SB-1	01/01/09	---	---	---	150	1,550	2,000	<1.00	<1.00	<1.00	<3.00	<0.140	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
SB-2	06/13/13	---	---	---	<100	<93.5 / 291	<93.5 / 274	<1.00	<1.00	<1.00	<3.00	<0.140	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
SB-3	06/13/13	---	---	---	<100	<93.5 / 132	<93.5 / 192	<1.00	<1.00	<1.00	<3.00	<0.140	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
SB-4	06/13/13	---	---	---	<100	115/180	<93.5/154	<1.00	<1.00	<1.00	<3.00	<0.140	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
SB-5	06/13/13	---	---	---	<100	437 / 752	<93.5 / 239	<1.00	<1.00	<1.00	<3.00	<0.140	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
SB-6	06/13/13	---	---	---	<100	17,900 / 6,300	23,600 / 15,200	2.19	1.60	<1.00	10.7	<0.140	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
SB-7	06/13/13	---	---	---	5,500	10,500 / 12,700	323 / 556	<1.00	<1.00	<1.00	<3.00	<0.140	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
SB-8	06/13/13	---	---	---	<100	464 / 866	181 / 473	<1.00	<1.00	<1.00	<3.00	<0.140	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00
SB-9	06/13/13	---	---	---	<100	619 / 734	352 / 525	<1.00	<1.00	<1.00	<3.00	<0.140	<1.00	<1.00	11.6	<2.00	<1.00	<1.00
SB-10	06/13/13	---	---	---	<100	466 / 700	148 / 311	<1.00	<1.00	<1.00	<3.00	<0.140	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00

Notes:

DTW = Depth to Water in feet
 GWE = Groundwater Elevation in feet relative to mean sea level
 TOC = Top of Casing in feet relative to mean sea level
 All results in micrograms per liter (µg/L) unless otherwise indicated
 TPHg = Total petroleum hydrocarbons as gasoline analyzed by NWTPH-Gx unless otherwise noted.
 TPHd = Total petroleum hydrocarbons as diesel, analyzed by NWTPH-Dx unless otherwise noted
 TPHo = Total petroleum hydrocarbons as oil, analyzed by NWTPH-Dx unless otherwise noted
 BTEX = Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B unless otherwise noted.
 EDB = 1,2-Dibromoethane analyzed by EPA Method 8011
 EDC = 1,2-Dichloroethane analyzed by EPA Method 8260B
 MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B
 TBA = Tertiary-butanol analyzed by EPA Method 8260B
 DIPE = Di-isopropyl ether analyzed by EPA Method 8260B
 ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B
 TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B
 Total Lead analyzed by EPA Method 6010
 VOCs = Volatile organic compounds analyzed by EPA Method 8260B
 HVOC = Halogenated volatile organic compounds analyzed by EPA Method 8260B
 PAHs = Polycyclic aromatic hydrocarbons analyzed by EPA Method 8270C-SIM
 PCBs = Polychlorinated biphenyls analyzed by EPA Method 8082.
 <x = Not detected at laboratory reporting limit x
 --- = Not analyzed
 Concentrations in bold type indicate the analyte was detected above MTCA Method A cleanup levels
 * Indicates that the groundwater sample was analyzed for VOCs. No VOCs were detected above the laboratory reporting limits.
 ** Indicates that the groundwater sample was analyzed for HVOCs. HVOCs were detected above the laboratory reporting limits.
 Isopropylbenzene 47 µg/L, n-propylbenzene 58 µg/L, 1,3,5 trimethylbenzene 66 µg/L, 1,2,4 trimethylbenzene 160 µg/L, sec-butylbenzene 8.8 µg/L, and n-butylbenzene 9.7 µg/L.

TABLE 2

SUMMARY OF GROUNDWATER MONITORING DATA
 FORMER SHELL-BRANDED SERVICE STATION
 200 RAILROAD AVENUE
 ELLENSBURG, WASHINGTON

Sample ID	Date	TOC	DTW	GWE	HYDROCARBONS			VOCs					OXYGENATES				
					TPHg 800/1000	TPHd 500	TPHo 500	B 5	T 1000	E 700	X 1000	EDB 0.01	EDC 5	MTBE 20	TBA N/A	DIPE N/A	ETBE N/A

***Indicates that the groundwater sample was analyzed for VOCs. VOCs were detected above the laboratory reporting limits. Refer to corresponding laboratory report.

a = The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

J = Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

* indicates the soil samples were additionally analyzed for HVOCs; no HVOCs were detected above the laboratory reporting limits

** indicates the soil samples were additionally analyzed for HVOCs, PCBs, and PAHs; no PCBs, cPAHs, or HVOCs were detected above the laboratory reporting limits

*** indicates the soil samples were additionally analyzed for HVOCs; chloroform was detected at 2.15 µg/L all other analytes were not detected above the laboratory reporting limits

a = Hydrocarbon pattern most closely resembles transformer oil

b = Results in the diesel organics range are primarily due to overlap from a heavy oil range product.

Appendix A

Summary of Previous Investigations and Remedial Activities

SUMMARY OF PREVIOUS SITE ACTIVITIES AND CORRESPONDENCE

2007 Limited Site Characterization: In July 2007, Sage Earth Sciences, Inc. (Sage) sampled soil and collected grab groundwater samples from 14 test pits (TP-1 through TP-14) in the vicinity of the former Shell bulk oil facility aboveground storage tanks (ASTs), oil pumps, and former storage and platform areas. Test pits were advanced using a backhoe. Concentrations of total petroleum hydrocarbons (TPH) as diesel (TPHd) were greater than the Washington State Department of Ecology's (Ecology) Model Toxics Control Act (MTCA) Method A cleanup levels in soil at 5 feet below ground surface (bgs) in TP-1, and in groundwater at TP-1, TP-2, TP-10, and TP-11. However, the groundwater TPHd concentrations reported were the sum total of TPHd and TPH as heavy oil (TPHo) concentrations, and may be double counting values. Sage observed separate phase hydrocarbons (SPH) at a thickness of 1/8 inch at 7 feet bgs in TP-12. More information is available in *Sage's Limited Site Characterization at the Smith-Kem, Inc. Facility, Ellensburg, WA*, report, dated July 26, 2007.

September 2009 Sampling Map & Sampling Log: Sage advanced two additional test pits, TP-15 and TP-16, to a maximum depth of 5.25 feet bgs. Both locations were sampled for soil in the vicinity of historical sampling locations TP-1 and TP-2. No soil data was available for CRA to review, and soil samples collected were not likely submitted for analysis. No groundwater samples were collected. Additional information is available in *Sage's Sampling Map & Sampling Log for the Smith-Kem Inc. Facility, Ellensburg, WA*, dated June 19, 2012.

July 2012 Soil Sampling: In July 2012, Sage sampled in the vicinity of the former oil products storage, platform, and piping areas. Historical aboveground piping may have historically extended from the rail spur to the building. Virgin petroleum products were believed to have been transferred and stored in the main Site building. Soil sample results detected TPHd in shallow surface soils (up to 1 foot bgs) at one soil sample location (S5) and TPHo in shallow surface soils (up to 1 feet bgs) at soil sample locations S1, S2, and S4. More information is available in *Sage's Soil Sampling for the Smith-Kem Inc. Facility, Ellensburg, WA*, report, dated July 31, 2012.

Various Correspondence and Documents: Various correspondence available to CRA, including an EDR database search, identified that a former Shell bulk oil facility operated at the Site between approximately 1928 and 1973. Shell sold the Property on November 30, 1973. According to Property owner discussions, at least for a portion of the time that Shell owned the Property, Smith-Kem operated a fertilizer plant as well. Historical documentation also indicates that the Property was entered into Ecology's

Voluntary Cleanup Program (VCP) on June 20, 2012, and exited the VCP on October 24, 2012.

Response to Determination of Potential Liability: In a letter to Ecology dated November 15, 2012, Shell accepted responsibility as a potentially liable party (PLP) related to the historical storage and distribution of bulk oil products at the Property. The historical petroleum hydrocarbon release to soil and groundwater would be addressed by Shell. However, Shell refused to be named a PLP related to any potential historical releases of metals and pesticides or other fertilizer byproducts which may be encountered in soil and groundwater. The fertilizer operations at the Property are believed to have been present since at least the late 1940s.

Appendix B

Boring Logs



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: SB-1
 DATE COMPLETED: June 12, 2013
 DRILLING METHOD: AIRKNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	TEMP MONITORING WELL	SAMPLE					
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)	
2	FILL, gravel, rounded cobble, sand - no odor from 0.5 to 5.0ft BGS		<p style="font-size: small;"> WELL DETAILS Screened interval: 3.00 to 13.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 0.50 to 2.00ft BGS Material: BENTONITE CHIPS Sand Pack: 2.00 to 15.00ft BGS Material: SAND </p>						
4	GP-SANDY GRAVEL, with cobble	3.00							
6	GP-SANDY GRAVEL, cobble, well sorted, brown, saturated, no hydrocarbon odor	6.00		▽	SB-1-7	X	75	22 50/ 6"	3.0
8									
10	GP-SANDY GRAVEL, coarse grained sand, well sorted, brown, saturated, no hydrocarbon odor	10.00			SB-1-11	X	70	50/ 6"	1.0
12	- cobble from 12.0 to 14.0ft BGS								
14	NO RECOVERY, slough	14.00			X	25	50/ 6"		
16	END OF BOREHOLE @ 15.0ft BGS	15.00							
18									
20									
22									
24									
26									
28									
30									
32									
34									

OVERBURDEN LOG_062027WIN.GPJ_CRA_CORP.GDT_7/4/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▽ STATIC WATER LEVEL ▼
 CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: SB-10
 DATE COMPLETED: June 13, 2013
 DRILLING METHOD: AIRKNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	TEMP MONITORING WELL	SAMPLE					
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)	
2	CONCRETE	0.58	<p style="font-size: small;"> CONCRETE BENTONITE CHIPS 2" PVC WELL CASING 8" BOREHOLE 2" PVC WELL SCREEN SAND PACK </p> <p style="font-size: x-small;"> WELL DETAILS Screened interval: 3.00 to 13.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 0.50 to 2.00ft BGS Material: BENTONITE CHIPS Sand Pack: 2.00 to 15.00ft BGS Material: SAND </p>	SB-10-3	X			1.3	
4	ML-SANDY SILT, trace gravel, fine grained sand, medium plasticity, brown, damp, no hydrocarbon odor				SB-10-7	X	75	30 20 24	1.5
6	- gravel and cobble at 4.5ft BGS - water at 4.8ft BGS - gray to brown from 6.0 to 6.5ft BGS	6.50			SB-10-11	X		32 50/ 6"	0.8
8	SP-GRAVELLY SAND, cobble, well sorted, brown, saturated, no hydrocarbon odor				SB-10-15	X		50/ 6"	1.0
10	GP-SANDY GRAVEL, cobble, well sorted, brown to dark gray, saturated, no hydrocarbon odor	10.00							
14	GP-SANDY GRAVEL, cobble, well sorted, olive green, saturated, no hydrocarbon odor	14.00							
16	END OF BOREHOLE @ 15.0ft BGS	15.00							
18									
20									
22									
24									
26									
28									
30									
32									
34									

OVERBURDEN LOG_062027WIN.GPJ_CRA_CORP.GDT_7/4/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼ STATIC WATER LEVEL ▼
 CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: SB-11
 DATE COMPLETED: June 11, 2013
 DRILLING METHOD: HAND AUGER
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
	GP-GRAVEL	0.50	← 3" BOREHOLE					
2	SP-GRAVELLY SAND, coarse to medium coarse grained, dark gray, dry, no hydrocarbon odor	1.50		SB-11-0.5 SB-11-1				1.6 1.4
	END OF BOREHOLE @ 1.5ft BGS							
4								
6								
8								
10								
12								
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

OVERBURDEN LOG_062027WIN.GPJ_CRA_CORP.GDT_7/4/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: SB-2
 DATE COMPLETED: June 12, 2013
 DRILLING METHOD: AIRKNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	TEMP MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
2	GP-GRAVEL FILL, rounded cobble, gravel, sand	0.50	<p style="font-size: small;"> WELL DETAILS Screened interval: 3.00 to 13.50ft BGS Length: 10.5ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 0.50 to 2.00ft BGS Material: BENTONITE CHIPS Sand Pack: 2.00 to 15.00ft BGS Material: SAND </p>					
4	NO RECOVERY, gravel, cobble, trace sand, no hydrocarbon odor - wet at 4.5ft BGS	3.00						
6	GP-SANDY GRAVEL, with cobble, well sorted, brown, saturated, no hydrocarbon odor - coarse sand, very dense/compact at 7.5ft BGS	6.00		SB-2-7	X	75	29 50/ 6"	0.5
8								
10	GP-SANDY GRAVEL, with cobble, coarse grained sand, well sorted, dark brown, saturated, no hydrocarbon odor	10.00		SB-2-11	X	100	21/ 6" 50/ 6"	0.3
14	- REFUSAL at 13.5ft BGS END OF BOREHOLE @ 13.5ft BGS	13.50						

OVERBURDEN LOG_062027WIN.GPJ_CRA_CORP.GDT_7/4/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼ STATIC WATER LEVEL ▼



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: SB-3
 DATE COMPLETED: June 12, 2013
 DRILLING METHOD: AIRKNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	TEMP MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
2	GP-GRAVEL FILL, medium to coarse grained sand, gravel and cobble	0.50	<p style="font-size: small;">CONCRETE BENTONITE CHIPS 2" PVC WELL CASING 8" BOREHOLE 2" PVC WELL SCREEN SAND PACK</p> <p>WELL DETAILS Screened interval: 3.00 to 13.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 0.50 to 2.00ft BGS Material: BENTONITE CHIPS Sand Pack: 2.00 to 15.50ft BGS Material: SAND</p>					
4	SP-SAND, with gravel, cobble, medium to coarse grained, dark brown, damp, no hydrocarbon odor - cobble/gravel at 4.0ft BGS - wet at 4.5ft BGS	3.00		SB-3-3	X	0		0.2
6	GP-SANDY GRAVEL, with cobble, coarse grained sand, well sorted, dark brown, saturated, ny hydrocarbon odor	6.00		SB-3-7	X		50/ 6"	0.7
10	SP-GRAVELLY SAND, coarse grained sand, well sorted, olive gray, saturated, no hydrocarbon odor	10.00		SB-3-11	X	75	14 15 14	0.0
14	SP-GRAVELLY SAND, coarse to fine grained sand, olive gray, saturated, no hydrocarbon odor	14.00		SB-3-15	X	70	26 50	0.4
16	- sandy, gravel/cobble at 15.0ft BGS END OF BOREHOLE @ 15.5ft BGS	15.50						
18								
20								
22								
24								
26								
28								
30								
32								
34								

OVERBURDEN LOG_062027WIN.GPJ_CRA_CORP.GDT_7/4/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼ STATIC WATER LEVEL ▼
 CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: SB-4
 DATE COMPLETED: June 12, 2013
 DRILLING METHOD: AIRKNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	TEMP MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
2	GP-GRAVEL		<p style="font-size: small;"> CONCRETE BENTONITE CHIPS 2" PVC WELL CASING 8" BOREHOLE 2" PVC WELL SCREEN SAND PACK </p> <p style="font-size: x-small;"> WELL DETAILS Screened interval: 3.00 to 13.50ft BGS Length: 10.5ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 0.50 to 2.00ft BGS Material: BENTONITE CHIPS Sand Pack: 2.00 to 15.00ft BGS Material: SAND </p>					
4	GP-GRAVEL, cobble, sand, medium coarse grained, dark brown, dry, no hydrocarbon odor - cobble/gravel, wet at 4.5ft BGS	3.00		SB-4-3	X			1.3
6	GP-SANDY GRAVEL, cobble, coarse grained sand, well sorted, olive gray, saturated, no hydrocarbon odor	6.00		SB-4-7	X	90	27 15 20	0.3
10	GP-SANDY GRAVEL, cobble, coarse grained sand, poorly sorted, olive gray, saturated, no hydrocarbon odor - fine to medium coarse grained sand from 10.0 to 10.25ft BGS	10.00		SB-4-11	X	100	29 50/ 6"	1.4
14	GP-SANDY GRAVEL, coarse grained sand, poorly sorted, olive gray, saturated, no hydrocarbon odor	14.00		SB-14-15	X		50/ 6"	0.0
16	END OF BOREHOLE @ 15.0ft BGS	15.00						
18								
20								
22								
24								
26								
28								
30								
32								
34								

OVERBURDEN LOG_062027WIN.GPJ_CRA_CORP.GDT_7/4/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼ STATIC WATER LEVEL ▼
 CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: SB-5
 DATE COMPLETED: June 12, 2013
 DRILLING METHOD: AIRKNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	TEMP MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
2	GP-GRAVEL		<p style="font-size: small;"> CONCRETE BENTONITE CHIPS 2" PVC WELL CASING 8" BOREHOLE 2" PVC WELL SCREEN SAND PACK </p> <p style="font-size: x-small;"> WELL DETAILS Screened interval: 3.00 to 13.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 0.50 to 2.00ft BGS Material: BENTONITE CHIPS Sand Pack: 2.00 to 15.00ft BGS Material: SAND </p>					
4	GP-GRAVEL, cobble, coarse grained sand, dark gray, damp, no hydrocarbon odor - wet at 4.5ft BGS	3.00		SB-5-3	X			0.4
6	NO RECOVERY	5.00						
8	GP-SANDY GRAVEL, coarse grained sand, well sorted, olive gray, saturated, no hydrocarbon odor	6.00		SB-5-7	X	70	50/6"	1.5
10	GP-SANDY GRAVEL, coarse grained sand, well sorted, olive gray, saturated, no hydrocarbon odor	10.00		SB-5-11	X	75	50/6"	1.4
14	GP-SANDY GRAVEL, coarse grained sand, cobble, well sorted, olive gray, saturated, no hydrocarbon odor	14.00			X		5-/6"	0.5
16	END OF BOREHOLE @ 15.0ft BGS	15.00						
18								
20								
22								
24								
26								
28								
30								
32								
34								

OVERBURDEN LOG_062027WIN.GPJ_CRA_CORP.GDT_7/4/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼ STATIC WATER LEVEL ▼
 CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: SB-6
 DATE COMPLETED: June 13, 2013
 DRILLING METHOD: AIRKNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	TEMP MONITORING WELL	SAMPLE					
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)	
2	GP-GRAVEL		<p style="font-size: small;"> WELL DETAILS Screened interval: 3.00 to 13.50ft BGS Length: 10.5ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 0.50 to 2.00ft BGS Material: BENTONITE CHIPS Sand Pack: 2.00 to 15.00ft BGS Material: SAND </p>						
4	ML-SILT, fine grained sand, high plasticity, dark brown, wet, no hydrocarbon odor	3.00		SB-6-3	X				0.0
5	NO RECOVERY, gravel and cobble	5.00							
6	GP-SANDY GRAVEL, well sorted, olive gray, saturated, slight hydrocarbon odor, oily residue	6.00		SB-6-7	X	70	50/ 6"		100
10	GP-SANDY GRAVEL, cobble, well sorted, olive gray, saturated, slight hydrocarbon odor	10.00		SB-6-11	X	75	13 16 20		10.0
14	SP-GRAVELLY SAND, coarse grained sand, well sorted, olive gray, saturated, no hydrocarbon odor	14.00		SB-6-15	X	65	50/ 6"		2.0
15	END OF BOREHOLE @ 15.0ft BGS	15.00							
16									
18									
20									
22									
24									
26									
28									
30									
32									
34									

OVERBURDEN LOG_062027WIN.GPJ_CRA_CORP.GDT_7/4/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼ STATIC WATER LEVEL ▼
 CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: SB-7
 DATE COMPLETED: June 13, 2013
 DRILLING METHOD: AIRKNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	TEMP MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
2	GP-GRAVEL		<p style="font-size: small; margin-top: 10px;">WELL DETAILS Screened interval: 3.00 to 13.50ft BGS Length: 10.5ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 0.50 to 2.00ft BGS Material: BENTONITE CHIPS Sand Pack: 2.00 to 15.00ft BGS Material: SAND</p>					
4	GP-GRAVEL, cobble, coarse grained sand, dark brown, wet to damp, no hydrocarbon odor - wet at 3.5ft BGS - saturated at 5.0ft BGS	3.00		SB-7-3	X			0.2
6	GP-SANDY GRAVEL, cobble, coarse grained sand, well sorted, dark brown, saturated, no hydrocarbon odor	6.00		SB-7-7	X		50/ 6"	1.0
10	GP-SANDY GRAVEL, cobble, well sorted, olive gray, saturated, no hydrocarbon odor	10.00			X		14 24 32	1.0
14	GP-SANDY GRAVEL, cobble, well sorted, light brown, very saturated, no hydrocarbon odor	14.00			X		50/ 6"	0.5
16	END OF BOREHOLE @ 15.0ft BGS	15.00						
18								
20								
22								
24								
26								
28								
30								
32								
34								

OVERBURDEN LOG_062027WIN.GPJ_CRA_CORP.GDT_7/4/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼ STATIC WATER LEVEL ▼
 CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: SB-8
 DATE COMPLETED: June 13, 2013
 DRILLING METHOD: AIRKNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	TEMP MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
2	GP-GRAVEL FILL, gravel, cobble, coarse grained sand	1.00	<p>CONCRETE BENTONITE CHIPS 2" PVC WELL CASING 8" BOREHOLE 2" PVC WELL SCREEN SAND PACK</p> <p>▼ ▼</p>	SB-8-3.5 SB-8-7	X X X X X	70 70 65	8 8 7 8 10 12 17 50/ 6"	1.0 1.2 1.1 0.7
4	GP-GRAVEL, cobble, coarse grained sand, light brown, wet, no hydrocarbon odor - saturated at 5.0ft BGS	3.00						
6	GP-SANDY GRAVEL, cobble, trace silt, fine grained sand, well sorted, orange brown, saturated, no hydrocarbon odor	6.00						
10	SP-GRAVELLY SAND, cobble, medium to coarse grained sand, well sorted, olive gray, saturated, no hydrocarbon odor	10.00						
14	GP-SANDY GRAVEL, coarse grained sand, well sorted, olive gray, saturated, no hydrocarbon odor	14.00						
16	END OF BOREHOLE @ 15.0ft BGS	15.00						
18			<p>WELL DETAILS Screened interval: 3.00 to 12.50ft BGS Length: 9.5ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 0.50 to 2.00ft BGS Material: BENTONITE CHIPS Sand Pack: 2.00 to 15.00ft BGS Material: SAND</p>					

OVERBURDEN LOG_062027WIN.GPJ_CRA_CORP.GDT_7/4/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼ STATIC WATER LEVEL ▼
 CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: SB-9
 DATE COMPLETED: June 13, 2013
 DRILLING METHOD: AIRKNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	TEMP MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
2	GP-GRAVEL FILL, gravel, cobble, coarse grained sand	1.00	<p style="font-size: small;">CONCRETE BENTONITE CHIPS 2" PVC WELL CASING 8" BOREHOLE 2" PVC WELL SCREEN SAND PACK</p>					
4	GP-GRAVEL, cobble, trace silt, trace fine grained sand, coarse grained sand, dark gray, wet, no hydrocarbon odor - cobble, dark oily staining, saturated at 5.0ft BGS	3.00						
6	GP-SANDY GRAVEL, cobble, well sorted, dark brown gray, saturated, no hydrocarbon odor	6.00		SB-9-7	X	50	26 50/ 6"	1.0
10	GP-SANDY GRAVEL, cobble, well sorted, olive gray, saturated, no hydrocarbon odor	10.00		SB-9-11	X	70	25 25 21	0.8
14	GP-SANDY GRAVEL, cobble, well sorted, olive gray, saturated, no hydrocarbon odor	14.00			X	80	50/ 6"	0.6
16	END OF BOREHOLE @ 15.0ft BGS	15.00						
18			<p><u>WELL DETAILS</u> Screened interval: 3.00 to 13.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 0.50 to 2.00ft BGS Material: BENTONITE CHIPS Sand Pack: 2.00 to 15.00ft BGS Material: SAND</p>					
20								
22								
24								
26								
28								
30								
32								
34								

OVERBURDEN LOG_062027WIN.GPJ_CRA_CORP.GDT_7/4/13

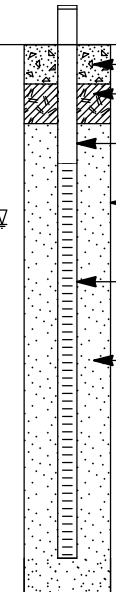
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼ STATIC WATER LEVEL ▼
 CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: MW-1
 DATE COMPLETED: October 4, 2013
 DRILLING METHOD: AIR KNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
2	CONCRETE GP-SILTY SANDY GRAVEL, cobble, dense, dark gray, dry, no hydrocarbon odor	0.42	 <p style="font-size: small;"> WELL DETAILS Screened interval: 3.00 to 13.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 1.00 to 2.00ft BGS Material: BENTONITE CHIPS Sand Pack: 2.00 to 14.00ft BGS Material: SAND </p>	MW-1-2	X	100	-	20
6	SP/GP-SILTY SAND AND GRAVEL, cobble, slightly dense, olive gray, saturated, ny hydrocarbon odor	5.00		MW-1-5	X	100	100/ 6"	0.0
10	NO RECOVERY, all slough material, gravel and sand, saturated	10.00		MW-1-10	X	-	100/ 6"	-
14	- REFUSAL at 14.0ft BGS END OF BOREHOLE @ 14.0ft BGS	14.00						

OVERBURDEN LOG_062027-W1.GPJ_CRA_CORP.GDT_10/11/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼
 CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: MW-2
 DATE COMPLETED: September 30, 2013
 DRILLING METHOD: AIR KNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
2	GP-GRAVEL SURFACE FILL, cobble, gravel, coarse grained sand	0.50	<p style="font-size: small;"> CONCRETE BENTONITE CHIPS 2" PVC WELL CASING 8" BOREHOLE 2" PVC WELL SCREEN SAND PACK </p>					
6	GP-SANDY GRAVEL/COBBLE, trace silt, dense, coarse grained sand, poorly sorted, olive gray, wet, no hydrocarbon odor	5.00		MW-2-5	X	33	31 50/ 4"	22
8	- cobble/gravel, very hard drilling at 8.0ft BGS							
10	- cobble/gravel at 10.0ft BGS							
13.5	- slough only at 13.0ft BGS END OF BOREHOLE @ 13.5ft BGS	13.50		MW-2-13	X		50/ 6"	

WELL DETAILS
 Screened interval:
 3.00 to 13.00ft BGS
 Length: 10ft
 Diameter: 2in
 Slot Size: 0.010
 Material: PVC
 Seal:
 1.50 to 2.00ft BGS
 Material: BENTONITE CHIPS
 Sand Pack:
 2.00 to 13.00ft BGS
 Material: SAND

OVERBURDEN LOG_062027-MW.GPJ_CRA_CORP.GDT_10/11/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ∇



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: MW-3
 DATE COMPLETED: October 2, 2013
 DRILLING METHOD: AIR KNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
2	GP-GRAVEL SURFACE FILL, cobble, gravel, coarse grained sand	0.50	<p style="font-size: small;">WELL DETAILS Screened interval: 3.00 to 13.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 2.00 to 2.50ft BGS Material: BENTONITE CHIPS Sand Pack: 2.50 to 13.00ft BGS Material: SAND</p>					
6	GP-SANDY GRAVEL/COBBLE, trace silt, dense, poorly sorted, olive gray, damp, no hydrocarbon odor	5.00		MW-3-5	X	100	8 10 50/ 6"	2.0
10	- grading to gravel at 10.3ft BGS SP-SAND, trace silt, dense, well sorted, olive gray, saturated, no hydrocarbon odor	10.00						
12	- grading back to sand at 10.8ft BGS - very hard drilling at 11.0ft BGS	13.00	MW-3-10	X	33	9 29 40	9.0	
14	END OF BOREHOLE @ 13.0ft BGS							

OVERBURDEN LOG_062027-WI.GPJ_CRA_CORP.GDT_10/11/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: MW-4
 DATE COMPLETED: October 2, 2013
 DRILLING METHOD: AIR KNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
2	GP-GRAVEL SURFACE FILL, gravel, cobble, coarse grained sand	0.50	<p style="font-size: small;"> WELL DETAILS Screened interval: 3.00 to 13.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 2.00 to 2.50ft BGS Material: BENTONITE CHIPS Sand Pack: 2.50 to 13.00ft BGS Material: SAND </p>					
4	- wet at 4.0ft BGS							
6	GP-SANDY GRAVEL, trace silt, cobble, dense, wet, no hydrocarbon odor, slough, very hard drilling	5.00		MW-4-5	X	100	50/ 6"	2.0
10	SP-GRAVELLY SAND, cobble, medium coarse to coarse grained, well sorted, olive gray, saturated, no hydrocarbon odor - very hard drilling, cobble at 12.0ft BGS	10.00		MW-4-10	X	100	20 50/ 6"	
13.00	END OF BOREHOLE @ 13.0ft BGS	13.00						

OVERBURDEN LOG_062027-WI.GPJ_CRA_CORP.GDT_10/11/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼ STATIC WATER LEVEL ▼



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: MW-5
 DATE COMPLETED: September 30, 2013
 DRILLING METHOD: AIR KNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
2	GP-GRAVEL SURFACE SM-SANDY SILT, dense, medium plasticity, dark gray, dry, no hydrocarbon odor	0.50	<p style="font-size: small;"> <u>WELL DETAILS</u> Screened interval: 3.00 to 13.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 1.00 to 2.00ft BGS Material: BENTONITE CHIPS Sand Pack: 2.00 to 13.00ft BGS Material: SAND </p>	MW-5-2	X	100	-	1.0
4	- gravel/silty sand, few/trace cobble at 3.5ft BGS	5.00		MW-5-5	X	100	50/ 6"	300
6	SP-GRAVELLY SAND, cobble, dense, poorly sorted, olive gray, saturated, oily sheen, hydrocarbon odor	10.00		MW-5-10	X	100	30/ 6"	5.0
10	GP-SANDY GRAVEL/COBBLE, dense, poorly sorted, olive gray, saturated, no hydrocarbon odor	13.00		END OF BOREHOLE @ 13.0ft BGS				
12								
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

OVERBURDEN LOG_062027-WI.GPJ_CRA_CORP.GDT_10/11/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼ STATIC WATER LEVEL ▼
 CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: MW-6
 DATE COMPLETED: October 3, 2013
 DRILLING METHOD: AIR KNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITORING WELL	SAMPLE			
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS
2	CONCRETE FILL, rounded subangular gravel/cobble, coarse grained sand	0.58	<p style="font-size: small;"> WELL DETAILS Screened interval: 3.00 to 13.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 2.00 to 2.50ft BGS Material: BENTONITE CHIPS Sand Pack: 2.50 to 13.00ft BGS Material: SAND </p>				
6	SP-GRAVELLY SAND, cobble, dense, poorly sorted, olive gray brown, saturated, no hydrocarbon odor	5.00		MW-6-5	X		
10	GP-SANDY GRAVEL, cobble, dense, well sorted, olive green, saturated, no hydrocarbon odor	10.00		MW-6-10	X		
13	END OF BOREHOLE @ 13.0ft BGS	13.00					

OVERBURDEN LOG_062027-WI.GPJ_CRA_CORP.GDT_10/11/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ∇



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: MW-7
 DATE COMPLETED: October 3, 2013
 DRILLING METHOD: AIR KNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
2	GP-GRAVEL SURFACE SP-GRAVELLY SAND/SILT, cobble, dense, dark gray, damp, no hydrocarbon odor, low recovery due to cobble	0.50	<p style="font-size: small;"> WELL DETAILS Screened interval: 3.00 to 13.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 2.00 to 2.50ft BGS Material: BENTONITE CHIPS Sand Pack: 2.50 to 13.00ft BGS Material: SAND </p>	MW-7-2	X	100	-	2.7
4	- wet at 4.5ft BGS	5.00		MW-7-5	X	100	20/ 6"/ 50/ 6"	0.7
6	GP-SANDY GRAVEL, cobble, dense, coarse grained sand, poorly sorted, olive gray, saturated, no hydrocarbon odor	10.00		MW-7-10	X	100	50/ 6"	1.2
10	GP-SAND GRAVEL/COBBLE, dense, coarse grained sand, poorly sorted, olive gray, saturated, no hydrocarbon odor	13.00						
14	END OF BOREHOLE @ 13.0ft BGS							

OVERBURDEN LOG_062027-WI.GPJ_CRA_CORP.GDT_10/11/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼ STATIC WATER LEVEL ▼
 CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: MW-8
 DATE COMPLETED: October 3, 2013
 DRILLING METHOD: AIR KNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITORING WELL	SAMPLE					
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)	
0.50	GP-GRAVEL SURFACE								
2	SP-SILTY SAND, gravel, dense, fine grained sand, fine gravel, dark gray brown, dry, no hydrocarbon odor	5.00		MW-8-2		100	--	45	
6	GP-SANDY GRAVEL, with silt, cobble, dense, dark gray, saturated, no hydrocarbon odor, oily residue	10.00		MW-8-5		100	50/ 6"	1.0	
10	SP-GRAVELLY SAND, dense, coarse grained sand, well sorted, olive gray, saturated, no hydrocarbon odor - coarse grained clear sand at 11.0ft BGS	13.00		MW-8-10		100	25 50/ 6"	0.4	
13.00	END OF BOREHOLE @ 13.0ft BGS		<p><u>WELL DETAILS</u> Screened interval: 3.00 to 13.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 2.00 to 2.50ft BGS Material: BENTONITE CHIPS Sand Pack: 2.50 to 13.00ft BGS Material: SAND</p>						

OVERBURDEN LOG_062027-WI.GPJ_CRA_CORP.GDT_10/11/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
 WATER FOUND ▼ STATIC WATER LEVEL ▼
 CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: SB-12
 DATE COMPLETED: October 3, 2013
 DRILLING METHOD: AIR KNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
	GP-GRAVEL SURFACE FILL, cobble, gravel	0.50	 3" BOREHOLE					
2	NO RECOVERY, gravel, cobble	2.00		SB-12-3	X	100	-	
4								
6	GP-SANDY GRAVEL/COBBLE, dense, coarse grained sand, poorly sorted, olive gray, saturated, no hydrocarbon odor	5.00		SB-12-6	X	33	15 29 34	0.5
10	GP-SANDY GRAVEL/COBBLE, dense, coarse grained sand, poorly sorted, olive gray, saturated, no hydrocarbon odor	10.00		SB-12-10	X	33	41 50/ 6"	4.8
12	END OF BOREHOLE @ 10.0ft BGS	13.00						
14								
16								
18								
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28								
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32								
34								

OVERBURDEN LOG_062027-WI.GPJ_CRA_CORP.GDT_10/11/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 200 ELLE
 PROJECT NUMBER: 062027
 CLIENT: SHELL OIL PRODUCTS US
 LOCATION: 200 RAILROAD AVE S, ELLENSBURG, WA

HOLE DESIGNATION: SB-13
 DATE COMPLETED: October 3, 2013
 DRILLING METHOD: AIR KNIFE/ HSA
 FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
	GP-GRAVEL SURFACE	0.50						
2	SP-SILTY SAND, dense, fine grained sand, fine gravel/cobble, dark gray brown, damp, no hydrocarbon odor			SB-13-2	X	100	-	25
4								
6	GP-SANDY GRAVEL, dense, coarse grained sand, poorly sorted, olive gray, saturated, no hydrocarbon odor	5.00		SB-13-5	X	33	20 21 50/ 6"	0.4
8								
10	SP-GRAVELLY SAND, dense, medium coarse grained sand, poorly sorted, olive gray, saturated, no hydrocarbon odor	10.00		SB-13-10	X	33	41 50/ 6"	1.0
12								
14	END OF BOREHOLE @ 13.0ft BGS	13.00						
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

OVERBURDEN LOG_062027-WI.GPJ_CRA_CORP.GDT_10/11/13

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
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 CHEMICAL ANALYSIS ○

Appendix C

Soil Laboratory Analytical Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-37096-1
Client Project/Site: 200 Railroad Ave S, Ellensburg WA

For:
Conestoga-Rovers & Associates, Inc.
20818 44th Ave W
Suite 190
Lynnwood, Washington 98036

Attn: Brian Peters



Authorized for release by:
10/18/2013 12:18:00 PM

Ryan Fitzwater, Senior Project Manager
(615)726-0177
ryan.fitzwater@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-37096-1	SO-062027-100313-MW-7-5	Solid	10/03/13 08:50	10/05/13 08:15
490-37096-2	SO-062027-100313-MW-7-10	Solid	10/03/13 09:00	10/05/13 08:15
490-37096-3	SO-062027-100313-SB-12-5	Solid	10/03/13 10:20	10/05/13 08:15
490-37096-4	SO-062027-100313-SB-12-10	Solid	10/03/13 10:30	10/05/13 08:15
490-37096-5	SO-062027-100313-SB-13-5	Solid	10/03/13 11:00	10/05/13 08:15
490-37096-6	SO-062027-100313-SB-13-10	Solid	10/03/13 11:10	10/05/13 08:15
490-37096-7	SO-062027-100313-MW-8-5	Solid	10/03/13 11:55	10/05/13 08:15
490-37096-8	SO-062027-100313-MW-8-10	Solid	10/03/13 12:05	10/05/13 08:15



Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Job ID: 490-37096-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-37096-1

Comments

No additional comments.

Receipt

The samples were received on 10/5/2013 8:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

GC/MS VOA

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 112381. See LCS/LCSD

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) 8082: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 112601 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

VOA Prep

No analytical or quality issues were noted.

Job ID: 490-37096-2

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-37096-2

Comments

No additional comments.

Receipt

The samples were received on 10/5/2013 8:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

GC/MS VOA

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 112381. See LCS/LCSD

No other analytical or quality issues were noted.

GC/MS Semi VOA

No analytical or quality issues were noted.

GC VOA

No analytical or quality issues were noted.

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Job ID: 490-37096-2 (Continued)

Laboratory: TestAmerica Nashville (Continued)

GC Semi VOA

Method(s) NWTPH-Dx: There was insufficient contamination present for analyte C10-C24 to perform a pattern match for the following sample(s): SO-062027-100313-MW-8-5 (490-37096-7). The following sample(s) contained a hydrocarbon pattern for analyte C24-C40 that most closely resembles a Motor oil product used by the laboratory for quantitative purposes: SO-062027-100313-MW-8-5 (490-37096-7).

Method(s) NWTPH-Dx: The following sample(s) contained a hydrocarbon pattern that most closely resembles a Diesel Fuel #2 and a Motor Oil product used by the laboratory for quantitative purposes: (490-37104-1 DU), SO-062027-093013-MW-5-2 (490-37104-1).

No other analytical or quality issues were noted.

Metals

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) percent recoveries and %RPD for batch 490-114526 were outside control limits. This is attributed to: non-homogeneity of the sample matrix.>>

No other analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

VOA Prep

No analytical or quality issues were noted.



Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits

Metals

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Client Sample ID: SO-062027-100313-MW-7-5

Lab Sample ID: 490-37096-1

Date Collected: 10/03/13 08:50

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 92.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00175		mg/Kg	☼	10/05/13 14:45	10/07/13 14:47	1
Ethylbenzene	ND		0.00175		mg/Kg	☼	10/05/13 14:45	10/07/13 14:47	1
Xylenes, Total	ND		0.00263		mg/Kg	☼	10/05/13 14:45	10/07/13 14:47	1
Toluene	ND		0.00175		mg/Kg	☼	10/05/13 14:45	10/07/13 14:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	10/05/13 14:45	10/07/13 14:47	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 130	10/05/13 14:45	10/07/13 14:47	1
Toluene-d8 (Surr)	113		70 - 130	10/05/13 14:45	10/07/13 14:47	1
Dibromofluoromethane (Surr)	99		70 - 130	10/05/13 14:45	10/07/13 14:47	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		4.36		mg/Kg	☼	10/05/13 14:37	10/12/13 14:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	108		50 - 150	10/05/13 14:37	10/12/13 14:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		4.88		mg/Kg	☼	10/09/13 09:22	10/10/13 00:32	1
C24-C40	ND		4.88		mg/Kg	☼	10/09/13 09:22	10/10/13 00:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	78		50 - 150	10/09/13 09:22	10/10/13 00:32	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92		0.10		%			10/07/13 12:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Client Sample ID: SO-062027-100313-MW-7-10

Lab Sample ID: 490-37096-2

Date Collected: 10/03/13 09:00

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 96.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00122		mg/Kg	☼	10/05/13 14:45	10/07/13 15:17	1
Ethylbenzene	ND		0.00122		mg/Kg	☼	10/05/13 14:45	10/07/13 15:17	1
Xylenes, Total	ND		0.00183		mg/Kg	☼	10/05/13 14:45	10/07/13 15:17	1
Toluene	ND		0.00122		mg/Kg	☼	10/05/13 14:45	10/07/13 15:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	10/05/13 14:45	10/07/13 15:17	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 130	10/05/13 14:45	10/07/13 15:17	1
Toluene-d8 (Surr)	115		70 - 130	10/05/13 14:45	10/07/13 15:17	1
Dibromofluoromethane (Surr)	99		70 - 130	10/05/13 14:45	10/07/13 15:17	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		3.02		mg/Kg	☼	10/05/13 14:37	10/12/13 15:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	108		50 - 150	10/05/13 14:37	10/12/13 15:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		4.81		mg/Kg	☼	10/09/13 09:22	10/10/13 00:48	1
C24-C40	ND		4.81		mg/Kg	☼	10/09/13 09:22	10/10/13 00:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	78		50 - 150	10/09/13 09:22	10/10/13 00:48	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	97		0.10		%			10/07/13 12:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Client Sample ID: SO-062027-100313-SB-12-5

Lab Sample ID: 490-37096-3

Date Collected: 10/03/13 10:20

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 95.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00118		mg/Kg	☼	10/05/13 14:45	10/07/13 15:47	1
Ethylbenzene	ND		0.00118		mg/Kg	☼	10/05/13 14:45	10/07/13 15:47	1
Xylenes, Total	ND		0.00178		mg/Kg	☼	10/05/13 14:45	10/07/13 15:47	1
Toluene	ND		0.00118		mg/Kg	☼	10/05/13 14:45	10/07/13 15:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	10/05/13 14:45	10/07/13 15:47	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 130	10/05/13 14:45	10/07/13 15:47	1
Toluene-d8 (Surr)	120		70 - 130	10/05/13 14:45	10/07/13 15:47	1
Dibromofluoromethane (Surr)	99		70 - 130	10/05/13 14:45	10/07/13 15:47	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	3.66		3.20		mg/Kg	☼	10/05/13 14:37	10/12/13 16:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	99		50 - 150	10/05/13 14:37	10/12/13 16:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		4.95		mg/Kg	☼	10/09/13 09:22	10/10/13 01:03	1
C24-C40	ND		4.95		mg/Kg	☼	10/09/13 09:22	10/10/13 01:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	72		50 - 150	10/09/13 09:22	10/10/13 01:03	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	95		0.10		%			10/07/13 12:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Client Sample ID: SO-062027-100313-SB-12-10

Lab Sample ID: 490-37096-4

Date Collected: 10/03/13 10:30

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 93.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00136		mg/Kg	☼	10/05/13 14:45	10/07/13 16:17	1
Ethylbenzene	ND		0.00136		mg/Kg	☼	10/05/13 14:45	10/07/13 16:17	1
Xylenes, Total	ND		0.00204		mg/Kg	☼	10/05/13 14:45	10/07/13 16:17	1
Toluene	ND		0.00136		mg/Kg	☼	10/05/13 14:45	10/07/13 16:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	10/05/13 14:45	10/07/13 16:17	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 130	10/05/13 14:45	10/07/13 16:17	1
Toluene-d8 (Surr)	118		70 - 130	10/05/13 14:45	10/07/13 16:17	1
Dibromofluoromethane (Surr)	98		70 - 130	10/05/13 14:45	10/07/13 16:17	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	3.58		3.33		mg/Kg	☼	10/05/13 14:37	10/12/13 16:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	106		50 - 150	10/05/13 14:37	10/12/13 16:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		4.98		mg/Kg	☼	10/09/13 09:22	10/10/13 01:18	1
C24-C40	ND		4.98		mg/Kg	☼	10/09/13 09:22	10/10/13 01:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	78		50 - 150	10/09/13 09:22	10/10/13 01:18	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93		0.10		%			10/07/13 12:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Client Sample ID: SO-062027-100313-SB-13-5

Lab Sample ID: 490-37096-5

Date Collected: 10/03/13 11:00

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 93.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00121		mg/Kg	☼	10/05/13 14:45	10/07/13 16:48	1
Ethylbenzene	ND		0.00121		mg/Kg	☼	10/05/13 14:45	10/07/13 16:48	1
Xylenes, Total	ND		0.00182		mg/Kg	☼	10/05/13 14:45	10/07/13 16:48	1
Toluene	ND		0.00121		mg/Kg	☼	10/05/13 14:45	10/07/13 16:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	10/05/13 14:45	10/07/13 16:48	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 130	10/05/13 14:45	10/07/13 16:48	1
Toluene-d8 (Surr)	117		70 - 130	10/05/13 14:45	10/07/13 16:48	1
Dibromofluoromethane (Surr)	99		70 - 130	10/05/13 14:45	10/07/13 16:48	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	10.0		4.98		mg/Kg	☼	10/05/13 14:37	10/12/13 17:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	101		50 - 150	10/05/13 14:37	10/12/13 17:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		4.90		mg/Kg	☼	10/09/13 09:22	10/10/13 01:33	1
C24-C40	ND		4.90		mg/Kg	☼	10/09/13 09:22	10/10/13 01:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	81		50 - 150	10/09/13 09:22	10/10/13 01:33	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	94		0.10		%			10/07/13 12:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Client Sample ID: SO-062027-100313-SB-13-10

Lab Sample ID: 490-37096-6

Date Collected: 10/03/13 11:10

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 90.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00142		mg/Kg	☼	10/05/13 14:45	10/07/13 17:18	1
Ethylbenzene	ND		0.00142		mg/Kg	☼	10/05/13 14:45	10/07/13 17:18	1
Xylenes, Total	ND		0.00212		mg/Kg	☼	10/05/13 14:45	10/07/13 17:18	1
Toluene	ND		0.00142		mg/Kg	☼	10/05/13 14:45	10/07/13 17:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	10/05/13 14:45	10/07/13 17:18	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 130	10/05/13 14:45	10/07/13 17:18	1
Toluene-d8 (Surr)	119		70 - 130	10/05/13 14:45	10/07/13 17:18	1
Dibromofluoromethane (Surr)	98		70 - 130	10/05/13 14:45	10/07/13 17:18	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		3.31		mg/Kg	☼	10/05/13 14:37	10/12/13 18:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	76		50 - 150	10/05/13 14:37	10/12/13 18:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		4.98		mg/Kg	☼	10/09/13 09:22	10/10/13 01:49	1
C24-C40	ND		4.98		mg/Kg	☼	10/09/13 09:22	10/10/13 01:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	62		50 - 150	10/09/13 09:22	10/10/13 01:49	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90		0.10		%			10/07/13 12:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Client Sample ID: SO-062027-100313-MW-8-5

Lab Sample ID: 490-37096-7

Date Collected: 10/03/13 11:55

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 88.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,1,1-Trichloroethane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,1,2,2-Tetrachloroethane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,1,2-Trichloroethane	ND		0.00388		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,1-Dichloroethane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,1-Dichloroethene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,1-Dichloropropene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,2,3-Trichlorobenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,2,3-Trichloropropane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,2,4-Trichlorobenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,2,4-Trimethylbenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,2-Dibromo-3-Chloropropane	ND		0.00388		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,2-Dibromoethane (EDB)	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,2-Dichlorobenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,2-Dichloroethane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,2-Dichloropropane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,3,5-Trimethylbenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,3-Dichlorobenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,3-Dichloropropane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
1,4-Dichlorobenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
2,2-Dichloropropane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
2-Butanone (MEK)	ND		0.0388		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
2-Chlorotoluene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
2-Hexanone	ND		0.0388		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
4-Chlorotoluene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
4-Methyl-2-pentanone (MIBK)	ND		0.0388		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Acetone	ND		0.0388		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Benzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Bromobenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Bromochloromethane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Bromodichloromethane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Bromoform	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Bromomethane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Carbon disulfide	ND		0.00388		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Carbon tetrachloride	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Chlorobenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Chlorodibromomethane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Chloroethane	ND		0.00388		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Chloroform	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Chloromethane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
cis-1,2-Dichloroethene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
cis-1,3-Dichloropropene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Dibromomethane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Dichlorodifluoromethane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Ethylbenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Hexachlorobutadiene	ND		0.00388		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Isopropylbenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Methyl tert-butyl ether	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Methylene Chloride	ND		0.00776		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Client Sample ID: SO-062027-100313-MW-8-5

Lab Sample ID: 490-37096-7

Date Collected: 10/03/13 11:55

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 88.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.00388		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
n-Butylbenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
N-Propylbenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
p-Isopropyltoluene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
sec-Butylbenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Styrene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
tert-Butylbenzene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Tetrachloroethene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Toluene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
trans-1,2-Dichloroethene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
trans-1,3-Dichloropropene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Trichloroethene	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Trichlorofluoromethane	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Vinyl chloride	ND		0.00155		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Xylenes, Total	ND		0.00233		mg/Kg	☼	10/05/13 14:45	10/07/13 17:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 130				10/05/13 14:45	10/07/13 17:48	1
4-Bromofluorobenzene (Surr)	112		70 - 130				10/05/13 14:45	10/07/13 17:48	1
Dibromofluoromethane (Surr)	97		70 - 130				10/05/13 14:45	10/07/13 17:48	1
Toluene-d8 (Surr)	119		70 - 130				10/05/13 14:45	10/07/13 17:48	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Acenaphthylene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Anthracene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Benzo[a]anthracene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Benzo[a]pyrene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Benzo[b]fluoranthene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Benzo[g,h,i]perylene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Benzo[k]fluoranthene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Chrysene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Dibenz(a,h)anthracene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Fluorene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Fluoranthene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Indeno[1,2,3-cd]pyrene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Naphthalene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Phenanthrene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Pyrene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
1-Methylnaphthalene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
2-Methylnaphthalene	ND		0.00373		mg/Kg	☼	10/08/13 07:50	10/08/13 21:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	67		13 - 120				10/08/13 07:50	10/08/13 21:07	1
Nitrobenzene-d5	53		27 - 120				10/08/13 07:50	10/08/13 21:07	1
2-Fluorobiphenyl (Surr)	57		29 - 120				10/08/13 07:50	10/08/13 21:07	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Client Sample ID: SO-062027-100313-MW-8-5

Lab Sample ID: 490-37096-7

Date Collected: 10/03/13 11:55

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 88.1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	10.6		4.39		mg/Kg	☼	10/05/13 14:37	10/12/13 18:35	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>a,a,a-Trifluorotoluene</i>	100		50 - 150				10/05/13 14:37	10/12/13 18:35	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0375		mg/Kg	☼	10/08/13 08:11	10/12/13 11:20	1
PCB-1221	ND		0.0375		mg/Kg	☼	10/08/13 08:11	10/12/13 11:20	1
PCB-1232	ND		0.0375		mg/Kg	☼	10/08/13 08:11	10/12/13 11:20	1
PCB-1242	ND		0.0375		mg/Kg	☼	10/08/13 08:11	10/12/13 11:20	1
PCB-1248	ND		0.0375		mg/Kg	☼	10/08/13 08:11	10/12/13 11:20	1
PCB-1254	ND		0.0375		mg/Kg	☼	10/08/13 08:11	10/12/13 11:20	1
PCB-1260	ND		0.0375		mg/Kg	☼	10/08/13 08:11	10/12/13 11:20	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Tetrachloro-m-xylene</i>	97		19 - 147				10/08/13 08:11	10/12/13 11:20	1
<i>DCB Decachlorobiphenyl (Surr)</i>	78		20 - 150				10/08/13 08:11	10/12/13 11:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	5.81		4.85		mg/Kg	☼	10/09/13 09:22	10/10/13 02:04	1
C24-C40	10.3		4.85		mg/Kg	☼	10/09/13 09:22	10/10/13 02:04	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>o-Terphenyl</i>	81		50 - 150				10/09/13 09:22	10/10/13 02:04	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	32.0		0.557		mg/Kg	☼	10/15/13 13:45	10/15/13 16:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88		0.10		%			10/07/13 12:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Client Sample ID: SO-062027-100313-MW-8-10

Lab Sample ID: 490-37096-8

Date Collected: 10/03/13 12:05

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 94.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00150		mg/Kg	☼	10/05/13 14:45	10/07/13 18:18	1
Ethylbenzene	ND		0.00150		mg/Kg	☼	10/05/13 14:45	10/07/13 18:18	1
Xylenes, Total	ND		0.00225		mg/Kg	☼	10/05/13 14:45	10/07/13 18:18	1
Toluene	ND		0.00150		mg/Kg	☼	10/05/13 14:45	10/07/13 18:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	10/05/13 14:45	10/07/13 18:18	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 130	10/05/13 14:45	10/07/13 18:18	1
Toluene-d8 (Surr)	117		70 - 130	10/05/13 14:45	10/07/13 18:18	1
Dibromofluoromethane (Surr)	98		70 - 130	10/05/13 14:45	10/07/13 18:18	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		3.02		mg/Kg	☼	10/05/13 14:37	10/12/13 19:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	76		50 - 150	10/05/13 14:37	10/12/13 19:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		5.00		mg/Kg	☼	10/09/13 09:22	10/10/13 02:19	1
C24-C40	ND		5.00		mg/Kg	☼	10/09/13 09:22	10/10/13 02:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	84		50 - 150	10/09/13 09:22	10/10/13 02:19	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	94		0.10		%			10/07/13 12:50	1

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 490-112381/7

Matrix: Solid

Analysis Batch: 112381

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00200		mg/Kg			10/07/13 12:16	1
Ethylbenzene	ND		0.00200		mg/Kg			10/07/13 12:16	1
Xylenes, Total	ND		0.00300		mg/Kg			10/07/13 12:16	1
Toluene	ND		0.00200		mg/Kg			10/07/13 12:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130		10/07/13 12:16	1
1,2-Dichloroethane-d4 (Surr)	91		70 - 130		10/07/13 12:16	1
Toluene-d8 (Surr)	121		70 - 130		10/07/13 12:16	1
Dibromofluoromethane (Surr)	95		70 - 130		10/07/13 12:16	1

Lab Sample ID: LCS 490-112381/3

Matrix: Solid

Analysis Batch: 112381

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.04656		mg/Kg		93	75 - 127
Ethylbenzene	0.0500	0.05143		mg/Kg		103	80 - 134
Xylenes, Total	0.100	0.1024		mg/Kg		102	80 - 137
Toluene	0.0500	0.05344		mg/Kg		107	80 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
Toluene-d8 (Surr)	114		70 - 130
Dibromofluoromethane (Surr)	99		70 - 130

Lab Sample ID: LCSD 490-112381/4

Matrix: Solid

Analysis Batch: 112381

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.0500	0.04567		mg/Kg		91	75 - 127	2	50
Ethylbenzene	0.0500	0.05040		mg/Kg		101	80 - 134	2	50
Xylenes, Total	0.100	0.1003		mg/Kg		100	80 - 137	2	50
Toluene	0.0500	0.05244		mg/Kg		105	80 - 132	2	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
Toluene-d8 (Surr)	113		70 - 130
Dibromofluoromethane (Surr)	98		70 - 130

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 490-112600/1-A

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 112600

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Acenaphthylene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Anthracene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[a]anthracene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[a]pyrene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[b]fluoranthene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[g,h,i]perylene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[k]fluoranthene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Chrysene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Dibenz(a,h)anthracene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Fluorene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Fluoranthene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Indeno[1,2,3-cd]pyrene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Naphthalene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Phenanthrene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Pyrene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
1-Methylnaphthalene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
2-Methylnaphthalene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	84		13 - 120	10/08/13 07:50	10/08/13 20:17	1
Nitrobenzene-d5	63		27 - 120	10/08/13 07:50	10/08/13 20:17	1
2-Fluorobiphenyl (Surr)	68		29 - 120	10/08/13 07:50	10/08/13 20:17	1

Lab Sample ID: LCS 490-112600/2-A

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 112600

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.0333	0.02754		mg/Kg		83	36 - 120
Acenaphthylene	0.0333	0.02726		mg/Kg		82	38 - 120
Anthracene	0.0333	0.02913		mg/Kg		87	46 - 124
Benzo[a]anthracene	0.0333	0.03086		mg/Kg		93	45 - 120
Benzo[a]pyrene	0.0333	0.02984		mg/Kg		90	45 - 120
Benzo[b]fluoranthene	0.0333	0.03083		mg/Kg		93	42 - 120
Benzo[g,h,i]perylene	0.0333	0.03440		mg/Kg		103	38 - 120
Benzo[k]fluoranthene	0.0333	0.03165		mg/Kg		95	42 - 120
Chrysene	0.0333	0.03181		mg/Kg		95	43 - 120
Dibenz(a,h)anthracene	0.0333	0.03698		mg/Kg		111	32 - 128
Fluorene	0.0333	0.02874		mg/Kg		86	42 - 120
Fluoranthene	0.0333	0.03085		mg/Kg		93	46 - 120
Indeno[1,2,3-cd]pyrene	0.0333	0.03377		mg/Kg		101	41 - 121
Naphthalene	0.0333	0.02652		mg/Kg		80	32 - 120
Phenanthrene	0.0333	0.02934		mg/Kg		88	45 - 120
Pyrene	0.0333	0.03050		mg/Kg		91	43 - 120
1-Methylnaphthalene	0.0333	0.02712		mg/Kg		81	32 - 120
2-Methylnaphthalene	0.0333	0.02717		mg/Kg		82	28 - 120

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 490-112600/2-A

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 112600

Surrogate	LCS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	82		13 - 120
Nitrobenzene-d5	66		27 - 120
2-Fluorobiphenyl (Surr)	65		29 - 120

Lab Sample ID: 490-37096-7 MS

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: SO-062027-100313-MW-8-5

Prep Type: Total/NA

Prep Batch: 112600

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Acenaphthene	ND		0.0368	0.02747		mg/Kg	*	75	19 - 120	
Acenaphthylene	ND		0.0368	0.02731		mg/Kg	*	74	25 - 120	
Anthracene	ND		0.0368	0.02813		mg/Kg	*	77	28 - 125	
Benzo[a]anthracene	ND		0.0368	0.03070		mg/Kg	*	83	23 - 120	
Benzo[a]pyrene	ND		0.0368	0.02912		mg/Kg	*	79	15 - 128	
Benzo[b]fluoranthene	ND		0.0368	0.02980		mg/Kg	*	81	12 - 133	
Benzo[g,h,i]perylene	ND		0.0368	0.03038		mg/Kg	*	83	22 - 120	
Benzo[k]fluoranthene	ND		0.0368	0.02991		mg/Kg	*	81	28 - 120	
Chrysene	ND		0.0368	0.02978		mg/Kg	*	81	20 - 120	
Dibenz(a,h)anthracene	ND		0.0368	0.03207		mg/Kg	*	87	12 - 128	
Fluorene	ND		0.0368	0.02870		mg/Kg	*	78	20 - 120	
Fluoranthene	ND		0.0368	0.03061		mg/Kg	*	83	10 - 143	
Indeno[1,2,3-cd]pyrene	ND		0.0368	0.03015		mg/Kg	*	82	22 - 121	
Naphthalene	ND		0.0368	0.02671		mg/Kg	*	73	10 - 120	
Phenanthrene	ND		0.0368	0.02968		mg/Kg	*	81	21 - 122	
Pyrene	ND		0.0368	0.03040		mg/Kg	*	83	20 - 123	
1-Methylnaphthalene	ND		0.0368	0.02732		mg/Kg	*	74	10 - 120	
2-Methylnaphthalene	ND		0.0368	0.02763		mg/Kg	*	75	13 - 120	

Surrogate	MS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	67		13 - 120
Nitrobenzene-d5	58		27 - 120
2-Fluorobiphenyl (Surr)	57		29 - 120

Lab Sample ID: 490-37096-7 MSD

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: SO-062027-100313-MW-8-5

Prep Type: Total/NA

Prep Batch: 112600

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.	Limits	RPD	
	Result	Qualifier		Result	Qualifier						RPD	Limit
Acenaphthene	ND		0.0370	0.02900		mg/Kg	*	78	19 - 120	5	50	
Acenaphthylene	ND		0.0370	0.02834		mg/Kg	*	77	25 - 120	4	50	
Anthracene	ND		0.0370	0.03100		mg/Kg	*	84	28 - 125	10	49	
Benzo[a]anthracene	ND		0.0370	0.03402		mg/Kg	*	92	23 - 120	10	50	
Benzo[a]pyrene	ND		0.0370	0.03271		mg/Kg	*	88	15 - 128	12	50	
Benzo[b]fluoranthene	ND		0.0370	0.03289		mg/Kg	*	89	12 - 133	10	50	
Benzo[g,h,i]perylene	ND		0.0370	0.03594		mg/Kg	*	97	22 - 120	17	50	
Benzo[k]fluoranthene	ND		0.0370	0.03298		mg/Kg	*	89	28 - 120	10	45	
Chrysene	ND		0.0370	0.03328		mg/Kg	*	90	20 - 120	11	49	
Dibenz(a,h)anthracene	ND		0.0370	0.03808		mg/Kg	*	103	12 - 128	17	50	

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 490-37096-7 MSD

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: SO-062027-100313-MW-8-5

Prep Type: Total/NA

Prep Batch: 112600

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits		
Fluorene	ND		0.0370	0.02982		mg/Kg	✱	81	20 - 120	4	50
Fluoranthene	ND		0.0370	0.03350		mg/Kg	✱	91	10 - 143	9	50
Indeno[1,2,3-cd]pyrene	ND		0.0370	0.03550		mg/Kg	✱	96	22 - 121	16	50
Naphthalene	ND		0.0370	0.02728		mg/Kg	✱	74	10 - 120	2	50
Phenanthrene	ND		0.0370	0.03164		mg/Kg	✱	86	21 - 122	6	50
Pyrene	ND		0.0370	0.03387		mg/Kg	✱	92	20 - 123	11	50
1-Methylnaphthalene	ND		0.0370	0.02827		mg/Kg	✱	76	10 - 120	3	50
2-Methylnaphthalene	ND		0.0370	0.02856		mg/Kg	✱	77	13 - 120	3	50
Surrogate	%Recovery	MSD Qualifier	Limits								
Terphenyl-d14	74		13 - 120								
Nitrobenzene-d5	59		27 - 120								
2-Fluorobiphenyl (Surr)	60		29 - 120								

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: 490-37096-1 DU

Matrix: Solid

Analysis Batch: 113587

Client Sample ID: SO-062027-100313-MW-7-5

Prep Type: Total/NA

Prep Batch: 112276

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier		Result				
C6-C12	ND		ND		mg/Kg	✱	NC	10
Surrogate	%Recovery	DU Qualifier	Limits					
a,a,a-Trifluorotoluene	92		50 - 150					

Lab Sample ID: MB 490-113587/39

Matrix: Solid

Analysis Batch: 113587

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C6-C12	ND		5.00		mg/Kg			10/12/13 12:30	1
Surrogate	%Recovery	MB Qualifier	Limits						
a,a,a-Trifluorotoluene	97		50 - 150						

Lab Sample ID: LCS 490-113587/64

Matrix: Solid

Analysis Batch: 113587

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
C6-C12	10.0	9.210		mg/Kg		92	70 - 130
Surrogate	%Recovery	LCS Qualifier	Limits				
a,a,a-Trifluorotoluene	77		50 - 150				

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 490-112601/1-A
Matrix: Solid
Analysis Batch: 113656

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 112601

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1221	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1232	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1242	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1248	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1254	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1260	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	103		19 - 147	10/08/13 08:11	10/12/13 09:32	1
DCB Decachlorobiphenyl (Surr)	81		20 - 150	10/08/13 08:11	10/12/13 09:32	1

Lab Sample ID: LCS 490-112601/2-A
Matrix: Solid
Analysis Batch: 113656

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 112601

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1242	0.167	0.1698		mg/Kg		102	39 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	100		19 - 147
DCB Decachlorobiphenyl (Surr)	80		20 - 150

Lab Sample ID: 490-37104-G-5-C MS
Matrix: Solid
Analysis Batch: 113656

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 112601

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1242	ND		0.191	0.3202		mg/Kg	☼	168	10 - 168

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	98		19 - 147
DCB Decachlorobiphenyl (Surr)	71		20 - 150

Lab Sample ID: 490-37104-G-5-D MSD
Matrix: Solid
Analysis Batch: 113656

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 112601

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
PCB-1242	ND		0.192	0.3399	F	mg/Kg	☼	177	10 - 168	6	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	69		19 - 147
DCB Decachlorobiphenyl (Surr)	71		20 - 150

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

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

Lab Sample ID: MB 490-112949/1-A

Matrix: Solid

Analysis Batch: 112980

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 112949

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		5.00		mg/Kg		10/09/13 09:22	10/10/13 00:02	1
C24-C40	ND		5.00		mg/Kg		10/09/13 09:22	10/10/13 00:02	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	78		50 - 150				10/09/13 09:22	10/10/13 00:02	1

Lab Sample ID: LCS 490-112949/2-A

Matrix: Solid

Analysis Batch: 112980

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 112949

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
C10-C24	50.0	44.37		mg/Kg		89	55 - 129
Surrogate	%Recovery	LCS Qualifier	Limits				
<i>o</i> -Terphenyl	90		50 - 150				

Lab Sample ID: 490-37104-F-1-B DU

Matrix: Solid

Analysis Batch: 112980

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 112949

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
C10-C24	16.3		17.27		mg/Kg	⊛	6	50
C24-C40	6.80		9.654		mg/Kg	⊛	35	50
Surrogate	%Recovery	DU Qualifier	Limits					
<i>o</i> -Terphenyl	65		50 - 150					

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 490-114526/1-A

Matrix: Solid

Analysis Batch: 114654

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 114526

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.499		mg/Kg		10/15/13 13:45	10/15/13 16:50	1

Lab Sample ID: LCS 490-114526/2-A

Matrix: Solid

Analysis Batch: 114654

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 114526

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	19.3	19.60		mg/Kg		102	80 - 120

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 490-37096-7 MS

Matrix: Solid

Analysis Batch: 114654

Client Sample ID: SO-062027-100313-MW-8-5

Prep Type: Total/NA

Prep Batch: 114526

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	32.0		22.0	44.02	F	mg/Kg	☼	55	75 - 125

Lab Sample ID: 490-37096-7 MSD

Matrix: Solid

Analysis Batch: 114654

Client Sample ID: SO-062027-100313-MW-8-5

Prep Type: Total/NA

Prep Batch: 114526

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	32.0		22.3	54.48	F	mg/Kg	☼	101	75 - 125	21	20

Method: Moisture - Percent Moisture

Lab Sample ID: 490-37104-G-1 DU

Matrix: Solid

Analysis Batch: 112469

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	81		80		%		0.8	20

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

GC/MS VOA

Prep Batch: 112280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-1	SO-062027-100313-MW-7-5	Total/NA	Solid	5035	
490-37096-2	SO-062027-100313-MW-7-10	Total/NA	Solid	5035	
490-37096-3	SO-062027-100313-SB-12-5	Total/NA	Solid	5035	
490-37096-4	SO-062027-100313-SB-12-10	Total/NA	Solid	5035	
490-37096-5	SO-062027-100313-SB-13-5	Total/NA	Solid	5035	
490-37096-6	SO-062027-100313-SB-13-10	Total/NA	Solid	5035	
490-37096-7	SO-062027-100313-MW-8-5	Total/NA	Solid	5035	
490-37096-8	SO-062027-100313-MW-8-10	Total/NA	Solid	5035	

Analysis Batch: 112381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-1	SO-062027-100313-MW-7-5	Total/NA	Solid	8260B	112280
490-37096-2	SO-062027-100313-MW-7-10	Total/NA	Solid	8260B	112280
490-37096-3	SO-062027-100313-SB-12-5	Total/NA	Solid	8260B	112280
490-37096-4	SO-062027-100313-SB-12-10	Total/NA	Solid	8260B	112280
490-37096-5	SO-062027-100313-SB-13-5	Total/NA	Solid	8260B	112280
490-37096-6	SO-062027-100313-SB-13-10	Total/NA	Solid	8260B	112280
490-37096-7	SO-062027-100313-MW-8-5	Total/NA	Solid	8260B	112280
490-37096-8	SO-062027-100313-MW-8-10	Total/NA	Solid	8260B	112280
LCS 490-112381/3	Lab Control Sample	Total/NA	Solid	8260B	
LCS 490-112381/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-112381/7	Method Blank	Total/NA	Solid	8260B	

GC/MS Semi VOA

Prep Batch: 112600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-7	SO-062027-100313-MW-8-5	Total/NA	Solid	3550B	
490-37096-7 MS	SO-062027-100313-MW-8-5	Total/NA	Solid	3550B	
490-37096-7 MSD	SO-062027-100313-MW-8-5	Total/NA	Solid	3550B	
LCS 490-112600/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 490-112600/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 112729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-7	SO-062027-100313-MW-8-5	Total/NA	Solid	8270C SIM	112600
490-37096-7 MS	SO-062027-100313-MW-8-5	Total/NA	Solid	8270C SIM	112600
490-37096-7 MSD	SO-062027-100313-MW-8-5	Total/NA	Solid	8270C SIM	112600
LCS 490-112600/2-A	Lab Control Sample	Total/NA	Solid	8270C SIM	112600
MB 490-112600/1-A	Method Blank	Total/NA	Solid	8270C SIM	112600

GC VOA

Prep Batch: 112276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-1	SO-062027-100313-MW-7-5	Total/NA	Solid	5035	
490-37096-1 DU	SO-062027-100313-MW-7-5	Total/NA	Solid	5035	
490-37096-2	SO-062027-100313-MW-7-10	Total/NA	Solid	5035	
490-37096-3	SO-062027-100313-SB-12-5	Total/NA	Solid	5035	
490-37096-4	SO-062027-100313-SB-12-10	Total/NA	Solid	5035	

TestAmerica Nashville

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

GC VOA (Continued)

Prep Batch: 112276 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-5	SO-062027-100313-SB-13-5	Total/NA	Solid	5035	
490-37096-6	SO-062027-100313-SB-13-10	Total/NA	Solid	5035	
490-37096-7	SO-062027-100313-MW-8-5	Total/NA	Solid	5035	
490-37096-8	SO-062027-100313-MW-8-10	Total/NA	Solid	5035	

Analysis Batch: 113587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-1	SO-062027-100313-MW-7-5	Total/NA	Solid	NWTPH-Gx	112276
490-37096-1 DU	SO-062027-100313-MW-7-5	Total/NA	Solid	NWTPH-Gx	112276
490-37096-2	SO-062027-100313-MW-7-10	Total/NA	Solid	NWTPH-Gx	112276
490-37096-3	SO-062027-100313-SB-12-5	Total/NA	Solid	NWTPH-Gx	112276
490-37096-4	SO-062027-100313-SB-12-10	Total/NA	Solid	NWTPH-Gx	112276
490-37096-5	SO-062027-100313-SB-13-5	Total/NA	Solid	NWTPH-Gx	112276
490-37096-6	SO-062027-100313-SB-13-10	Total/NA	Solid	NWTPH-Gx	112276
490-37096-7	SO-062027-100313-MW-8-5	Total/NA	Solid	NWTPH-Gx	112276
490-37096-8	SO-062027-100313-MW-8-10	Total/NA	Solid	NWTPH-Gx	112276
LCS 490-113587/64	Lab Control Sample	Total/NA	Solid	NWTPH-Gx	
MB 490-113587/39	Method Blank	Total/NA	Solid	NWTPH-Gx	

GC Semi VOA

Prep Batch: 112601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-7	SO-062027-100313-MW-8-5	Total/NA	Solid	3550B	
490-37104-G-5-C MS	Matrix Spike	Total/NA	Solid	3550B	
490-37104-G-5-D MSD	Matrix Spike Duplicate	Total/NA	Solid	3550B	
LCS 490-112601/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 490-112601/1-A	Method Blank	Total/NA	Solid	3550B	

Prep Batch: 112949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-1	SO-062027-100313-MW-7-5	Total/NA	Solid	3550B	
490-37096-2	SO-062027-100313-MW-7-10	Total/NA	Solid	3550B	
490-37096-3	SO-062027-100313-SB-12-5	Total/NA	Solid	3550B	
490-37096-4	SO-062027-100313-SB-12-10	Total/NA	Solid	3550B	
490-37096-5	SO-062027-100313-SB-13-5	Total/NA	Solid	3550B	
490-37096-6	SO-062027-100313-SB-13-10	Total/NA	Solid	3550B	
490-37096-7	SO-062027-100313-MW-8-5	Total/NA	Solid	3550B	
490-37096-8	SO-062027-100313-MW-8-10	Total/NA	Solid	3550B	
490-37104-F-1-B DU	Duplicate	Total/NA	Solid	3550B	
LCS 490-112949/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 490-112949/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 112980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-1	SO-062027-100313-MW-7-5	Total/NA	Solid	NWTPH-Dx	112949
490-37096-2	SO-062027-100313-MW-7-10	Total/NA	Solid	NWTPH-Dx	112949
490-37096-3	SO-062027-100313-SB-12-5	Total/NA	Solid	NWTPH-Dx	112949
490-37096-4	SO-062027-100313-SB-12-10	Total/NA	Solid	NWTPH-Dx	112949
490-37096-5	SO-062027-100313-SB-13-5	Total/NA	Solid	NWTPH-Dx	112949

TestAmerica Nashville

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

GC Semi VOA (Continued)

Analysis Batch: 112980 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-6	SO-062027-100313-SB-13-10	Total/NA	Solid	NWTPH-Dx	112949
490-37096-7	SO-062027-100313-MW-8-5	Total/NA	Solid	NWTPH-Dx	112949
490-37096-8	SO-062027-100313-MW-8-10	Total/NA	Solid	NWTPH-Dx	112949
490-37104-F-1-B DU	Duplicate	Total/NA	Solid	NWTPH-Dx	112949
LCS 490-112949/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Dx	112949
MB 490-112949/1-A	Method Blank	Total/NA	Solid	NWTPH-Dx	112949

Analysis Batch: 113656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-7	SO-062027-100313-MW-8-5	Total/NA	Solid	8082	112601
490-37104-G-5-C MS	Matrix Spike	Total/NA	Solid	8082	112601
490-37104-G-5-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8082	112601
LCS 490-112601/2-A	Lab Control Sample	Total/NA	Solid	8082	112601
MB 490-112601/1-A	Method Blank	Total/NA	Solid	8082	112601

Metals

Prep Batch: 114526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-7	SO-062027-100313-MW-8-5	Total/NA	Solid	3051	
490-37096-7 MS	SO-062027-100313-MW-8-5	Total/NA	Solid	3051	
490-37096-7 MSD	SO-062027-100313-MW-8-5	Total/NA	Solid	3051	
LCS 490-114526/2-A	Lab Control Sample	Total/NA	Solid	3051	
MB 490-114526/1-A	Method Blank	Total/NA	Solid	3051	

Analysis Batch: 114654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-7	SO-062027-100313-MW-8-5	Total/NA	Solid	6020	114526
490-37096-7 MS	SO-062027-100313-MW-8-5	Total/NA	Solid	6020	114526
490-37096-7 MSD	SO-062027-100313-MW-8-5	Total/NA	Solid	6020	114526
LCS 490-114526/2-A	Lab Control Sample	Total/NA	Solid	6020	114526
MB 490-114526/1-A	Method Blank	Total/NA	Solid	6020	114526

General Chemistry

Analysis Batch: 112469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-1	SO-062027-100313-MW-7-5	Total/NA	Solid	Moisture	
490-37096-2	SO-062027-100313-MW-7-10	Total/NA	Solid	Moisture	
490-37096-3	SO-062027-100313-SB-12-5	Total/NA	Solid	Moisture	
490-37096-4	SO-062027-100313-SB-12-10	Total/NA	Solid	Moisture	
490-37096-5	SO-062027-100313-SB-13-5	Total/NA	Solid	Moisture	
490-37096-6	SO-062027-100313-SB-13-10	Total/NA	Solid	Moisture	
490-37096-7	SO-062027-100313-MW-8-5	Total/NA	Solid	Moisture	
490-37096-8	SO-062027-100313-MW-8-10	Total/NA	Solid	Moisture	
490-37104-G-1 DU	Duplicate	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Client Sample ID: SO-062027-100313-MW-7-5

Lab Sample ID: 490-37096-1

Date Collected: 10/03/13 08:50

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 92.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112280	10/05/13 14:45	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112381	10/07/13 14:47	KKK	TAL NSH
Total/NA	Prep	5035			112276	10/05/13 14:37	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/12/13 14:43	AMC	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 00:32	JML	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Client Sample ID: SO-062027-100313-MW-7-10

Lab Sample ID: 490-37096-2

Date Collected: 10/03/13 09:00

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 96.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112280	10/05/13 14:45	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112381	10/07/13 15:17	KKK	TAL NSH
Total/NA	Prep	5035			112276	10/05/13 14:37	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/12/13 15:49	AMC	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 00:48	JML	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Client Sample ID: SO-062027-100313-SB-12-5

Lab Sample ID: 490-37096-3

Date Collected: 10/03/13 10:20

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 95.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112280	10/05/13 14:45	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112381	10/07/13 15:47	KKK	TAL NSH
Total/NA	Prep	5035			112276	10/05/13 14:37	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/12/13 16:22	AMC	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 01:03	JML	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Client Sample ID: SO-062027-100313-SB-12-10

Lab Sample ID: 490-37096-4

Date Collected: 10/03/13 10:30

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 93.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112280	10/05/13 14:45	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112381	10/07/13 16:17	KKK	TAL NSH
Total/NA	Prep	5035			112276	10/05/13 14:37	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/12/13 16:55	AMC	TAL NSH

TestAmerica Nashville

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Client Sample ID: SO-062027-100313-SB-12-10

Lab Sample ID: 490-37096-4

Date Collected: 10/03/13 10:30

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 93.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 01:18	JML	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Client Sample ID: SO-062027-100313-SB-13-5

Lab Sample ID: 490-37096-5

Date Collected: 10/03/13 11:00

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 93.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112280	10/05/13 14:45	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112381	10/07/13 16:48	KKK	TAL NSH
Total/NA	Prep	5035			112276	10/05/13 14:37	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/12/13 17:28	AMC	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 01:33	JML	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Client Sample ID: SO-062027-100313-SB-13-10

Lab Sample ID: 490-37096-6

Date Collected: 10/03/13 11:10

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 90.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112280	10/05/13 14:45	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112381	10/07/13 17:18	KKK	TAL NSH
Total/NA	Prep	5035			112276	10/05/13 14:37	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/12/13 18:01	AMC	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 01:49	JML	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Client Sample ID: SO-062027-100313-MW-8-5

Lab Sample ID: 490-37096-7

Date Collected: 10/03/13 11:55

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 88.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112280	10/05/13 14:45	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112381	10/07/13 17:48	KKK	TAL NSH
Total/NA	Prep	3550B			112600	10/08/13 07:50	LP	TAL NSH
Total/NA	Analysis	8270C SIM		1	112729	10/08/13 21:07	BES	TAL NSH
Total/NA	Prep	5035			112276	10/05/13 14:37	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/12/13 18:35	AMC	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 02:04	JML	TAL NSH

TestAmerica Nashville

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Client Sample ID: SO-062027-100313-MW-8-5

Lab Sample ID: 490-37096-7

Date Collected: 10/03/13 11:55

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 88.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			112601	10/08/13 08:11	LP	TAL NSH
Total/NA	Analysis	8082		1	113656	10/12/13 11:20	WAM	TAL NSH
Total/NA	Prep	3051			114526	10/15/13 13:45	NLI	TAL NSH
Total/NA	Analysis	6020		1	114654	10/15/13 16:59	BWW	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Client Sample ID: SO-062027-100313-MW-8-10

Lab Sample ID: 490-37096-8

Date Collected: 10/03/13 12:05

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 94.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112280	10/05/13 14:45	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112381	10/07/13 18:18	KKK	TAL NSH
Total/NA	Prep	5035			112276	10/05/13 14:37	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/12/13 19:08	AMC	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 02:19	JML	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL NSH
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	TAL NSH
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL NSH
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL NSH
6020	Metals (ICP/MS)	SW846	TAL NSH
Moisture	Percent Moisture	EPA	TAL NSH

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

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

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37096-1

Laboratory: TestAmerica Nashville

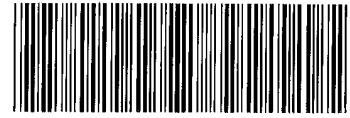
Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C789	07-19-14

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020	3051	Solid	Lead
8082	3550B	Solid	PCB-1016
8082	3550B	Solid	PCB-1221
8082	3550B	Solid	PCB-1232
8082	3550B	Solid	PCB-1242
8082	3550B	Solid	PCB-1248
8082	3550B	Solid	PCB-1254
8082	3550B	Solid	PCB-1260
8270C SIM	3550B	Solid	1-Methylnaphthalene
8270C SIM	3550B	Solid	2-Methylnaphthalene
8270C SIM	3550B	Solid	Acenaphthene
8270C SIM	3550B	Solid	Acenaphthylene
8270C SIM	3550B	Solid	Anthracene
8270C SIM	3550B	Solid	Benzo[a]anthracene
8270C SIM	3550B	Solid	Benzo[a]pyrene
8270C SIM	3550B	Solid	Benzo[b]fluoranthene
8270C SIM	3550B	Solid	Benzo[g,h,i]perylene
8270C SIM	3550B	Solid	Benzo[k]fluoranthene
8270C SIM	3550B	Solid	Chrysene
8270C SIM	3550B	Solid	Dibenz(a,h)anthracene
8270C SIM	3550B	Solid	Fluoranthene
8270C SIM	3550B	Solid	Fluorene
8270C SIM	3550B	Solid	Indeno[1,2,3-cd]pyrene
8270C SIM	3550B	Solid	Naphthalene
8270C SIM	3550B	Solid	Phenanthrene
8270C SIM	3550B	Solid	Pyrene
Moisture		Solid	Percent Solids
NWTPH-Dx	3550B	Solid	C10-C24
NWTPH-Gx		Solid	C6-C12
NWTPH-Gx	5035	Solid	C6-C12

COOLER RECEIPT FORM



490-37096 Chain of Custody

Cooler Received/Opened On: 10/5/2013 @0815

1. Tracking # 1225 (last 4 digits, FedEx)

Courier: Fed-Ex IR Gun ID: 14740456

2. Temperature of rep. sample or temp blank when opened: 2.6 Degrees Celsius

3. If item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES NO NA

If yes, how many and where: 2 Front

5. Were the seals intact, signed, and dated correctly? YES NO NA

6. Were custody papers inside cooler? YES NO NA

I certify that I opened the cooler and answered questions 1-6 (initial) EF

7. Were custody seals on containers: YES NO and Intact YES...NO... NA

Were these signed and dated correctly? YES...NO... NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES NO NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES NO NA

12. Did all container labels and tags agree with custody papers? YES NO NA

13a. Were VOA vials received? YES NO NA

b. Was there any observable headspace present in any VOA vial? YES...NO... NA Soil

14. Was there a Trip Blank in this cooler? YES... NO... NA If multiple coolers, sequence # 1

I certify that I unloaded the cooler and answered questions 7-14 (initial) EF

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO... NA

b. Did the bottle labels indicate that the correct preservatives were used YES NO NA

16. Was residual chlorine present? YES...NO... NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) EF

17. Were custody papers properly filled out (ink, signed, etc)? YES NO NA

18. Did you sign the custody papers in the appropriate place? YES NO NA

19. Were correct containers used for the analysis requested? YES NO NA

20. Was sufficient amount of sample sent in each container? YES NO NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) EF

I certify that I attached a label with the unique LIMS number to each container (initial) Ch

21. Were there Non-Conformance issues at login? YES NO Was a NCM generated? YES... NO...# 1

LAB (LOCATION)

- CALSCIENCE ()
- SPL (Houston)
- XENCO ()
- TEST AMERICA *Nashville*
- OTHER ()



Shell Oil Products Chain Of Custody Record

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SD&CM	<input checked="" type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print EOI To Contact Name: **Brian Peters**

PO #: _____

INCIDENT # (ENV SERVICES): **7970447**

SAP #: _____

CHECK IF NO INCIDENT # APPLIES

DATE: **10/4/13**

PAGE: **1** of **1**

SAMPLING COMPANY: **Conestoga-Rovers & Associates**

LOG CODE: **NA**

ADDRESS: **20818 44th Ave W, Suite 190, Lynnwood, WA 98036**

SITE ADDRESS: Street and City: **200 Railroad Ave S, Ellensburg**

State: **WA** GLOBAL ID NO.: **NA**

EDF DELIVERABLE TO (Name, Company, Office Location): **NA** PHONE NO.: **NA** E-MAIL: **NA**

CONSULTANT PROJECT NO.: **062027**

PROJECT CONTACT (Hardcopy or PDF Report to): **Brian Peters**

TELEPHONE: **425-563-6500** FAX: **425-563-6599** E-MAIL: **BPeters@craworld.com**

TURNAROUND TIME (CALENDAR DAYS):

STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT UST AGENCY:

SAMPLER NAME(S) (Print): **Stephen Rasmussen**

LAB USE ONLY

REQUESTED ANALYSIS

SPECIAL INSTRUCTIONS OR NOTES:

~~TCLP benzene required if benzene > 10 mg/kg~~

Marked TAT except for those contingent tests needed for Aquatic Bioassay determination (5 day TAT or better may apply)

cc: Derek Eisman, Deleiman@craworld.com and Shell.Lab.Billing@craworld.com

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

EDD NOT NEEDED

RECEIPT VERIFICATION REQUESTED

TPH - Purgeable (8260B)	TPH - Extractable (8015M)	BTEX (8260B)	5 Oxygenates (8260E)	MTBE (8260B)	TBA (8260B)	DIPE (8260E)	TAME (8260B)	ETBE (8260B)	1,2 DCA (8260B)	EDB (8260B) / EDC	Ethanol (8260B)	Methanol (8015M)	PAHs (8270c) / C PAHs	TCLP: As, Ba, Cd, Cr, Pb, Hg, Se, Ag (6010B or 6020)	PCBs (8082) / HUCs 8260B	TRPH (418.1)	NWTPH-6X	NTPH-DX	Total load 6020	TEMPERATURE ON RECEIPT C°
																				2.6

Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	
	DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER		
SO-062027-100313-MW-7-5	10/3/13	850	SO						X	7
SO-062027-100313-MW-7-10	10/3/13	900	SO						X	7
SO-062027-100313-SB-12-5	10/3/13	1020	SO						X	7
SO-062027-100313-SB-12-10	10/3/13	1030	SO						X	7
SO-062027-100313-SB-13-5	10/3/13	1100	SO						X	7
SO-062027-100313-SB-13-10	10/3/13	1110	SO						X	7
SO-062027-100313-MW-8-5	10/3/13	1155	SO						X	7
SO-062027-100313-MW-8-10	10/3/13	1205	SO						X	7

Container PID Readings or Laboratory Notes	Additional analysis may be requested, please hold pending B. Peters Notification
--------------------------------------------	----------------------------------------------------------------------------------

Relinquished by: (Signature) *Stephen Rasmussen* **CRA 10/4/13 1330**

Received by: (Signature) *[Signature]*

Date: **10-5-13** Time: **0815**

Loc: **490**

37096

10/18/2013



Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 490-37096-1

Login Number: 37096

List Source: TestAmerica Nashville

List Number: 1

Creator: Huckaba, Jimmy

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-37104-1
Client Project/Site: 200 Railroad Ave S, Ellensburg WA

For:
Conestoga-Rovers & Associates, Inc.
20818 44th Ave W
Suite 190
Lynnwood, Washington 98036

Attn: Brian Peters



Authorized for release by:
10/18/2013 12:32:35 PM

Ryan Fitzwater, Senior Project Manager
(615)726-0177
ryan.fitzwater@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-37104-1	SO-062027-093013-MW-5-2	Solid	09/30/13 14:30	10/05/13 08:15
490-37104-2	SO-062027-100113-MW-1-2	Solid	10/01/13 11:30	10/05/13 08:15
490-37104-3	SO-062027-100113-MW-8-2	Solid	10/01/13 13:30	10/05/13 08:15
490-37104-4	SO-062027-100113-SB-13-2	Solid	10/01/13 14:15	10/05/13 08:15
490-37104-5	SO-062027-100113-MW-7-2	Solid	10/01/13 16:15	10/05/13 08:15

- 1
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- 11
- 12
- 13

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Job ID: 490-37104-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-37104-1

Comments

No additional comments.

Receipt

The samples were received on 10/5/2013 8:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

Except:

The container label for the following sample(s) did not match the information listed on the Chain-of-Custody (COC): SO-062027-100113-MW-8-2 (490-37104-3). One jar for MW-8-2 was received with only the sample date and time recorded on the label. The ID was not recorded on the label; however, this jar was in the ziplock bag with the other containers for this jar. The ziplock bag was labeled.

GC/MS VOA

Method(s) 8260B: Internal standard responses were outside of acceptance limits for the following sample(s): SO-062027-093013-MW-5-2 (490-37104-1), SO-062027-100113-MW-8-2 (490-37104-3), SO-062027-100113-SB-13-2 (490-37104-4). The sample(s) shows evidence of matrix interference.

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) 8082: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 112601 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

VOA Prep

No analytical or quality issues were noted.

Job ID: 490-37104-2

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-37104-2

Comments

No additional comments.

Receipt

The samples were received on 10/5/2013 8:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

Except:

The container label for the following sample(s) did not match the information listed on the Chain-of-Custody (COC): SO-062027-100113-MW-8-2 (490-37104-3). One jar for MW-8-2 was received with only the sample date and time recorded on the label.



Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Job ID: 490-37104-2 (Continued)

Laboratory: TestAmerica Nashville (Continued)

The ID was not recorded on the label; however, this jar was in the ziplock bag with the other containers for this jar. The ziplock bag was labeled.

GC/MS VOA

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 112618. See LCS/LCSD

Method(s) 8260B: The following sample(s) was diluted due to the nature of the sample matrix: SO-062027-100113-MW-1-2 (490-37104-2). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample(s): SO-062027-100113-MW-1-2 (490-37104-2).

No other analytical or quality issues were noted.

GC/MS Semi VOA

No analytical or quality issues were noted.

GC VOA

No analytical or quality issues were noted.

GC Semi VOA

Method(s) NWTPH-Dx: There was insufficient contamination present for analyte C10-C24 to perform a pattern match for the following sample(s): SO-062027-100113-MW-8-2 (490-37104-3). The following sample(s) contained a hydrocarbon pattern for analyte C24-C40 that most closely resembles a Motor oil product used by the laboratory for quantitative purposes: SO-062027-100113-MW-8-2 (490-37104-3).

Method(s) NWTPH-Dx: The following sample(s) contained a hydrocarbon pattern that most closely resembles a Diesel Fuel #2 and a Motor Oil product used by the laboratory for quantitative purposes: (490-37104-1 DU), SO-062027-093013-MW-5-2 (490-37104-1).

Method(s) NWTPH-Dx: There was insufficient contamination present to perform a pattern match for the following sample(s): (490-37104-5 DU). The percent RPD failed between the source and duplicate samples due to non-homogeneity of sample matrix.

Method(s) NWTPH-Dx: The following sample(s) contained a single peak(s) contaminant which does not match a typical Total Petroleum Hydrocarbon (TPH) pattern used by the laboratory for quantitative purposes: SO-062027-100113-MW-1-2 (490-37104-2).

No other analytical or quality issues were noted.

Metals

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) percent recoveries and %RPD for batch 490-114526 were outside control limits. This is attributed to: non-homogeneity of the sample matrix.

No other analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

VOA Prep

No analytical or quality issues were noted.

Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	ISTD response or retention time outside acceptable limits
*	ISTD response or retention time outside acceptable limits
E	Result exceeded calibration range.

GC Semi VOA

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits

Metals

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Client Sample ID: SO-062027-093013-MW-5-2

Lab Sample ID: 490-37104-1

Date Collected: 09/30/13 14:30

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 80.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00509		0.00124		mg/Kg	☼	10/05/13 15:29	10/07/13 17:07	1
Ethylbenzene	ND		0.00124		mg/Kg	☼	10/05/13 15:29	10/07/13 17:07	1
Xylenes, Total	ND		0.00186		mg/Kg	☼	10/05/13 15:29	10/07/13 17:07	1
Toluene	0.00210		0.00124		mg/Kg	☼	10/05/13 15:29	10/07/13 17:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118	*	70 - 130				10/05/13 15:29	10/07/13 17:07	1
1,2-Dichloroethane-d4 (Surr)	94		70 - 130				10/05/13 15:29	10/07/13 17:07	1
Toluene-d8 (Surr)	113		70 - 130				10/05/13 15:29	10/07/13 17:07	1
Dibromofluoromethane (Surr)	96		70 - 130				10/05/13 15:29	10/07/13 17:07	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		4.99		mg/Kg	☼	10/05/13 15:26	10/12/13 19:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	75		50 - 150				10/05/13 15:26	10/12/13 19:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	16.3		5.00		mg/Kg	☼	10/09/13 09:22	10/10/13 02:35	1
C24-C40	6.80		5.00		mg/Kg	☼	10/09/13 09:22	10/10/13 02:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	69		50 - 150				10/09/13 09:22	10/10/13 02:35	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81		0.10		%			10/07/13 12:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Client Sample ID: SO-062027-100113-MW-1-2

Lab Sample ID: 490-37104-2

Date Collected: 10/01/13 11:30

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 86.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
1,1,1-Trichloroethane	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
1,1,2,2-Tetrachloroethane	ND		0.0723		mg/Kg	*	10/05/13 15:26	10/08/13 13:20	1
1,1,2-Trichloroethane	ND		0.00274		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
1,1-Dichloroethane	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
1,1-Dichloroethene	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
1,1-Dichloropropene	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
1,2,3-Trichlorobenzene	ND		0.0723		mg/Kg	*	10/05/13 15:26	10/08/13 13:20	1
1,2,3-Trichloropropane	ND		0.0723		mg/Kg	*	10/05/13 15:26	10/08/13 13:20	1
1,2,4-Trichlorobenzene	ND		0.0723		mg/Kg	*	10/05/13 15:26	10/08/13 13:20	1
1,2,4-Trimethylbenzene	ND		0.0723		mg/Kg	*	10/05/13 15:26	10/08/13 13:20	1
1,2-Dibromo-3-Chloropropane	ND		0.181		mg/Kg	*	10/05/13 15:26	10/08/13 13:20	1
1,2-Dibromoethane (EDB)	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
1,2-Dichlorobenzene	ND		0.0723		mg/Kg	*	10/05/13 15:26	10/08/13 13:20	1
1,2-Dichloroethane	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
1,2-Dichloropropane	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
1,3,5-Trimethylbenzene	ND		0.0723		mg/Kg	*	10/05/13 15:26	10/08/13 13:20	1
1,3-Dichlorobenzene	ND		0.0723		mg/Kg	*	10/05/13 15:26	10/08/13 13:20	1
1,3-Dichloropropane	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
1,4-Dichlorobenzene	ND		0.0723		mg/Kg	*	10/05/13 15:26	10/08/13 13:20	1
2,2-Dichloropropane	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
2-Butanone (MEK)	ND		0.0274		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
2-Chlorotoluene	ND		0.0723		mg/Kg	*	10/05/13 15:26	10/08/13 13:20	1
2-Hexanone	ND		0.0274		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
4-Chlorotoluene	ND		0.0723		mg/Kg	*	10/05/13 15:26	10/08/13 13:20	1
4-Methyl-2-pentanone (MIBK)	ND		0.0274		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Acetone	0.0454		0.0274		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Benzene	0.00268		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Bromobenzene	ND		0.0723		mg/Kg	*	10/05/13 15:26	10/08/13 13:20	1
Bromochloromethane	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Bromodichloromethane	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Bromoform	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Bromomethane	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Carbon disulfide	ND		0.00274		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Carbon tetrachloride	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Chlorobenzene	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Chlorodibromomethane	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Chloroethane	ND		0.00274		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Chloroform	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Chloromethane	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
cis-1,2-Dichloroethene	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
cis-1,3-Dichloropropene	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Dibromomethane	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Dichlorodifluoromethane	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Ethylbenzene	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Hexachlorobutadiene	ND		0.181		mg/Kg	*	10/05/13 15:26	10/08/13 13:20	1
Isopropylbenzene	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Methyl tert-butyl ether	ND		0.00110		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1
Methylene Chloride	ND		0.00548		mg/Kg	*	10/05/13 15:29	10/08/13 12:51	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Client Sample ID: SO-062027-100113-MW-1-2

Lab Sample ID: 490-37104-2

Date Collected: 10/01/13 11:30

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 86.9

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.181		mg/Kg	☼	10/05/13 15:26	10/08/13 13:20	1
n-Butylbenzene	ND		0.0723		mg/Kg	☼	10/05/13 15:26	10/08/13 13:20	1
N-Propylbenzene	ND		0.0723		mg/Kg	☼	10/05/13 15:26	10/08/13 13:20	1
p-Isopropyltoluene	ND		0.0723		mg/Kg	☼	10/05/13 15:26	10/08/13 13:20	1
sec-Butylbenzene	ND		0.0723		mg/Kg	☼	10/05/13 15:26	10/08/13 13:20	1
Styrene	ND		0.00110		mg/Kg	☼	10/05/13 15:29	10/08/13 12:51	1
tert-Butylbenzene	ND		0.0723		mg/Kg	☼	10/05/13 15:26	10/08/13 13:20	1
Tetrachloroethene	ND		0.00110		mg/Kg	☼	10/05/13 15:29	10/08/13 12:51	1
Toluene	0.00130		0.00110		mg/Kg	☼	10/05/13 15:29	10/08/13 12:51	1
trans-1,2-Dichloroethene	ND		0.00110		mg/Kg	☼	10/05/13 15:29	10/08/13 12:51	1
trans-1,3-Dichloropropene	ND		0.00110		mg/Kg	☼	10/05/13 15:29	10/08/13 12:51	1
Trichloroethene	ND		0.00110		mg/Kg	☼	10/05/13 15:29	10/08/13 12:51	1
Trichlorofluoromethane	ND		0.00110		mg/Kg	☼	10/05/13 15:29	10/08/13 12:51	1
Vinyl chloride	ND		0.00110		mg/Kg	☼	10/05/13 15:29	10/08/13 12:51	1
Xylenes, Total	ND		0.00165		mg/Kg	☼	10/05/13 15:29	10/08/13 12:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 130				10/05/13 15:29	10/08/13 12:51	1
1,2-Dichloroethane-d4 (Surr)	93		70 - 130				10/05/13 15:26	10/08/13 13:20	1
4-Bromofluorobenzene (Surr)	126 *		70 - 130				10/05/13 15:29	10/08/13 12:51	1
4-Bromofluorobenzene (Surr)	97		70 - 130				10/05/13 15:26	10/08/13 13:20	1
Dibromofluoromethane (Surr)	102		70 - 130				10/05/13 15:29	10/08/13 12:51	1
Dibromofluoromethane (Surr)	93		70 - 130				10/05/13 15:26	10/08/13 13:20	1
Toluene-d8 (Surr)	119		70 - 130				10/05/13 15:29	10/08/13 12:51	1
Toluene-d8 (Surr)	104		70 - 130				10/05/13 15:26	10/08/13 13:20	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Acenaphthylene	ND		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Anthracene	ND		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Benzo[a]anthracene	0.0185		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Benzo[a]pyrene	0.0184		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Benzo[b]fluoranthene	0.0223		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Benzo[g,h,i]perylene	0.0133		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Benzo[k]fluoranthene	0.00738		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Chrysene	0.0183		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Dibenz(a,h)anthracene	ND		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Fluorene	ND		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Fluoranthene	0.0276		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Indeno[1,2,3-cd]pyrene	0.0107		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Naphthalene	ND		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Phenanthrene	0.00849		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Pyrene	0.0291		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
1-Methylnaphthalene	ND		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
2-Methylnaphthalene	ND		0.00381		mg/Kg	☼	10/08/13 07:50	10/08/13 22:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	68		13 - 120				10/08/13 07:50	10/08/13 22:24	1
Nitrobenzene-d5	58		27 - 120				10/08/13 07:50	10/08/13 22:24	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Client Sample ID: SO-062027-100113-MW-1-2

Lab Sample ID: 490-37104-2

Date Collected: 10/01/13 11:30

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 86.9

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	61		29 - 120	10/08/13 07:50	10/08/13 22:24	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		3.83		mg/Kg	☼	10/05/13 15:26	10/12/13 20:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	77		50 - 150	10/05/13 15:26	10/12/13 20:14	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0374		mg/Kg	☼	10/08/13 08:11	10/12/13 11:42	1
PCB-1221	ND		0.0374		mg/Kg	☼	10/08/13 08:11	10/12/13 11:42	1
PCB-1232	ND		0.0374		mg/Kg	☼	10/08/13 08:11	10/12/13 11:42	1
PCB-1242	ND		0.0374		mg/Kg	☼	10/08/13 08:11	10/12/13 11:42	1
PCB-1248	ND		0.0374		mg/Kg	☼	10/08/13 08:11	10/12/13 11:42	1
PCB-1254	ND		0.0374		mg/Kg	☼	10/08/13 08:11	10/12/13 11:42	1
PCB-1260	ND		0.0374		mg/Kg	☼	10/08/13 08:11	10/12/13 11:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	81		19 - 147	10/08/13 08:11	10/12/13 11:42	1
DCB Decachlorobiphenyl (Surr)	65		20 - 150	10/08/13 08:11	10/12/13 11:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		4.92		mg/Kg	☼	10/09/13 09:22	10/10/13 03:05	1
C24-C40	12.5		4.92		mg/Kg	☼	10/09/13 09:22	10/10/13 03:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	65		50 - 150	10/09/13 09:22	10/10/13 03:05	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	30.5		0.576		mg/Kg	☼	10/15/13 13:45	10/15/13 17:13	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87		0.10		%	-		10/07/13 12:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Client Sample ID: SO-062027-100113-MW-8-2

Lab Sample ID: 490-37104-3

Date Collected: 10/01/13 13:30

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 85.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00246		0.00199		mg/Kg	☼	10/05/13 15:29	10/07/13 18:05	1
Ethylbenzene	ND		0.00199		mg/Kg	☼	10/05/13 15:29	10/07/13 18:05	1
Xylenes, Total	ND		0.00298		mg/Kg	☼	10/05/13 15:29	10/07/13 18:05	1
Toluene	ND		0.00199		mg/Kg	☼	10/05/13 15:29	10/07/13 18:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127	*	70 - 130	10/05/13 15:29	10/07/13 18:05	1
1,2-Dichloroethane-d4 (Surr)	96		70 - 130	10/05/13 15:29	10/07/13 18:05	1
Toluene-d8 (Surr)	114		70 - 130	10/05/13 15:29	10/07/13 18:05	1
Dibromofluoromethane (Surr)	96		70 - 130	10/05/13 15:29	10/07/13 18:05	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		4.56		mg/Kg	☼	10/05/13 15:26	10/12/13 20:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	76		50 - 150	10/05/13 15:26	10/12/13 20:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	6.84		4.97		mg/Kg	☼	10/09/13 09:22	10/10/13 03:20	1
C24-C40	10.7		4.97		mg/Kg	☼	10/09/13 09:22	10/10/13 03:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	65		50 - 150	10/09/13 09:22	10/10/13 03:20	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85		0.10		%			10/07/13 12:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Client Sample ID: SO-062027-100113-SB-13-2

Lab Sample ID: 490-37104-4

Date Collected: 10/01/13 14:15

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 82.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00506		0.00207		mg/Kg	☼	10/05/13 15:29	10/07/13 18:34	1
Ethylbenzene	ND		0.00207		mg/Kg	☼	10/05/13 15:29	10/07/13 18:34	1
Xylenes, Total	ND		0.00311		mg/Kg	☼	10/05/13 15:29	10/07/13 18:34	1
Toluene	ND		0.00207		mg/Kg	☼	10/05/13 15:29	10/07/13 18:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124	*	70 - 130	10/05/13 15:29	10/07/13 18:34	1
1,2-Dichloroethane-d4 (Surr)	97		70 - 130	10/05/13 15:29	10/07/13 18:34	1
Toluene-d8 (Surr)	109		70 - 130	10/05/13 15:29	10/07/13 18:34	1
Dibromofluoromethane (Surr)	97		70 - 130	10/05/13 15:29	10/07/13 18:34	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		5.76		mg/Kg	☼	10/05/13 15:26	10/12/13 21:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	77		50 - 150	10/05/13 15:26	10/12/13 21:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		4.95		mg/Kg	☼	10/09/13 09:22	10/10/13 03:35	1
C24-C40	ND		4.95		mg/Kg	☼	10/09/13 09:22	10/10/13 03:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	59		50 - 150	10/09/13 09:22	10/10/13 03:35	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82		0.10		%			10/07/13 12:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Client Sample ID: SO-062027-100113-MW-7-2

Lab Sample ID: 490-37104-5

Date Collected: 10/01/13 16:15

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 84.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,1,1-Trichloroethane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,1,2,2-Tetrachloroethane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,1,2-Trichloroethane	ND		0.00365		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,1-Dichloroethane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,1-Dichloroethene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,1-Dichloropropene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,2,3-Trichlorobenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,2,3-Trichloropropane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,2,4-Trichlorobenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,2,4-Trimethylbenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,2-Dibromo-3-Chloropropane	ND		0.00365		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,2-Dibromoethane (EDB)	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,2-Dichlorobenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,2-Dichloroethane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,2-Dichloropropane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,3,5-Trimethylbenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,3-Dichlorobenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,3-Dichloropropane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
1,4-Dichlorobenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
2,2-Dichloropropane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
2-Butanone (MEK)	ND		0.0365		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
2-Chlorotoluene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
2-Hexanone	ND		0.0365		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
4-Chlorotoluene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
4-Methyl-2-pentanone (MIBK)	ND		0.0365		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Acetone	ND		0.0365		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Benzene	0.00177		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Bromobenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Bromochloromethane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Bromodichloromethane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Bromoform	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Bromomethane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Carbon disulfide	ND		0.00365		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Carbon tetrachloride	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Chlorobenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Chlorodibromomethane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Chloroethane	ND		0.00365		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Chloroform	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Chloromethane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
cis-1,2-Dichloroethene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
cis-1,3-Dichloropropene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Dibromomethane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Dichlorodifluoromethane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Ethylbenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Hexachlorobutadiene	ND		0.00365		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Isopropylbenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Methyl tert-butyl ether	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Methylene Chloride	ND		0.00730		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Client Sample ID: SO-062027-100113-MW-7-2

Lab Sample ID: 490-37104-5

Date Collected: 10/01/13 16:15

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 84.8

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.00365		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
n-Butylbenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
N-Propylbenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
p-Isopropyltoluene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
sec-Butylbenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Styrene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
tert-Butylbenzene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Tetrachloroethene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Toluene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
trans-1,2-Dichloroethene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
trans-1,3-Dichloropropene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Trichloroethene	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Trichlorofluoromethane	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Vinyl chloride	ND		0.00146		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Xylenes, Total	ND		0.00219		mg/Kg	☼	10/05/13 15:29	10/08/13 13:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 130				10/05/13 15:29	10/08/13 13:48	1
4-Bromofluorobenzene (Surr)	114		70 - 130				10/05/13 15:29	10/08/13 13:48	1
Dibromofluoromethane (Surr)	100		70 - 130				10/05/13 15:29	10/08/13 13:48	1
Toluene-d8 (Surr)	105		70 - 130				10/05/13 15:29	10/08/13 13:48	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Acenaphthylene	ND		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Anthracene	ND		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Benzo[a]anthracene	ND		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Benzo[a]pyrene	0.00396		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Benzo[b]fluoranthene	0.00485		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Benzo[g,h,i]perylene	0.00396		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Benzo[k]fluoranthene	ND		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Chrysene	ND		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Dibenz(a,h)anthracene	ND		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Fluorene	ND		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Fluoranthene	0.00707		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Indeno[1,2,3-cd]pyrene	ND		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Naphthalene	ND		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Phenanthrene	0.00436		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Pyrene	0.00710		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
1-Methylnaphthalene	ND		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
2-Methylnaphthalene	ND		0.00383		mg/Kg	☼	10/08/13 07:50	10/08/13 22:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	65		13 - 120				10/08/13 07:50	10/08/13 22:49	1
Nitrobenzene-d5	47		27 - 120				10/08/13 07:50	10/08/13 22:49	1
2-Fluorobiphenyl (Surr)	51		29 - 120				10/08/13 07:50	10/08/13 22:49	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Client Sample ID: SO-062027-100113-MW-7-2

Lab Sample ID: 490-37104-5

Date Collected: 10/01/13 16:15

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 84.8

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		4.75		mg/Kg	☼	10/05/13 15:26	10/12/13 21:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene</i>	76		50 - 150				10/05/13 15:26	10/12/13 21:53	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0384		mg/Kg	☼	10/08/13 08:11	10/12/13 10:16	1
PCB-1221	ND		0.0384		mg/Kg	☼	10/08/13 08:11	10/12/13 10:16	1
PCB-1232	ND		0.0384		mg/Kg	☼	10/08/13 08:11	10/12/13 10:16	1
PCB-1242	ND		0.0384		mg/Kg	☼	10/08/13 08:11	10/12/13 10:16	1
PCB-1248	ND		0.0384		mg/Kg	☼	10/08/13 08:11	10/12/13 10:16	1
PCB-1254	ND		0.0384		mg/Kg	☼	10/08/13 08:11	10/12/13 10:16	1
PCB-1260	ND		0.0384		mg/Kg	☼	10/08/13 08:11	10/12/13 10:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	95		19 - 147				10/08/13 08:11	10/12/13 10:16	1
<i>DCB Decachlorobiphenyl (Surr)</i>	66		20 - 150				10/08/13 08:11	10/12/13 10:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		5.00		mg/Kg	☼	10/09/13 09:22	10/10/13 03:51	1
C24-C40	ND		5.00		mg/Kg	☼	10/09/13 09:22	10/10/13 03:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	57		50 - 150				10/09/13 09:22	10/10/13 03:51	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	9.29		0.591		mg/Kg	☼	10/15/13 13:45	10/15/13 17:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85		0.10		%			10/07/13 12:50	1

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: 490-37071-A-2-I MS

Matrix: Solid

Analysis Batch: 112382

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 112261

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Benzene	ND		0.0516	0.04952		mg/Kg	☼	94		31 - 143
Ethylbenzene	ND		0.0516	0.05230		mg/Kg	☼	101		23 - 161
Xylenes, Total	ND		0.103	0.09970		mg/Kg	☼	97		25 - 162
Toluene	ND		0.0516	0.05286		mg/Kg	☼	100		30 - 155

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	112		70 - 130
1,2-Dichloroethane-d4 (Surr)	94		70 - 130
Toluene-d8 (Surr)	109		70 - 130
Dibromofluoromethane (Surr)	96		70 - 130

Lab Sample ID: 490-37071-A-2-K MSD

Matrix: Solid

Analysis Batch: 112382

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 112261

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier								
Benzene	ND		0.0505	0.04928		mg/Kg	☼	95		31 - 143	0		50
Ethylbenzene	ND		0.0505	0.04981		mg/Kg	☼	99		23 - 161	5		50
Xylenes, Total	ND		0.101	0.09626		mg/Kg	☼	95		25 - 162	4		50
Toluene	ND		0.0505	0.05146		mg/Kg	☼	99		30 - 155	3		50

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	113		70 - 130
1,2-Dichloroethane-d4 (Surr)	94		70 - 130
Toluene-d8 (Surr)	108		70 - 130
Dibromofluoromethane (Surr)	96		70 - 130

Lab Sample ID: MB 490-112382/7

Matrix: Solid

Analysis Batch: 112382

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	ND		0.00200		mg/Kg			10/07/13 12:14	1
Ethylbenzene	ND		0.00200		mg/Kg			10/07/13 12:14	1
Xylenes, Total	ND		0.00300		mg/Kg			10/07/13 12:14	1
Toluene	ND		0.00200		mg/Kg			10/07/13 12:14	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	104		70 - 130		10/07/13 12:14	1
1,2-Dichloroethane-d4 (Surr)	92		70 - 130		10/07/13 12:14	1
Toluene-d8 (Surr)	104		70 - 130		10/07/13 12:14	1
Dibromofluoromethane (Surr)	92		70 - 130		10/07/13 12:14	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-112382/3

Matrix: Solid

Analysis Batch: 112382

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.04276		mg/Kg		86	75 - 127
Ethylbenzene	0.0500	0.04838		mg/Kg		97	80 - 134
Xylenes, Total	0.100	0.09616		mg/Kg		96	80 - 137
Toluene	0.0500	0.04469		mg/Kg		89	80 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,2-Dichloroethane-d4 (Surr)	93		70 - 130
Toluene-d8 (Surr)	104		70 - 130
Dibromofluoromethane (Surr)	94		70 - 130

Lab Sample ID: LCSD 490-112382/4

Matrix: Solid

Analysis Batch: 112382

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0500	0.04258		mg/Kg		85	75 - 127	0	50
Ethylbenzene	0.0500	0.04859		mg/Kg		97	80 - 134	0	50
Xylenes, Total	0.100	0.09735		mg/Kg		97	80 - 137	1	50
Toluene	0.0500	0.04539		mg/Kg		91	80 - 132	2	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,2-Dichloroethane-d4 (Surr)	92		70 - 130
Toluene-d8 (Surr)	104		70 - 130
Dibromofluoromethane (Surr)	94		70 - 130

Lab Sample ID: MB 490-112618/6

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.100		mg/Kg			10/08/13 11:53	1
1,1,1-Trichloroethane	ND		0.100		mg/Kg			10/08/13 11:53	1
1,1,2,2-Tetrachloroethane	ND		0.100		mg/Kg			10/08/13 11:53	1
1,1,2-Trichloroethane	ND		0.250		mg/Kg			10/08/13 11:53	1
1,1-Dichloroethane	ND		0.100		mg/Kg			10/08/13 11:53	1
1,1-Dichloroethene	ND		0.100		mg/Kg			10/08/13 11:53	1
1,1-Dichloropropene	ND		0.100		mg/Kg			10/08/13 11:53	1
1,2,3-Trichlorobenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
1,2,3-Trichloropropane	ND		0.100		mg/Kg			10/08/13 11:53	1
1,2,4-Trichlorobenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
1,2,4-Trimethylbenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
1,2-Dibromo-3-Chloropropane	ND		0.250		mg/Kg			10/08/13 11:53	1
1,2-Dibromoethane (EDB)	ND		0.100		mg/Kg			10/08/13 11:53	1
1,2-Dichlorobenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
1,2-Dichloroethane	ND		0.100		mg/Kg			10/08/13 11:53	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 490-112618/6

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dichloropropane	ND		0.100		mg/Kg			10/08/13 11:53	1
1,3,5-Trimethylbenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
1,3-Dichlorobenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
1,3-Dichloropropane	ND		0.100		mg/Kg			10/08/13 11:53	1
1,4-Dichlorobenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
2,2-Dichloropropane	ND		0.100		mg/Kg			10/08/13 11:53	1
2-Butanone (MEK)	ND		2.50		mg/Kg			10/08/13 11:53	1
2-Chlorotoluene	ND		0.100		mg/Kg			10/08/13 11:53	1
2-Hexanone	ND		2.50		mg/Kg			10/08/13 11:53	1
4-Chlorotoluene	ND		0.100		mg/Kg			10/08/13 11:53	1
4-Methyl-2-pentanone (MIBK)	ND		2.50		mg/Kg			10/08/13 11:53	1
Acetone	ND		2.50		mg/Kg			10/08/13 11:53	1
Benzene	ND		0.100		mg/Kg			10/08/13 11:53	1
Bromobenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
Bromochloromethane	ND		0.100		mg/Kg			10/08/13 11:53	1
Bromodichloromethane	ND		0.100		mg/Kg			10/08/13 11:53	1
Bromoform	ND		0.100		mg/Kg			10/08/13 11:53	1
Bromomethane	ND		0.100		mg/Kg			10/08/13 11:53	1
Carbon disulfide	ND		0.250		mg/Kg			10/08/13 11:53	1
Carbon tetrachloride	ND		0.100		mg/Kg			10/08/13 11:53	1
Chlorobenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
Chlorodibromomethane	ND		0.100		mg/Kg			10/08/13 11:53	1
Chloroethane	ND		0.250		mg/Kg			10/08/13 11:53	1
Chloroform	ND		0.100		mg/Kg			10/08/13 11:53	1
Chloromethane	ND		0.100		mg/Kg			10/08/13 11:53	1
cis-1,2-Dichloroethene	ND		0.100		mg/Kg			10/08/13 11:53	1
cis-1,3-Dichloropropene	ND		0.100		mg/Kg			10/08/13 11:53	1
Dibromomethane	ND		0.100		mg/Kg			10/08/13 11:53	1
Dichlorodifluoromethane	ND		0.100		mg/Kg			10/08/13 11:53	1
Ethylbenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
Hexachlorobutadiene	ND		0.250		mg/Kg			10/08/13 11:53	1
Isopropylbenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
Methyl tert-butyl ether	ND		0.100		mg/Kg			10/08/13 11:53	1
Methylene Chloride	ND		0.500		mg/Kg			10/08/13 11:53	1
Naphthalene	ND		0.250		mg/Kg			10/08/13 11:53	1
n-Butylbenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
N-Propylbenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
p-Isopropyltoluene	ND		0.100		mg/Kg			10/08/13 11:53	1
sec-Butylbenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
Styrene	ND		0.100		mg/Kg			10/08/13 11:53	1
tert-Butylbenzene	ND		0.100		mg/Kg			10/08/13 11:53	1
Tetrachloroethene	ND		0.100		mg/Kg			10/08/13 11:53	1
Toluene	ND		0.100		mg/Kg			10/08/13 11:53	1
trans-1,2-Dichloroethene	ND		0.100		mg/Kg			10/08/13 11:53	1
trans-1,3-Dichloropropene	ND		0.100		mg/Kg			10/08/13 11:53	1
Trichloroethene	ND		0.100		mg/Kg			10/08/13 11:53	1
Trichlorofluoromethane	ND		0.100		mg/Kg			10/08/13 11:53	1
Vinyl chloride	ND		0.100		mg/Kg			10/08/13 11:53	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 490-112618/6

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.150		mg/Kg			10/08/13 11:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 130					10/08/13 11:53	1
4-Bromofluorobenzene (Surr)	101		70 - 130					10/08/13 11:53	1
Dibromofluoromethane (Surr)	98		70 - 130					10/08/13 11:53	1
Toluene-d8 (Surr)	105		70 - 130					10/08/13 11:53	1

Lab Sample ID: MB 490-112618/7

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,1,1-Trichloroethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,1,2,2-Tetrachloroethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,1,2-Trichloroethane	ND		0.00500		mg/Kg			10/08/13 12:22	1
1,1-Dichloroethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,1-Dichloroethene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,1-Dichloropropene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2,3-Trichlorobenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2,3-Trichloropropane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2,4-Trichlorobenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2,4-Trimethylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2-Dibromo-3-Chloropropane	ND		0.00500		mg/Kg			10/08/13 12:22	1
1,2-Dibromoethane (EDB)	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2-Dichlorobenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2-Dichloroethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2-Dichloropropane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,3,5-Trimethylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,3-Dichlorobenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,3-Dichloropropane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,4-Dichlorobenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
2,2-Dichloropropane	ND		0.00200		mg/Kg			10/08/13 12:22	1
2-Butanone (MEK)	ND		0.0500		mg/Kg			10/08/13 12:22	1
2-Chlorotoluene	ND		0.00200		mg/Kg			10/08/13 12:22	1
2-Hexanone	ND		0.0500		mg/Kg			10/08/13 12:22	1
4-Chlorotoluene	ND		0.00200		mg/Kg			10/08/13 12:22	1
4-Methyl-2-pentanone (MIBK)	ND		0.0500		mg/Kg			10/08/13 12:22	1
Acetone	ND		0.0500		mg/Kg			10/08/13 12:22	1
Benzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Bromobenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Bromochloromethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
Bromodichloromethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
Bromoform	ND		0.00200		mg/Kg			10/08/13 12:22	1
Bromomethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
Carbon disulfide	ND		0.00500		mg/Kg			10/08/13 12:22	1
Carbon tetrachloride	ND		0.00200		mg/Kg			10/08/13 12:22	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 490-112618/7

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Chlorodibromomethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
Chloroethane	ND		0.00500		mg/Kg			10/08/13 12:22	1
Chloroform	ND		0.00200		mg/Kg			10/08/13 12:22	1
Chloromethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
cis-1,2-Dichloroethene	ND		0.00200		mg/Kg			10/08/13 12:22	1
cis-1,3-Dichloropropene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Dibromomethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
Dichlorodifluoromethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
Ethylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Hexachlorobutadiene	ND		0.00500		mg/Kg			10/08/13 12:22	1
Isopropylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Methyl tert-butyl ether	ND		0.00200		mg/Kg			10/08/13 12:22	1
Methylene Chloride	ND		0.0100		mg/Kg			10/08/13 12:22	1
Naphthalene	ND		0.00500		mg/Kg			10/08/13 12:22	1
n-Butylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
N-Propylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
p-Isopropyltoluene	ND		0.00200		mg/Kg			10/08/13 12:22	1
sec-Butylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Styrene	ND		0.00200		mg/Kg			10/08/13 12:22	1
tert-Butylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Tetrachloroethene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Toluene	ND		0.00200		mg/Kg			10/08/13 12:22	1
trans-1,2-Dichloroethene	ND		0.00200		mg/Kg			10/08/13 12:22	1
trans-1,3-Dichloropropene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Trichloroethene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Trichlorofluoromethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
Vinyl chloride	ND		0.00200		mg/Kg			10/08/13 12:22	1
Xylenes, Total	ND		0.00300		mg/Kg			10/08/13 12:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 130		10/08/13 12:22	1
4-Bromofluorobenzene (Surr)	102		70 - 130		10/08/13 12:22	1
Dibromofluoromethane (Surr)	99		70 - 130		10/08/13 12:22	1
Toluene-d8 (Surr)	105		70 - 130		10/08/13 12:22	1

Lab Sample ID: LCS 490-112618/3

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	0.0500	0.04622		mg/Kg		92	80 - 136
1,1,1-Trichloroethane	0.0500	0.04529		mg/Kg		91	72 - 140
1,1,2,2-Tetrachloroethane	0.0500	0.04250		mg/Kg		85	66 - 134
1,1,2-Trichloroethane	0.0500	0.04562		mg/Kg		91	78 - 128
1,1-Dichloroethane	0.0500	0.04659		mg/Kg		93	75 - 124
1,1-Dichloroethene	0.0500	0.04545		mg/Kg		91	75 - 131
1,1-Dichloropropene	0.0500	0.04664		mg/Kg		93	79 - 127

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-112618/3

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichlorobenzene	0.0500	0.05066		mg/Kg		101	70 - 150
1,2,3-Trichloropropane	0.0500	0.04543		mg/Kg		91	65 - 139
1,2,4-Trichlorobenzene	0.0500	0.05322		mg/Kg		106	62 - 150
1,2,4-Trimethylbenzene	0.0500	0.05184		mg/Kg		104	77 - 139
1,2-Dibromo-3-Chloropropane	0.0500	0.04364		mg/Kg		87	49 - 142
1,2-Dibromoethane (EDB)	0.0500	0.04605		mg/Kg		92	80 - 135
1,2-Dichlorobenzene	0.0500	0.04809		mg/Kg		96	80 - 134
1,2-Dichloroethane	0.0500	0.04262		mg/Kg		85	65 - 134
1,2-Dichloropropane	0.0500	0.04692		mg/Kg		94	69 - 120
1,3,5-Trimethylbenzene	0.0500	0.05222		mg/Kg		104	78 - 138
1,3-Dichlorobenzene	0.0500	0.04966		mg/Kg		99	79 - 137
1,3-Dichloropropane	0.0500	0.04611		mg/Kg		92	78 - 126
1,4-Dichlorobenzene	0.0500	0.04831		mg/Kg		97	77 - 139
2,2-Dichloropropane	0.0500	0.04512		mg/Kg		90	68 - 145
2-Butanone (MEK)	0.250	0.2148		mg/Kg		86	61 - 132
2-Chlorotoluene	0.0500	0.04960		mg/Kg		99	78 - 132
2-Hexanone	0.250	0.2135		mg/Kg		85	57 - 148
4-Chlorotoluene	0.0500	0.05219		mg/Kg		104	77 - 138
4-Methyl-2-pentanone (MIBK)	0.250	0.2456		mg/Kg		98	59 - 138
Acetone	0.250	0.2139		mg/Kg		86	51 - 149
Benzene	0.0500	0.04535		mg/Kg		91	75 - 127
Bromobenzene	0.0500	0.04661		mg/Kg		93	75 - 130
Bromochloromethane	0.0500	0.04476		mg/Kg		90	70 - 132
Bromodichloromethane	0.0500	0.04566		mg/Kg		91	68 - 135
Bromoform	0.0500	0.04616		mg/Kg		92	36 - 150
Bromomethane	0.0500	0.05057	E	mg/Kg		101	43 - 142
Carbon disulfide	0.0500	0.04552		mg/Kg		91	74 - 135
Carbon tetrachloride	0.0500	0.04547		mg/Kg		91	70 - 141
Chlorobenzene	0.0500	0.04652		mg/Kg		93	84 - 125
Chlorodibromomethane	0.0500	0.04804		mg/Kg		96	66 - 134
Chloroethane	0.0500	0.05224		mg/Kg		104	53 - 144
Chloroform	0.0500	0.04482		mg/Kg		90	76 - 130
Chloromethane	0.0500	0.05919		mg/Kg		118	23 - 150
cis-1,2-Dichloroethene	0.0500	0.04818		mg/Kg		96	75 - 125
cis-1,3-Dichloropropene	0.0500	0.05054		mg/Kg		101	73 - 148
Dibromomethane	0.0500	0.04312		mg/Kg		86	71 - 130
Dichlorodifluoromethane	0.0500	0.05513		mg/Kg		110	12 - 144
Ethylbenzene	0.0500	0.05077		mg/Kg		102	80 - 134
Hexachlorobutadiene	0.0500	0.04665		mg/Kg		93	65 - 148
Isopropylbenzene	0.0500	0.05331		mg/Kg		107	80 - 150
Methyl tert-butyl ether	0.0500	0.04646		mg/Kg		93	70 - 136
Methylene Chloride	0.0500	0.04417		mg/Kg		88	68 - 144
Naphthalene	0.0500	0.05013		mg/Kg		100	69 - 150
n-Butylbenzene	0.0500	0.05515		mg/Kg		110	72 - 152
N-Propylbenzene	0.0500	0.05171		mg/Kg		103	75 - 137
p-Isopropyltoluene	0.0500	0.05428		mg/Kg		109	77 - 141
sec-Butylbenzene	0.0500	0.05342		mg/Kg		107	79 - 141
Styrene	0.0500	0.05281		mg/Kg		106	82 - 137

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-112618/3

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
tert-Butylbenzene	0.0500	0.05054		mg/Kg		101	80 - 132	
Tetrachloroethene	0.0500	0.04656		mg/Kg		93	78 - 140	
Toluene	0.0500	0.04753		mg/Kg		95	80 - 132	
trans-1,2-Dichloroethene	0.0500	0.04705		mg/Kg		94	76 - 128	
trans-1,3-Dichloropropene	0.0500	0.05145		mg/Kg		103	62 - 139	
Trichloroethene	0.0500	0.04519		mg/Kg		90	77 - 127	
Trichlorofluoromethane	0.0500	0.05055		mg/Kg		101	50 - 140	
Vinyl chloride	0.0500	0.05580		mg/Kg		112	47 - 136	
Xylenes, Total	0.100	0.1018		mg/Kg		102	80 - 137	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	95		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	96		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: LCSD 490-112618/4

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
1,1,1,2-Tetrachloroethane	0.0500	0.04606		mg/Kg		92	80 - 136	0	50	
1,1,1-Trichloroethane	0.0500	0.04590		mg/Kg		92	72 - 140	1	50	
1,1,2,2-Tetrachloroethane	0.0500	0.04535		mg/Kg		91	66 - 134	6	50	
1,1,2-Trichloroethane	0.0500	0.04544		mg/Kg		91	78 - 128	0	50	
1,1-Dichloroethane	0.0500	0.04656		mg/Kg		93	75 - 124	0	50	
1,1-Dichloroethene	0.0500	0.04630		mg/Kg		93	75 - 131	2	50	
1,1-Dichloropropene	0.0500	0.04772		mg/Kg		95	79 - 127	2	50	
1,2,3-Trichlorobenzene	0.0500	0.05054		mg/Kg		101	70 - 150	0	50	
1,2,3-Trichloropropane	0.0500	0.04586		mg/Kg		92	65 - 139	1	50	
1,2,4-Trichlorobenzene	0.0500	0.05441		mg/Kg		109	62 - 150	2	50	
1,2,4-Trimethylbenzene	0.0500	0.05201		mg/Kg		104	77 - 139	0	50	
1,2-Dibromo-3-Chloropropane	0.0500	0.04348		mg/Kg		87	49 - 142	0	50	
1,2-Dibromoethane (EDB)	0.0500	0.04612		mg/Kg		92	80 - 135	0	50	
1,2-Dichlorobenzene	0.0500	0.04773		mg/Kg		95	80 - 134	1	50	
1,2-Dichloroethane	0.0500	0.04340		mg/Kg		87	65 - 134	2	50	
1,2-Dichloropropane	0.0500	0.04740		mg/Kg		95	69 - 120	1	50	
1,3,5-Trimethylbenzene	0.0500	0.05320		mg/Kg		106	78 - 138	2	50	
1,3-Dichlorobenzene	0.0500	0.04941		mg/Kg		99	79 - 137	0	50	
1,3-Dichloropropane	0.0500	0.04657		mg/Kg		93	78 - 126	1	42	
1,4-Dichlorobenzene	0.0500	0.04729		mg/Kg		95	77 - 139	2	50	
2,2-Dichloropropane	0.0500	0.04570		mg/Kg		91	68 - 145	1	50	
2-Butanone (MEK)	0.250	0.2108		mg/Kg		84	61 - 132	2	50	
2-Chlorotoluene	0.0500	0.04962		mg/Kg		99	78 - 132	0	50	
2-Hexanone	0.250	0.2113		mg/Kg		85	57 - 148	1	50	
4-Chlorotoluene	0.0500	0.04903		mg/Kg		98	77 - 138	6	50	
4-Methyl-2-pentanone (MIBK)	0.250	0.2429		mg/Kg		97	59 - 138	1	50	
Acetone	0.250	0.2047		mg/Kg		82	51 - 149	4	50	

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 490-112618/4

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
Benzene	0.0500	0.04637		mg/Kg		93	75 - 127	2	50
Bromobenzene	0.0500	0.04743		mg/Kg		95	75 - 130	2	50
Bromochloromethane	0.0500	0.04564		mg/Kg		91	70 - 132	2	50
Bromodichloromethane	0.0500	0.04669		mg/Kg		93	68 - 135	2	50
Bromoform	0.0500	0.04688		mg/Kg		94	36 - 150	2	50
Bromomethane	0.0500	0.05349	E	mg/Kg		107	43 - 142	6	50
Carbon disulfide	0.0500	0.04634		mg/Kg		93	74 - 135	2	50
Carbon tetrachloride	0.0500	0.04609		mg/Kg		92	70 - 141	1	50
Chlorobenzene	0.0500	0.04683		mg/Kg		94	84 - 125	1	50
Chlorodibromomethane	0.0500	0.04772		mg/Kg		95	66 - 134	1	50
Chloroethane	0.0500	0.05271		mg/Kg		105	53 - 144	1	50
Chloroform	0.0500	0.04519		mg/Kg		90	76 - 130	1	49
Chloromethane	0.0500	0.05810		mg/Kg		116	23 - 150	2	50
cis-1,2-Dichloroethene	0.0500	0.04809		mg/Kg		96	75 - 125	0	50
cis-1,3-Dichloropropene	0.0500	0.05028		mg/Kg		101	73 - 148	1	50
Dibromomethane	0.0500	0.04386		mg/Kg		88	71 - 130	2	50
Dichlorodifluoromethane	0.0500	0.05575		mg/Kg		112	12 - 144	1	50
Ethylbenzene	0.0500	0.05053		mg/Kg		101	80 - 134	0	50
Hexachlorobutadiene	0.0500	0.04619		mg/Kg		92	65 - 148	1	50
Isopropylbenzene	0.0500	0.05251		mg/Kg		105	80 - 150	2	50
Methyl tert-butyl ether	0.0500	0.04642		mg/Kg		93	70 - 136	0	50
Methylene Chloride	0.0500	0.04520		mg/Kg		90	68 - 144	2	50
Naphthalene	0.0500	0.05093		mg/Kg		102	69 - 150	2	50
n-Butylbenzene	0.0500	0.05477		mg/Kg		110	72 - 152	1	50
N-Propylbenzene	0.0500	0.05190		mg/Kg		104	75 - 137	0	50
p-Isopropyltoluene	0.0500	0.05419		mg/Kg		108	77 - 141	0	50
sec-Butylbenzene	0.0500	0.05316		mg/Kg		106	79 - 141	0	50
Styrene	0.0500	0.05226		mg/Kg		105	82 - 137	1	50
tert-Butylbenzene	0.0500	0.05061		mg/Kg		101	80 - 132	0	50
Tetrachloroethene	0.0500	0.04588		mg/Kg		92	78 - 140	1	50
Toluene	0.0500	0.04747		mg/Kg		95	80 - 132	0	50
trans-1,2-Dichloroethene	0.0500	0.04838		mg/Kg		97	76 - 128	3	50
trans-1,3-Dichloropropene	0.0500	0.05031		mg/Kg		101	62 - 139	2	50
Trichloroethene	0.0500	0.04526		mg/Kg		91	77 - 127	0	50
Trichlorofluoromethane	0.0500	0.04922		mg/Kg		98	50 - 140	3	50
Vinyl chloride	0.0500	0.05749		mg/Kg		115	47 - 136	3	50
Xylenes, Total	0.100	0.1020		mg/Kg		102	80 - 137	0	50

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	96		70 - 130
Toluene-d8 (Surr)	104		70 - 130

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 490-112600/1-A

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 112600

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Acenaphthylene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Anthracene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[a]anthracene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[a]pyrene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[b]fluoranthene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[g,h,i]perylene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[k]fluoranthene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Chrysene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Dibenz(a,h)anthracene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Fluorene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Fluoranthene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Indeno[1,2,3-cd]pyrene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Naphthalene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Phenanthrene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Pyrene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
1-Methylnaphthalene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
2-Methylnaphthalene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	84		13 - 120	10/08/13 07:50	10/08/13 20:17	1
Nitrobenzene-d5	63		27 - 120	10/08/13 07:50	10/08/13 20:17	1
2-Fluorobiphenyl (Surr)	68		29 - 120	10/08/13 07:50	10/08/13 20:17	1

Lab Sample ID: LCS 490-112600/2-A

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 112600

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.0333	0.02754		mg/Kg		83	36 - 120
Acenaphthylene	0.0333	0.02726		mg/Kg		82	38 - 120
Anthracene	0.0333	0.02913		mg/Kg		87	46 - 124
Benzo[a]anthracene	0.0333	0.03086		mg/Kg		93	45 - 120
Benzo[a]pyrene	0.0333	0.02984		mg/Kg		90	45 - 120
Benzo[b]fluoranthene	0.0333	0.03083		mg/Kg		93	42 - 120
Benzo[g,h,i]perylene	0.0333	0.03440		mg/Kg		103	38 - 120
Benzo[k]fluoranthene	0.0333	0.03165		mg/Kg		95	42 - 120
Chrysene	0.0333	0.03181		mg/Kg		95	43 - 120
Dibenz(a,h)anthracene	0.0333	0.03698		mg/Kg		111	32 - 128
Fluorene	0.0333	0.02874		mg/Kg		86	42 - 120
Fluoranthene	0.0333	0.03085		mg/Kg		93	46 - 120
Indeno[1,2,3-cd]pyrene	0.0333	0.03377		mg/Kg		101	41 - 121
Naphthalene	0.0333	0.02652		mg/Kg		80	32 - 120
Phenanthrene	0.0333	0.02934		mg/Kg		88	45 - 120
Pyrene	0.0333	0.03050		mg/Kg		91	43 - 120
1-Methylnaphthalene	0.0333	0.02712		mg/Kg		81	32 - 120
2-Methylnaphthalene	0.0333	0.02717		mg/Kg		82	28 - 120

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 490-112600/2-A

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 112600

Surrogate	LCS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	82		13 - 120
Nitrobenzene-d5	66		27 - 120
2-Fluorobiphenyl (Surr)	65		29 - 120

Lab Sample ID: 490-37096-F-7-B MS

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 112600

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
Acenaphthene	ND		0.0368	0.02747		mg/Kg	*	75	19 - 120
Acenaphthylene	ND		0.0368	0.02731		mg/Kg	*	74	25 - 120
Anthracene	ND		0.0368	0.02813		mg/Kg	*	77	28 - 125
Benzo[a]anthracene	ND		0.0368	0.03070		mg/Kg	*	83	23 - 120
Benzo[a]pyrene	ND		0.0368	0.02912		mg/Kg	*	79	15 - 128
Benzo[b]fluoranthene	ND		0.0368	0.02980		mg/Kg	*	81	12 - 133
Benzo[g,h,i]perylene	ND		0.0368	0.03038		mg/Kg	*	83	22 - 120
Benzo[k]fluoranthene	ND		0.0368	0.02991		mg/Kg	*	81	28 - 120
Chrysene	ND		0.0368	0.02978		mg/Kg	*	81	20 - 120
Dibenz(a,h)anthracene	ND		0.0368	0.03207		mg/Kg	*	87	12 - 128
Fluorene	ND		0.0368	0.02870		mg/Kg	*	78	20 - 120
Fluoranthene	ND		0.0368	0.03061		mg/Kg	*	83	10 - 143
Indeno[1,2,3-cd]pyrene	ND		0.0368	0.03015		mg/Kg	*	82	22 - 121
Naphthalene	ND		0.0368	0.02671		mg/Kg	*	73	10 - 120
Phenanthrene	ND		0.0368	0.02968		mg/Kg	*	81	21 - 122
Pyrene	ND		0.0368	0.03040		mg/Kg	*	83	20 - 123
1-Methylnaphthalene	ND		0.0368	0.02732		mg/Kg	*	74	10 - 120
2-Methylnaphthalene	ND		0.0368	0.02763		mg/Kg	*	75	13 - 120

Surrogate	MS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	67		13 - 120
Nitrobenzene-d5	58		27 - 120
2-Fluorobiphenyl (Surr)	57		29 - 120

Lab Sample ID: 490-37096-F-7-C MSD

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 112600

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec. Limits	RPD	
				Result	Qualifier					RPD	Limit
Acenaphthene	ND		0.0370	0.02900		mg/Kg	*	78	19 - 120	5	50
Acenaphthylene	ND		0.0370	0.02834		mg/Kg	*	77	25 - 120	4	50
Anthracene	ND		0.0370	0.03100		mg/Kg	*	84	28 - 125	10	49
Benzo[a]anthracene	ND		0.0370	0.03402		mg/Kg	*	92	23 - 120	10	50
Benzo[a]pyrene	ND		0.0370	0.03271		mg/Kg	*	88	15 - 128	12	50
Benzo[b]fluoranthene	ND		0.0370	0.03289		mg/Kg	*	89	12 - 133	10	50
Benzo[g,h,i]perylene	ND		0.0370	0.03594		mg/Kg	*	97	22 - 120	17	50
Benzo[k]fluoranthene	ND		0.0370	0.03298		mg/Kg	*	89	28 - 120	10	45
Chrysene	ND		0.0370	0.03328		mg/Kg	*	90	20 - 120	11	49
Dibenz(a,h)anthracene	ND		0.0370	0.03808		mg/Kg	*	103	12 - 128	17	50

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 490-37096-F-7-C MSD
Matrix: Solid
Analysis Batch: 112729

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 112600

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit
Fluorene	ND		0.0370	0.02982		mg/Kg	*	81	20 - 120	4	50
Fluoranthene	ND		0.0370	0.03350		mg/Kg	*	91	10 - 143	9	50
Indeno[1,2,3-cd]pyrene	ND		0.0370	0.03550		mg/Kg	*	96	22 - 121	16	50
Naphthalene	ND		0.0370	0.02728		mg/Kg	*	74	10 - 120	2	50
Phenanthrene	ND		0.0370	0.03164		mg/Kg	*	86	21 - 122	6	50
Pyrene	ND		0.0370	0.03387		mg/Kg	*	92	20 - 123	11	50
1-Methylnaphthalene	ND		0.0370	0.02827		mg/Kg	*	76	10 - 120	3	50
2-Methylnaphthalene	ND		0.0370	0.02856		mg/Kg	*	77	13 - 120	3	50
Surrogate	%Recovery	MSD Qualifier	Limits								
Terphenyl-d14	74		13 - 120								
Nitrobenzene-d5	59		27 - 120								
2-Fluorobiphenyl (Surr)	60		29 - 120								

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: 490-37096-D-1-A DU
Matrix: Solid
Analysis Batch: 113587

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 112276

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	
	Result	Qualifier	Result	Qualifier				Limit	
C6-C12	ND		ND		mg/Kg	*	NC	10	
Surrogate	%Recovery	DU Qualifier	Limits						
a,a,a-Trifluorotoluene	92		50 - 150						

Lab Sample ID: MB 490-113587/39
Matrix: Solid
Analysis Batch: 113587

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C6-C12	ND		5.00		mg/Kg			10/12/13 12:30	1
Surrogate	%Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene	97		50 - 150				10/12/13 12:30	1	

Lab Sample ID: LCS 490-113587/64
Matrix: Solid
Analysis Batch: 113587

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.		
							Limits	RPD	Limit
C6-C12	10.0	9.210		mg/Kg		92	70 - 130		
Surrogate	%Recovery	LCS Qualifier	Limits						
a,a,a-Trifluorotoluene	77		50 - 150						

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 490-112601/1-A

Matrix: Solid

Analysis Batch: 113656

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 112601

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1221	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1232	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1242	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1248	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1254	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1260	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	103		19 - 147	10/08/13 08:11	10/12/13 09:32	1
DCB Decachlorobiphenyl (Surr)	81		20 - 150	10/08/13 08:11	10/12/13 09:32	1

Lab Sample ID: LCS 490-112601/2-A

Matrix: Solid

Analysis Batch: 113656

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 112601

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1242	0.167	0.1698		mg/Kg		102	39 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	100		19 - 147
DCB Decachlorobiphenyl (Surr)	80		20 - 150

Lab Sample ID: 490-37104-5 MS

Matrix: Solid

Analysis Batch: 113656

Client Sample ID: SO-062027-100113-MW-7-2

Prep Type: Total/NA

Prep Batch: 112601

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1242	ND		0.191	0.3202		mg/Kg	☼	168	10 - 168

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	98		19 - 147
DCB Decachlorobiphenyl (Surr)	71		20 - 150

Lab Sample ID: 490-37104-5 MSD

Matrix: Solid

Analysis Batch: 113656

Client Sample ID: SO-062027-100113-MW-7-2

Prep Type: Total/NA

Prep Batch: 112601

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
PCB-1242	ND		0.192	0.3399	F	mg/Kg	☼	177	10 - 168	6	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	69		19 - 147
DCB Decachlorobiphenyl (Surr)	71		20 - 150

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

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

Lab Sample ID: MB 490-112949/1-A

Matrix: Solid

Analysis Batch: 112980

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 112949

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		5.00		mg/Kg		10/09/13 09:22	10/10/13 00:02	1
C24-C40	ND		5.00		mg/Kg		10/09/13 09:22	10/10/13 00:02	1
Surrogate	%Recovery	MB Qualifier	Limits						
<i>o</i> -Terphenyl	78		50 - 150						
				Prepared	Analyzed	Dil Fac			
				10/09/13 09:22	10/10/13 00:02	1			

Lab Sample ID: LCS 490-112949/2-A

Matrix: Solid

Analysis Batch: 112980

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 112949

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
C10-C24	50.0	44.37		mg/Kg		89	55 - 129
Surrogate	%Recovery	LCS Qualifier	Limits				
<i>o</i> -Terphenyl	90		50 - 150				

Lab Sample ID: 490-37104-1 DU

Matrix: Solid

Analysis Batch: 112980

Client Sample ID: SO-062027-093013-MW-5-2

Prep Type: Total/NA

Prep Batch: 112949

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
C10-C24	16.3		17.27		mg/Kg	☼	6	50
C24-C40	6.80		9.654		mg/Kg	☼	35	50
Surrogate	%Recovery	DU Qualifier	Limits					
<i>o</i> -Terphenyl	65		50 - 150					

Lab Sample ID: 490-37104-5 DU

Matrix: Solid

Analysis Batch: 112980

Client Sample ID: SO-062027-100113-MW-7-2

Prep Type: Total/NA

Prep Batch: 112949

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
C10-C24	ND		6.062		mg/Kg	☼	42	50
C24-C40	ND		8.748		mg/Kg	☼	56	50
Surrogate	%Recovery	DU Qualifier	Limits					
<i>o</i> -Terphenyl	72		50 - 150					

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 490-114526/1-A

Matrix: Solid

Analysis Batch: 114654

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 114526

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.499		mg/Kg		10/15/13 13:45	10/15/13 16:50	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 490-114526/2-A

Matrix: Solid

Analysis Batch: 114654

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 114526

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	19.3	19.60		mg/Kg		102	80 - 120

Lab Sample ID: 490-37096-F-7-G MS

Matrix: Solid

Analysis Batch: 114654

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 114526

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	32.0		22.0	44.02	F	mg/Kg	✱	55	75 - 125

Lab Sample ID: 490-37096-F-7-H MSD

Matrix: Solid

Analysis Batch: 114654

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 114526

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	32.0		22.3	54.48	F	mg/Kg	✱	101	75 - 125	21	20

Method: Moisture - Percent Moisture

Lab Sample ID: 490-37104-1 DU

Matrix: Solid

Analysis Batch: 112469

Client Sample ID: SO-062027-093013-MW-5-2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	81		80		%		0.8	20

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

GC/MS VOA

Prep Batch: 112261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37071-A-2-I MS	Matrix Spike	Total/NA	Solid	5030B	
490-37071-A-2-K MSD	Matrix Spike Duplicate	Total/NA	Solid	5030B	

Prep Batch: 112284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	5035	

Prep Batch: 112286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-1	SO-062027-093013-MW-5-2	Total/NA	Solid	5035	
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	5035	
490-37104-3	SO-062027-100113-MW-8-2	Total/NA	Solid	5035	
490-37104-4	SO-062027-100113-SB-13-2	Total/NA	Solid	5035	
490-37104-5	SO-062027-100113-MW-7-2	Total/NA	Solid	5035	

Analysis Batch: 112382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37071-A-2-I MS	Matrix Spike	Total/NA	Solid	8260B	112261
490-37071-A-2-K MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	112261
490-37104-1	SO-062027-093013-MW-5-2	Total/NA	Solid	8260B	112286
490-37104-3	SO-062027-100113-MW-8-2	Total/NA	Solid	8260B	112286
490-37104-4	SO-062027-100113-SB-13-2	Total/NA	Solid	8260B	112286
LCS 490-112382/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-112382/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-112382/7	Method Blank	Total/NA	Solid	8260B	

Analysis Batch: 112618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	8260B	112286
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	8260B	112284
490-37104-5	SO-062027-100113-MW-7-2	Total/NA	Solid	8260B	112286
LCS 490-112618/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-112618/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-112618/6	Method Blank	Total/NA	Solid	8260B	
MB 490-112618/7	Method Blank	Total/NA	Solid	8260B	

GC/MS Semi VOA

Prep Batch: 112600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-F-7-B MS	Matrix Spike	Total/NA	Solid	3550B	
490-37096-F-7-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3550B	
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	3550B	
490-37104-5	SO-062027-100113-MW-7-2	Total/NA	Solid	3550B	
LCS 490-112600/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 490-112600/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 112729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-F-7-B MS	Matrix Spike	Total/NA	Solid	8270C SIM	112600

TestAmerica Nashville

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

GC/MS Semi VOA (Continued)

Analysis Batch: 112729 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-F-7-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8270C SIM	112600
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	8270C SIM	112600
490-37104-5	SO-062027-100113-MW-7-2	Total/NA	Solid	8270C SIM	112600
LCS 490-112600/2-A	Lab Control Sample	Total/NA	Solid	8270C SIM	112600
MB 490-112600/1-A	Method Blank	Total/NA	Solid	8270C SIM	112600

GC VOA

Prep Batch: 112276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-D-1-A DU	Duplicate	Total/NA	Solid	5035	

Prep Batch: 112284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-1	SO-062027-093013-MW-5-2	Total/NA	Solid	5035	
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	5035	
490-37104-3	SO-062027-100113-MW-8-2	Total/NA	Solid	5035	
490-37104-4	SO-062027-100113-SB-13-2	Total/NA	Solid	5035	
490-37104-5	SO-062027-100113-MW-7-2	Total/NA	Solid	5035	

Analysis Batch: 113587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-D-1-A DU	Duplicate	Total/NA	Solid	NWTPH-Gx	112276
490-37104-1	SO-062027-093013-MW-5-2	Total/NA	Solid	NWTPH-Gx	112284
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	NWTPH-Gx	112284
490-37104-3	SO-062027-100113-MW-8-2	Total/NA	Solid	NWTPH-Gx	112284
490-37104-4	SO-062027-100113-SB-13-2	Total/NA	Solid	NWTPH-Gx	112284
490-37104-5	SO-062027-100113-MW-7-2	Total/NA	Solid	NWTPH-Gx	112284
LCS 490-113587/64	Lab Control Sample	Total/NA	Solid	NWTPH-Gx	
MB 490-113587/39	Method Blank	Total/NA	Solid	NWTPH-Gx	

GC Semi VOA

Prep Batch: 112601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	3550B	
490-37104-5	SO-062027-100113-MW-7-2	Total/NA	Solid	3550B	
490-37104-5 MS	SO-062027-100113-MW-7-2	Total/NA	Solid	3550B	
490-37104-5 MSD	SO-062027-100113-MW-7-2	Total/NA	Solid	3550B	
LCS 490-112601/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 490-112601/1-A	Method Blank	Total/NA	Solid	3550B	

Prep Batch: 112949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-1	SO-062027-093013-MW-5-2	Total/NA	Solid	3550B	
490-37104-1 DU	SO-062027-093013-MW-5-2	Total/NA	Solid	3550B	
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	3550B	
490-37104-3	SO-062027-100113-MW-8-2	Total/NA	Solid	3550B	
490-37104-4	SO-062027-100113-SB-13-2	Total/NA	Solid	3550B	
490-37104-5	SO-062027-100113-MW-7-2	Total/NA	Solid	3550B	

TestAmerica Nashville

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

GC Semi VOA (Continued)

Prep Batch: 112949 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-5 DU	SO-062027-100113-MW-7-2	Total/NA	Solid	3550B	
LCS 490-112949/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 490-112949/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 112980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-1	SO-062027-093013-MW-5-2	Total/NA	Solid	NWTPH-Dx	112949
490-37104-1 DU	SO-062027-093013-MW-5-2	Total/NA	Solid	NWTPH-Dx	112949
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	NWTPH-Dx	112949
490-37104-3	SO-062027-100113-MW-8-2	Total/NA	Solid	NWTPH-Dx	112949
490-37104-4	SO-062027-100113-SB-13-2	Total/NA	Solid	NWTPH-Dx	112949
490-37104-5	SO-062027-100113-MW-7-2	Total/NA	Solid	NWTPH-Dx	112949
490-37104-5 DU	SO-062027-100113-MW-7-2	Total/NA	Solid	NWTPH-Dx	112949
LCS 490-112949/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Dx	112949
MB 490-112949/1-A	Method Blank	Total/NA	Solid	NWTPH-Dx	112949

Analysis Batch: 113656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	8082	112601
490-37104-5	SO-062027-100113-MW-7-2	Total/NA	Solid	8082	112601
490-37104-5 MS	SO-062027-100113-MW-7-2	Total/NA	Solid	8082	112601
490-37104-5 MSD	SO-062027-100113-MW-7-2	Total/NA	Solid	8082	112601
LCS 490-112601/2-A	Lab Control Sample	Total/NA	Solid	8082	112601
MB 490-112601/1-A	Method Blank	Total/NA	Solid	8082	112601

Metals

Prep Batch: 114526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-F-7-G MS	Matrix Spike	Total/NA	Solid	3051	
490-37096-F-7-H MSD	Matrix Spike Duplicate	Total/NA	Solid	3051	
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	3051	
490-37104-5	SO-062027-100113-MW-7-2	Total/NA	Solid	3051	
LCS 490-114526/2-A	Lab Control Sample	Total/NA	Solid	3051	
MB 490-114526/1-A	Method Blank	Total/NA	Solid	3051	

Analysis Batch: 114654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-F-7-G MS	Matrix Spike	Total/NA	Solid	6020	114526
490-37096-F-7-H MSD	Matrix Spike Duplicate	Total/NA	Solid	6020	114526
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	6020	114526
490-37104-5	SO-062027-100113-MW-7-2	Total/NA	Solid	6020	114526
LCS 490-114526/2-A	Lab Control Sample	Total/NA	Solid	6020	114526
MB 490-114526/1-A	Method Blank	Total/NA	Solid	6020	114526

General Chemistry

Analysis Batch: 112469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-1	SO-062027-093013-MW-5-2	Total/NA	Solid	Moisture	

TestAmerica Nashville

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

General Chemistry (Continued)

Analysis Batch: 112469 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-1 DU	SO-062027-093013-MW-5-2	Total/NA	Solid	Moisture	
490-37104-2	SO-062027-100113-MW-1-2	Total/NA	Solid	Moisture	
490-37104-3	SO-062027-100113-MW-8-2	Total/NA	Solid	Moisture	
490-37104-4	SO-062027-100113-SB-13-2	Total/NA	Solid	Moisture	
490-37104-5	SO-062027-100113-MW-7-2	Total/NA	Solid	Moisture	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Client Sample ID: SO-062027-093013-MW-5-2

Lab Sample ID: 490-37104-1

Date Collected: 09/30/13 14:30

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 80.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112286	10/05/13 15:29	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112382	10/07/13 17:07	KKK	TAL NSH
Total/NA	Prep	5035			112284	10/05/13 15:26	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/12/13 19:41	AMC	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 02:35	JML	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Client Sample ID: SO-062027-100113-MW-1-2

Lab Sample ID: 490-37104-2

Date Collected: 10/01/13 11:30

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 86.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112286	10/05/13 15:29	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112618	10/08/13 12:51	KKK	TAL NSH
Total/NA	Prep	5035			112284	10/05/13 15:26	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112618	10/08/13 13:20	KKK	TAL NSH
Total/NA	Prep	3550B			112600	10/08/13 07:50	LP	TAL NSH
Total/NA	Analysis	8270C SIM		1	112729	10/08/13 22:24	BES	TAL NSH
Total/NA	Prep	5035			112284	10/05/13 15:26	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/12/13 20:14	AMC	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 03:05	JML	TAL NSH
Total/NA	Prep	3550B			112601	10/08/13 08:11	LP	TAL NSH
Total/NA	Analysis	8082		1	113656	10/12/13 11:42	WAM	TAL NSH
Total/NA	Prep	3051			114526	10/15/13 13:45	NLI	TAL NSH
Total/NA	Analysis	6020		1	114654	10/15/13 17:13	BWW	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Client Sample ID: SO-062027-100113-MW-8-2

Lab Sample ID: 490-37104-3

Date Collected: 10/01/13 13:30

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112286	10/05/13 15:29	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112382	10/07/13 18:05	KKK	TAL NSH
Total/NA	Prep	5035			112284	10/05/13 15:26	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/12/13 20:47	AMC	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 03:20	JML	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Client Sample ID: SO-062027-100113-SB-13-2

Lab Sample ID: 490-37104-4

Date Collected: 10/01/13 14:15

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 82.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112286	10/05/13 15:29	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112382	10/07/13 18:34	KKK	TAL NSH
Total/NA	Prep	5035			112284	10/05/13 15:26	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/12/13 21:20	AMC	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 03:35	JML	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Client Sample ID: SO-062027-100113-MW-7-2

Lab Sample ID: 490-37104-5

Date Collected: 10/01/13 16:15

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112286	10/05/13 15:29	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112618	10/08/13 13:48	KKK	TAL NSH
Total/NA	Prep	3550B			112600	10/08/13 07:50	LP	TAL NSH
Total/NA	Analysis	8270C SIM		1	112729	10/08/13 22:49	BES	TAL NSH
Total/NA	Prep	5035			112284	10/05/13 15:26	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/12/13 21:53	AMC	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 03:51	JML	TAL NSH
Total/NA	Prep	3550B			112601	10/08/13 08:11	LP	TAL NSH
Total/NA	Analysis	8082		1	113656	10/12/13 10:16	WAM	TAL NSH
Total/NA	Prep	3051			114526	10/15/13 13:45	NLI	TAL NSH
Total/NA	Analysis	6020		1	114654	10/15/13 17:18	BWW	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL NSH
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	TAL NSH
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL NSH
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL NSH
6020	Metals (ICP/MS)	SW846	TAL NSH
Moisture	Percent Moisture	EPA	TAL NSH

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

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

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg WA

TestAmerica Job ID: 490-37104-1

Laboratory: TestAmerica Nashville

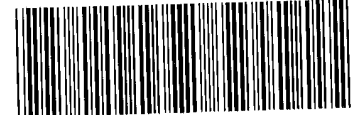
Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C789	07-19-14

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020	3051	Solid	Lead
8082	3550B	Solid	PCB-1016
8082	3550B	Solid	PCB-1221
8082	3550B	Solid	PCB-1232
8082	3550B	Solid	PCB-1242
8082	3550B	Solid	PCB-1248
8082	3550B	Solid	PCB-1254
8082	3550B	Solid	PCB-1260
8270C SIM	3550B	Solid	1-Methylnaphthalene
8270C SIM	3550B	Solid	2-Methylnaphthalene
8270C SIM	3550B	Solid	Acenaphthene
8270C SIM	3550B	Solid	Acenaphthylene
8270C SIM	3550B	Solid	Anthracene
8270C SIM	3550B	Solid	Benzo[a]anthracene
8270C SIM	3550B	Solid	Benzo[a]pyrene
8270C SIM	3550B	Solid	Benzo[b]fluoranthene
8270C SIM	3550B	Solid	Benzo[g,h,i]perylene
8270C SIM	3550B	Solid	Benzo[k]fluoranthene
8270C SIM	3550B	Solid	Chrysene
8270C SIM	3550B	Solid	Dibenz(a,h)anthracene
8270C SIM	3550B	Solid	Fluoranthene
8270C SIM	3550B	Solid	Fluorene
8270C SIM	3550B	Solid	Indeno[1,2,3-cd]pyrene
8270C SIM	3550B	Solid	Naphthalene
8270C SIM	3550B	Solid	Phenanthrene
8270C SIM	3550B	Solid	Pyrene
Moisture		Solid	Percent Solids
NWTPH-Dx	3550B	Solid	C10-C24
NWTPH-Gx		Solid	C6-C12
NWTPH-Gx	5035	Solid	C6-C12

COOLER RECEIPT FORM



490-37104 Chain of Custody

Cooler Received/Opened On 10/5/2013 @ 0815

1. Tracking # 1214 (last 4 digits, FedEx)

Courier: Fedex IR Gun ID 18290455

2. Temperature of rep. sample or temp blank when opened: 3.6 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO (NA)

4. Were custody seals on outside of cooler? (YES)...NO...NA

If yes, how many and where: 1 front

5. Were the seals intact, signed, and dated correctly? (YES)...NO...NA

6. Were custody papers inside cooler? (YES)...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) ELC

7. Were custody seals on containers: YES (NO) and Intact YES...NO...(NA)

Were these signed and dated correctly? YES...NO...(NA)

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...(NO)...NA

12. Did all container labels and tags agree with custody papers? YES...(NO)...NA

13a. Were VOA vials received? (YES)...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...(NA)

14. Was there a Trip Blank in this cooler? YES...(NO)...NA If multiple coolers, sequence # 1

I certify that I unloaded the cooler and answered questions 7-14 (initial) A

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...(NA)

b. Did the bottle labels indicate that the correct preservatives were used (YES)...NO...NA

16. Was residual chlorine present? YES...NO...(NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) A

17. Were custody papers properly filled out (ink, signed, etc)? (YES)...NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)...NO...NA

19. Were correct containers used for the analysis requested? (YES)...NO...NA

20. Was sufficient amount of sample sent in each container? (YES)...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) A

I certify that I attached a label with the unique LIMS number to each container (initial) A

21. Were there Non-Conformance issues at login? (YES)...NO Was a NCM generated? (YES)...NO...# 1

1 jar for MW-8-2 has the sample time and date recorded but not the ID. This jar was packed in a ziplock bag with the other containers. The ID was recorded on the ziplock bag.

Shell Oil Products Chain Of Custody Record

①

LAB (LOCATION)

CALSCIENCE ()

SPL (Houston)

XENCO ()

TEST AMERICA Nashville

OTHER ()

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SD&CM	<input checked="" type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name:
Brian Peters

PO #: _____

INCIDENT # (ENV SERVICES):
7970447

SAP #: _____

CHECK IF NO INCIDENT # APPLIES

DATE: 10/4/13

PAGE: 1 of 1

SAMPLING COMPANY:
Conestoga-Rovers & Associates

LOG CODE:
NA

ADDRESS:
20818 44th Ave W., Suite 190, Lynnwood, WA 98036

SITE ADDRESS: Street and City:
200 Railroad Ave S, Ellensburg WA

STATE: WA

GLOBAL ID NO.: NA

EDF DELIVERABLE TO (Name, Company, Office Location): NA

PHONE NO.: NA

E-MAIL: NA

CONSULTANT PROJECT NO.: 062027

PROJECT CONTACT (Hardcopy or PDF Report to):
Brian Peters

TELEPHONE: 425-563-6500

FAX: 425-563-6599

E-MAIL: BPeters@craworld.com

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY)
 5 DAYS
 3 DAYS
 2 DAYS
 24 HOURS

LA - RWQCB REPORT FORMAT
 UST AGENCY:

SAMPLER NAME(S) (Print):
Stephen Rasmussen

LAB USE ONLY:

SPECIAL INSTRUCTIONS OR NOTES:

TOT benzene required if benzene > 10 mg/kg

Waived TAT except for those contingent tests needed for Aquatic Binassay Determination (5 day TAT or better may apply)

cc: Derek Cieman, Deisman@craworld.com and Shell Lab Billing@craworld.com

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES EDD NOT NEEDED

RECEIPT VERIFICATION REQUESTED

RESULTS NEEDED ON WEEKEND

REQUESTED ANALYSIS

Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.
	DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER	
<u>SO-062027-093013-MW-5-2</u>	<u>10/13/13</u>	<u>1430</u>	<u>SO</u>					<input checked="" type="checkbox"/>	<u>7</u>
<u>SO-062027-100113-MW-1-2</u>	<u>10/1/13</u>	<u>1130</u>	<u>SO</u>					<input checked="" type="checkbox"/>	<u>14</u>
<u>SO-062027-100113-MW-8-2</u>	<u>10/1/13</u>	<u>1330</u>	<u>SO</u>					<input checked="" type="checkbox"/>	<u>14</u>
<u>SO-062027-100113-SB-13-2</u>	<u>10/1/13</u>	<u>1415</u>	<u>SO</u>					<input checked="" type="checkbox"/>	<u>14</u>
<u>SO-062027-100113-MW-7-2</u>	<u>10/1/13</u>	<u>1615</u>	<u>SO</u>					<input checked="" type="checkbox"/>	<u>7</u>

TPH - Purgeable (8260B)	TPH - Extractable (8015M)	BTEX (8260B)	5 Oxygenates (8260B)	MTBE (8260B)	TBA (8260B)	DIPE (8260B)	TAME (8260B)	ETBE (8260B)	1,2 DCA (8260B)	EDB (8260B) / EDC	Ethanol (8260B)	Methanol (8015M)	PAHs (8270c) / CPAHs	TCLP: As, Ba, Cd, Cr, Pb, Hg, Se, Ag (8010B or 8020)	PCBs (8082) + HVCs 8100	TRPH (418-1)	NWTPH-6X	NWTPH-DX	Total Lead 6020	TEMPERATURE ON RECEIPT C°
		<input checked="" type="checkbox"/>															<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>3.6°</u>

Container PID Readings or Laboratory Notes

Additional analysis may be required, please hold Pending B. Peters Notification

Loc: 490
37104

Relinquished by: (Signature) <u>Stephen Rasmussen</u>	Received by: (Signature) <u>[Signature]</u>	Date: <u>10/4/13</u>	Time: <u>1330</u>
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

09/08/11 Revision

10/18/2013



Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 490-37104-1

Login Number: 37104

List Source: TestAmerica Nashville

List Number: 1

Creator: Huckaba, Jimmy

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-37112-1
Client Project/Site: 200 Railroad Ave S Ellensburg WA

For:
Conestoga-Rovers & Associates, Inc.
20818 44th Ave W
Suite 190
Lynnwood, Washington 98036

Attn: Brian Peters



Authorized for release by:
10/21/2013 10:55:04 AM

Ryan Fitzwater, Senior Project Manager
(615)726-0177
ryan.fitzwater@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-37112-1	SO-062027-100313-MW-5-5	Solid	10/03/13 15:15	10/05/13 08:15
490-37112-2	SO-062027-100313-MW-5-10	Solid	10/03/13 15:25	10/05/13 08:15
490-37112-3	SO-062027-100313-MW-1-5	Solid	10/04/13 09:05	10/05/13 08:15

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Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Job ID: 490-37112-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-37112-1

Comments

No additional comments.

Receipt

The samples were received on 10/5/2013 8:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

GC/MS VOA

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 112618. See LCS/LCSD

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) 8082: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 112601 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

VOA Prep

No analytical or quality issues were noted.

Job ID: 490-37112-2

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-37112-2

Comments

No additional comments.

Receipt

The samples were received on 10/5/2013 8:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

GC/MS VOA

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 112618. See LCS/LCSD

Method(s) 8260B: Surrogate recovery for the following sample(s) was outside control limits: SO-062027-100313-MW-5-5 (490-37112-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample(s): SO-062027-100313-MW-1-5 (490-37112-3).

Method(s) 8260B: The following sample(s) was diluted due to the nature of the sample matrix: SO-062027-100313-MW-1-5 (490-37112-3). Elevated reporting limits (RLs) are provided.

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Job ID: 490-37112-2 (Continued)

Laboratory: TestAmerica Nashville (Continued)

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) precision for batch 112963 was outside control limits. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision met acceptance criteria.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 112963 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

GC/MS Semi VOA

No analytical or quality issues were noted.

GC VOA

Method(s) NWTPH/VP: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 113330 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) NWTPH-Dx: There was insufficient contamination present to perform a pattern match for the following sample(s): (490-37104-5 DU). The percent RPD failed between the source and duplicate samples due to non-homogeneity of sample matrix.

Method(s) NWTPH-Dx: The following sample(s) contained a hydrocarbon pattern for analyte C10-C24 that most closely resembles a Diesel Fuel #2 product used by the laboratory for quantitative purposes: SO-062027-100313-MW-5-10 (490-37112-2).

Method(s) NWTPH-Dx: Surrogate recovery for the following sample(s) was outside control limits: SO-062027-100313-MW-5-10 (490-37112-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

Metals

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) percent recoveries and %RPD for batch 490-114526 were outside control limits. <<EXPLANATION REQUIRED = This is attributed to: non-homogeneity of the sample matrix.>>

No other analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

VOA Prep

No analytical or quality issues were noted.

Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
*	ISTD response or retention time outside acceptable limits
F	MS/MSD Recovery and/or RPD exceeds the control limits
E	Result exceeded calibration range.

GC VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
F	MS/MSD Recovery and/or RPD exceeds the control limits

GC Semi VOA

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Client Sample ID: SO-062027-100313-MW-5-5

Lab Sample ID: 490-37112-1

Date Collected: 10/03/13 15:15

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 92.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,1,1-Trichloroethane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,1,2,2-Tetrachloroethane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,1,2-Trichloroethane	ND		0.00288		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,1-Dichloroethane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,1-Dichloroethene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,1-Dichloropropene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,2,3-Trichlorobenzene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,2,3-Trichloropropane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,2,4-Trichlorobenzene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,2,4-Trimethylbenzene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,2-Dibromo-3-Chloropropane	ND		0.00288		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,2-Dibromoethane (EDB)	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,2-Dichlorobenzene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,2-Dichloroethane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,2-Dichloropropane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,3,5-Trimethylbenzene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,3-Dichlorobenzene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,3-Dichloropropane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1,4-Dichlorobenzene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
2,2-Dichloropropane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
2-Butanone (MEK)	ND		0.0288		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
2-Chlorotoluene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
2-Hexanone	ND		0.0288		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
4-Chlorotoluene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
4-Methyl-2-pentanone (MIBK)	ND		0.0288		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Acetone	ND		0.0288		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Benzene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Bromobenzene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Bromochloromethane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Bromodichloromethane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Bromoform	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Bromomethane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Carbon disulfide	0.00520		0.00288		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Carbon tetrachloride	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Chlorobenzene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Chlorodibromomethane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Chloroethane	ND		0.00288		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Chloroform	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Chloromethane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
cis-1,2-Dichloroethene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
cis-1,3-Dichloropropene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Dibromomethane	0.00179		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Dichlorodifluoromethane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Ethylbenzene	0.00522		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Hexachlorobutadiene	ND		0.00288		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Isopropylbenzene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Methyl tert-butyl ether	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Methylene Chloride	ND		0.00575		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Client Sample ID: SO-062027-100313-MW-5-5

Lab Sample ID: 490-37112-1

Date Collected: 10/03/13 15:15

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 92.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.00288		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
n-Butylbenzene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
N-Propylbenzene	0.00462		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
p-Isopropyltoluene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
sec-Butylbenzene	0.00584		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Styrene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
tert-Butylbenzene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Tetrachloroethene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Toluene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
trans-1,2-Dichloroethene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
trans-1,3-Dichloropropene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Trichloroethene	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Trichlorofluoromethane	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Vinyl chloride	ND		0.00115		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Xylenes, Total	ND		0.00173		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
2-Methylnaphthalene	0.00330		0.00288		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
Hexane	ND		0.00575		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1
1-Methylnaphthalene	ND		0.00288		mg/Kg	☼	10/08/13 08:41	10/08/13 16:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 130	10/08/13 08:41	10/08/13 16:14	1
4-Bromofluorobenzene (Surr)	266	X	70 - 130	10/08/13 08:41	10/08/13 16:14	1
Dibromofluoromethane (Surr)	95		70 - 130	10/08/13 08:41	10/08/13 16:14	1
Toluene-d8 (Surr)	121		70 - 130	10/08/13 08:41	10/08/13 16:14	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Acenaphthylene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Anthracene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Benzo[a]anthracene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Benzo[a]pyrene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Benzo[b]fluoranthene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Benzo[g,h,i]perylene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Benzo[k]fluoranthene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Chrysene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Dibenz(a,h)anthracene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Fluorene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Fluoranthene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Indeno[1,2,3-cd]pyrene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Naphthalene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Phenanthrene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
Pyrene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
1-Methylnaphthalene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1
2-Methylnaphthalene	ND		0.00352		mg/Kg	☼	10/08/13 07:50	10/08/13 23:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	74		13 - 120	10/08/13 07:50	10/08/13 23:15	1
Nitrobenzene-d5	43		27 - 120	10/08/13 07:50	10/08/13 23:15	1
2-Fluorobiphenyl (Surr)	46		29 - 120	10/08/13 07:50	10/08/13 23:15	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Client Sample ID: SO-062027-100313-MW-5-5

Lab Sample ID: 490-37112-1

Date Collected: 10/03/13 15:15

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 92.1

Method: NWTPH/VPH - Northwest - Volatile Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C5-C6 Aliphatics	ND		3.86		mg/Kg	☼	10/08/13 08:37	10/08/13 15:38	1
C6-C8 aliphatic (adjusted)	ND		5.43		mg/Kg	☼		10/14/13 21:47	1
C6-C8 Aliphatics	ND		3.86		mg/Kg	☼	10/08/13 08:37	10/08/13 15:38	1
C8-C10 aliphatic (adjusted)	ND		5.43		mg/Kg	☼		10/14/13 21:47	1
C10-C12 aliphatic (adjusted)	247		5.43		mg/Kg	☼		10/14/13 21:47	1
C8-C10 Aliphatics	12.5		3.86		mg/Kg	☼	10/08/13 08:37	10/08/13 15:38	1
C10-C12 Aliphatics	439		77.2		mg/Kg	☼	10/08/13 08:37	10/08/13 15:05	20
C5-C6 aliphatics (adjusted)	ND		5.43		mg/Kg	☼		10/14/13 21:47	1
C8-C10 Aromatics	12.4		3.86		mg/Kg	☼	10/08/13 08:37	10/08/13 15:38	1
C10-C12 Aromatics	192		154		mg/Kg	☼	10/08/13 08:37	10/10/13 15:34	40
C12-C13 Aromatics	193		154		mg/Kg	☼	10/08/13 08:37	10/10/13 15:34	40
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,5-Dibromotoluene (fid)	86		60 - 140				10/08/13 08:37	10/08/13 15:05	20
2,5-Dibromotoluene (fid)	87		60 - 140				10/08/13 08:37	10/08/13 15:38	1
2,5-Dibromotoluene (pid)	93		60 - 140				10/08/13 08:37	10/08/13 15:38	1
2,5-Dibromotoluene (pid)	113		60 - 140				10/08/13 08:37	10/10/13 15:34	40

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	472		3.86		mg/Kg	☼	10/08/13 08:37	10/13/13 01:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	81		50 - 150				10/08/13 08:37	10/13/13 01:12	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0352		mg/Kg	☼	10/08/13 08:11	10/12/13 12:03	1
PCB-1221	ND		0.0352		mg/Kg	☼	10/08/13 08:11	10/12/13 12:03	1
PCB-1232	ND		0.0352		mg/Kg	☼	10/08/13 08:11	10/12/13 12:03	1
PCB-1242	ND		0.0352		mg/Kg	☼	10/08/13 08:11	10/12/13 12:03	1
PCB-1248	ND		0.0352		mg/Kg	☼	10/08/13 08:11	10/12/13 12:03	1
PCB-1254	ND		0.0352		mg/Kg	☼	10/08/13 08:11	10/12/13 12:03	1
PCB-1260	ND		0.0352		mg/Kg	☼	10/08/13 08:11	10/12/13 12:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	86		19 - 147				10/08/13 08:11	10/12/13 12:03	1
DCB Decachlorobiphenyl (Surr)	66		20 - 150				10/08/13 08:11	10/12/13 12:03	1

Method: NWTPH/EPH - Northwest - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C8-C10 Aliphatics	ND		5.26		mg/Kg	☼	10/09/13 09:01	10/14/13 10:21	1
C10-C12 Aliphatics	ND		5.26		mg/Kg	☼	10/09/13 09:01	10/14/13 10:21	1
C12-C16 Aliphatics	ND		5.26		mg/Kg	☼	10/09/13 09:01	10/14/13 10:21	1
C16-C21 Aliphatics	ND		5.26		mg/Kg	☼	10/09/13 09:01	10/14/13 10:21	1
C21-C34 Aliphatics	ND		5.26		mg/Kg	☼	10/09/13 09:01	10/14/13 10:21	1
C8-C10 Aromatics	ND		5.26		mg/Kg	☼	10/09/13 09:01	10/14/13 15:54	1
C10-C12 Aromatics	ND		5.26		mg/Kg	☼	10/09/13 09:01	10/14/13 15:54	1
C12-C16 Aromatics	ND		5.26		mg/Kg	☼	10/09/13 09:01	10/14/13 15:54	1
C16-C21 Aromatics	ND		5.26		mg/Kg	☼	10/09/13 09:01	10/14/13 15:54	1
C21-C34 Aromatics	ND		5.26		mg/Kg	☼	10/09/13 09:01	10/14/13 15:54	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Client Sample ID: SO-062027-100313-MW-5-5

Lab Sample ID: 490-37112-1

Date Collected: 10/03/13 15:15

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 92.1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	99		60 - 140	10/09/13 09:01	10/14/13 15:54	1
2-Bromonaphthalene	84		60 - 140	10/09/13 09:01	10/14/13 15:54	1
o-Terphenyl	84		60 - 140	10/09/13 09:01	10/14/13 15:54	1
1-Chlorooctadecane	77		60 - 140	10/09/13 09:01	10/14/13 10:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		4.80		mg/Kg	☼	10/09/13 09:22	10/10/13 04:21	1
C24-C40	ND		4.80		mg/Kg	☼	10/09/13 09:22	10/10/13 04:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	75		50 - 150	10/09/13 09:22	10/10/13 04:21	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.69		0.523		mg/Kg	☼	10/15/13 13:45	10/15/13 17:22	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92		0.10		%			10/07/13 12:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Client Sample ID: SO-062027-100313-MW-5-10

Lab Sample ID: 490-37112-2

Date Collected: 10/03/13 15:25

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 92.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00105		mg/Kg	☼	10/08/13 08:41	10/08/13 15:44	1
Ethylbenzene	ND		0.00105		mg/Kg	☼	10/08/13 08:41	10/08/13 15:44	1
Xylenes, Total	ND		0.00158		mg/Kg	☼	10/08/13 08:41	10/08/13 15:44	1
Toluene	ND		0.00105		mg/Kg	☼	10/08/13 08:41	10/08/13 15:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	10/08/13 08:41	10/08/13 15:44	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 130	10/08/13 08:41	10/08/13 15:44	1
Toluene-d8 (Surr)	99		70 - 130	10/08/13 08:41	10/08/13 15:44	1
Dibromofluoromethane (Surr)	101		70 - 130	10/08/13 08:41	10/08/13 15:44	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	9.34		3.08		mg/Kg	☼	10/08/13 08:37	10/13/13 00:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	76		50 - 150	10/08/13 08:37	10/13/13 00:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	947		49.0		mg/Kg	☼	10/09/13 09:22	10/10/13 17:39	10
C24-C40	22.6		4.90		mg/Kg	☼	10/09/13 09:22	10/10/13 04:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	132		50 - 150	10/09/13 09:22	10/10/13 04:37	1
o-Terphenyl	194	X	50 - 150	10/09/13 09:22	10/10/13 17:39	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92		0.10		%			10/07/13 12:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Client Sample ID: SO-062027-100313-MW-1-5

Lab Sample ID: 490-37112-3

Date Collected: 10/04/13 09:05

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 84.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
1,1,1-Trichloroethane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
1,1,2,2-Tetrachloroethane	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
1,1,2-Trichloroethane	ND		0.00374		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
1,1-Dichloroethane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
1,1-Dichloroethene	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
1,1-Dichloropropene	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
1,2,3-Trichlorobenzene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
1,2,3-Trichloropropane	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
1,2,4-Trichlorobenzene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
1,2,4-Trimethylbenzene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
1,2-Dibromo-3-Chloropropane	ND		0.232		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
1,2-Dibromoethane (EDB)	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
1,2-Dichlorobenzene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
1,2-Dichloroethane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
1,2-Dichloropropane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
1,3,5-Trimethylbenzene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
1,3-Dichlorobenzene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
1,3-Dichloropropane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
1,4-Dichlorobenzene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
2,2-Dichloropropane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
2-Butanone (MEK)	ND		0.0374		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
2-Chlorotoluene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
2-Hexanone	ND		0.0374		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
4-Chlorotoluene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
4-Methyl-2-pentanone (MIBK)	ND		0.0374		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Acetone	ND		0.0374		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Benzene	0.00230		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Bromobenzene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
Bromochloromethane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Bromodichloromethane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Bromoform	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Bromomethane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Carbon disulfide	ND		0.00374		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Carbon tetrachloride	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Chlorobenzene	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Chlorodibromomethane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Chloroethane	ND		0.00374		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Chloroform	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Chloromethane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
cis-1,2-Dichloroethene	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
cis-1,3-Dichloropropene	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Dibromomethane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Dichlorodifluoromethane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Ethylbenzene	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Hexachlorobutadiene	ND		0.232		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
Isopropylbenzene	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Methyl tert-butyl ether	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Methylene Chloride	ND		0.00748		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Client Sample ID: SO-062027-100313-MW-1-5

Lab Sample ID: 490-37112-3

Date Collected: 10/04/13 09:05

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 84.9

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.232		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
n-Butylbenzene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
N-Propylbenzene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
p-Isopropyltoluene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
sec-Butylbenzene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
Styrene	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
tert-Butylbenzene	ND		0.0930		mg/Kg	☼	10/08/13 08:37	10/09/13 15:30	1
Tetrachloroethene	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Toluene	0.00156		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
trans-1,2-Dichloroethene	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
trans-1,3-Dichloropropene	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Trichloroethene	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Trichlorofluoromethane	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Vinyl chloride	ND		0.00150		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1
Xylenes, Total	ND		0.00224		mg/Kg	☼	10/08/13 08:41	10/09/13 15:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 130	10/08/13 08:41	10/09/13 15:01	1
1,2-Dichloroethane-d4 (Surr)	95		70 - 130	10/08/13 08:37	10/09/13 15:30	1
4-Bromofluorobenzene (Surr)	124 *		70 - 130	10/08/13 08:41	10/09/13 15:01	1
4-Bromofluorobenzene (Surr)	99		70 - 130	10/08/13 08:37	10/09/13 15:30	1
Dibromofluoromethane (Surr)	100		70 - 130	10/08/13 08:41	10/09/13 15:01	1
Dibromofluoromethane (Surr)	91		70 - 130	10/08/13 08:37	10/09/13 15:30	1
Toluene-d8 (Surr)	113		70 - 130	10/08/13 08:41	10/09/13 15:01	1
Toluene-d8 (Surr)	104		70 - 130	10/08/13 08:37	10/09/13 15:30	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Acenaphthylene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Anthracene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Benzo[a]anthracene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Benzo[a]pyrene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Benzo[b]fluoranthene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Benzo[g,h,i]perylene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Benzo[k]fluoranthene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Chrysene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Dibenz(a,h)anthracene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Fluorene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Fluoranthene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Indeno[1,2,3-cd]pyrene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Naphthalene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Phenanthrene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
Pyrene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
1-Methylnaphthalene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1
2-Methylnaphthalene	ND		0.00380		mg/Kg	☼	10/08/13 07:50	10/08/13 23:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	75		13 - 120	10/08/13 07:50	10/08/13 23:40	1
Nitrobenzene-d5	47		27 - 120	10/08/13 07:50	10/08/13 23:40	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Client Sample ID: SO-062027-100313-MW-1-5

Lab Sample ID: 490-37112-3

Date Collected: 10/04/13 09:05

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 84.9

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	53		29 - 120	10/08/13 07:50	10/08/13 23:40	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		4.02		mg/Kg	☼	10/08/13 08:37	10/13/13 00:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	77		50 - 150	10/08/13 08:37	10/13/13 00:39	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0387		mg/Kg	☼	10/08/13 08:11	10/12/13 12:25	1
PCB-1221	ND		0.0387		mg/Kg	☼	10/08/13 08:11	10/12/13 12:25	1
PCB-1232	ND		0.0387		mg/Kg	☼	10/08/13 08:11	10/12/13 12:25	1
PCB-1242	ND		0.0387		mg/Kg	☼	10/08/13 08:11	10/12/13 12:25	1
PCB-1248	ND		0.0387		mg/Kg	☼	10/08/13 08:11	10/12/13 12:25	1
PCB-1254	ND		0.0387		mg/Kg	☼	10/08/13 08:11	10/12/13 12:25	1
PCB-1260	ND		0.0387		mg/Kg	☼	10/08/13 08:11	10/12/13 12:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	94		19 - 147	10/08/13 08:11	10/12/13 12:25	1
DCB Decachlorobiphenyl (Surr)	75		20 - 150	10/08/13 08:11	10/12/13 12:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		4.88		mg/Kg	☼	10/09/13 09:22	10/10/13 04:52	1
C24-C40	ND		4.88		mg/Kg	☼	10/09/13 09:22	10/10/13 04:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	56		50 - 150	10/09/13 09:22	10/10/13 04:52	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	78.4		0.568		mg/Kg	☼	10/15/13 13:45	10/15/13 17:27	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85		0.10		%			10/07/13 12:50	1

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 490-112618/7

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,1,1-Trichloroethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,1,2,2-Tetrachloroethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,1,2-Trichloroethane	ND		0.00500		mg/Kg			10/08/13 12:22	1
1,1-Dichloroethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,1-Dichloroethene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,1-Dichloropropene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2,3-Trichlorobenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2,3-Trichloropropane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2,4-Trichlorobenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2,4-Trimethylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2-Dibromo-3-Chloropropane	ND		0.00500		mg/Kg			10/08/13 12:22	1
1,2-Dibromoethane (EDB)	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2-Dichlorobenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2-Dichloroethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,2-Dichloropropane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,3,5-Trimethylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,3-Dichlorobenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,3-Dichloropropane	ND		0.00200		mg/Kg			10/08/13 12:22	1
1,4-Dichlorobenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
2,2-Dichloropropane	ND		0.00200		mg/Kg			10/08/13 12:22	1
2-Butanone (MEK)	ND		0.0500		mg/Kg			10/08/13 12:22	1
2-Chlorotoluene	ND		0.00200		mg/Kg			10/08/13 12:22	1
2-Hexanone	ND		0.0500		mg/Kg			10/08/13 12:22	1
4-Chlorotoluene	ND		0.00200		mg/Kg			10/08/13 12:22	1
4-Methyl-2-pentanone (MIBK)	ND		0.0500		mg/Kg			10/08/13 12:22	1
Acetone	ND		0.0500		mg/Kg			10/08/13 12:22	1
Benzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Bromobenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Bromochloromethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
Bromodichloromethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
Bromoform	ND		0.00200		mg/Kg			10/08/13 12:22	1
Bromomethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
Carbon disulfide	ND		0.00500		mg/Kg			10/08/13 12:22	1
Carbon tetrachloride	ND		0.00200		mg/Kg			10/08/13 12:22	1
Chlorobenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Chlorodibromomethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
Chloroethane	ND		0.00500		mg/Kg			10/08/13 12:22	1
Chloroform	ND		0.00200		mg/Kg			10/08/13 12:22	1
Chloromethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
cis-1,2-Dichloroethene	ND		0.00200		mg/Kg			10/08/13 12:22	1
cis-1,3-Dichloropropene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Dibromomethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
Dichlorodifluoromethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
Ethylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Hexachlorobutadiene	ND		0.00500		mg/Kg			10/08/13 12:22	1
Isopropylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Methyl tert-butyl ether	ND		0.00200		mg/Kg			10/08/13 12:22	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 490-112618/7

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		0.0100		mg/Kg			10/08/13 12:22	1
Naphthalene	ND		0.00500		mg/Kg			10/08/13 12:22	1
n-Butylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
N-Propylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
p-Isopropyltoluene	ND		0.00200		mg/Kg			10/08/13 12:22	1
sec-Butylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Styrene	ND		0.00200		mg/Kg			10/08/13 12:22	1
tert-Butylbenzene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Tetrachloroethene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Toluene	ND		0.00200		mg/Kg			10/08/13 12:22	1
trans-1,2-Dichloroethene	ND		0.00200		mg/Kg			10/08/13 12:22	1
trans-1,3-Dichloropropene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Trichloroethene	ND		0.00200		mg/Kg			10/08/13 12:22	1
Trichlorofluoromethane	ND		0.00200		mg/Kg			10/08/13 12:22	1
Vinyl chloride	ND		0.00200		mg/Kg			10/08/13 12:22	1
Xylenes, Total	ND		0.00300		mg/Kg			10/08/13 12:22	1
2-Methylnaphthalene	ND		0.00500		mg/Kg			10/08/13 12:22	1
Hexane	ND		0.0100		mg/Kg			10/08/13 12:22	1
1-Methylnaphthalene	ND		0.00500		mg/Kg			10/08/13 12:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 130		10/08/13 12:22	1
4-Bromofluorobenzene (Surr)	102		70 - 130		10/08/13 12:22	1
Dibromofluoromethane (Surr)	99		70 - 130		10/08/13 12:22	1
Toluene-d8 (Surr)	105		70 - 130		10/08/13 12:22	1

Lab Sample ID: LCS 490-112618/3

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	0.0500	0.04622		mg/Kg		92	80 - 136
1,1,1-Trichloroethane	0.0500	0.04529		mg/Kg		91	72 - 140
1,1,2,2-Tetrachloroethane	0.0500	0.04250		mg/Kg		85	66 - 134
1,1,2-Trichloroethane	0.0500	0.04562		mg/Kg		91	78 - 128
1,1-Dichloroethane	0.0500	0.04659		mg/Kg		93	75 - 124
1,1-Dichloroethene	0.0500	0.04545		mg/Kg		91	75 - 131
1,1-Dichloropropene	0.0500	0.04664		mg/Kg		93	79 - 127
1,2,3-Trichlorobenzene	0.0500	0.05066		mg/Kg		101	70 - 150
1,2,3-Trichloropropane	0.0500	0.04543		mg/Kg		91	65 - 139
1,2,4-Trichlorobenzene	0.0500	0.05322		mg/Kg		106	62 - 150
1,2,4-Trimethylbenzene	0.0500	0.05184		mg/Kg		104	77 - 139
1,2-Dibromo-3-Chloropropane	0.0500	0.04364		mg/Kg		87	49 - 142
1,2-Dibromoethane (EDB)	0.0500	0.04605		mg/Kg		92	80 - 135
1,2-Dichlorobenzene	0.0500	0.04809		mg/Kg		96	80 - 134
1,2-Dichloroethane	0.0500	0.04262		mg/Kg		85	65 - 134
1,2-Dichloropropane	0.0500	0.04692		mg/Kg		94	69 - 120
1,3,5-Trimethylbenzene	0.0500	0.05222		mg/Kg		104	78 - 138

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-112618/3

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	0.0500	0.04966		mg/Kg		99	79 - 137
1,3-Dichloropropane	0.0500	0.04611		mg/Kg		92	78 - 126
1,4-Dichlorobenzene	0.0500	0.04831		mg/Kg		97	77 - 139
2,2-Dichloropropane	0.0500	0.04512		mg/Kg		90	68 - 145
2-Butanone (MEK)	0.250	0.2148		mg/Kg		86	61 - 132
2-Chlorotoluene	0.0500	0.04960		mg/Kg		99	78 - 132
2-Hexanone	0.250	0.2135		mg/Kg		85	57 - 148
4-Chlorotoluene	0.0500	0.05219		mg/Kg		104	77 - 138
4-Methyl-2-pentanone (MIBK)	0.250	0.2456		mg/Kg		98	59 - 138
Acetone	0.250	0.2139		mg/Kg		86	51 - 149
Benzene	0.0500	0.04535		mg/Kg		91	75 - 127
Bromobenzene	0.0500	0.04661		mg/Kg		93	75 - 130
Bromochloromethane	0.0500	0.04476		mg/Kg		90	70 - 132
Bromodichloromethane	0.0500	0.04566		mg/Kg		91	68 - 135
Bromoform	0.0500	0.04616		mg/Kg		92	36 - 150
Bromomethane	0.0500	0.05057	E	mg/Kg		101	43 - 142
Carbon disulfide	0.0500	0.04552		mg/Kg		91	74 - 135
Carbon tetrachloride	0.0500	0.04547		mg/Kg		91	70 - 141
Chlorobenzene	0.0500	0.04652		mg/Kg		93	84 - 125
Chlorodibromomethane	0.0500	0.04804		mg/Kg		96	66 - 134
Chloroethane	0.0500	0.05224		mg/Kg		104	53 - 144
Chloroform	0.0500	0.04482		mg/Kg		90	76 - 130
Chloromethane	0.0500	0.05919		mg/Kg		118	23 - 150
cis-1,2-Dichloroethene	0.0500	0.04818		mg/Kg		96	75 - 125
cis-1,3-Dichloropropene	0.0500	0.05054		mg/Kg		101	73 - 148
Dibromomethane	0.0500	0.04312		mg/Kg		86	71 - 130
Dichlorodifluoromethane	0.0500	0.05513		mg/Kg		110	12 - 144
Ethylbenzene	0.0500	0.05077		mg/Kg		102	80 - 134
Hexachlorobutadiene	0.0500	0.04665		mg/Kg		93	65 - 148
Isopropylbenzene	0.0500	0.05331		mg/Kg		107	80 - 150
Methyl tert-butyl ether	0.0500	0.04646		mg/Kg		93	70 - 136
Methylene Chloride	0.0500	0.04417		mg/Kg		88	68 - 144
Naphthalene	0.0500	0.05013		mg/Kg		100	69 - 150
n-Butylbenzene	0.0500	0.05515		mg/Kg		110	72 - 152
N-Propylbenzene	0.0500	0.05171		mg/Kg		103	75 - 137
p-Isopropyltoluene	0.0500	0.05428		mg/Kg		109	77 - 141
sec-Butylbenzene	0.0500	0.05342		mg/Kg		107	79 - 141
Styrene	0.0500	0.05281		mg/Kg		106	82 - 137
tert-Butylbenzene	0.0500	0.05054		mg/Kg		101	80 - 132
Tetrachloroethene	0.0500	0.04656		mg/Kg		93	78 - 140
Toluene	0.0500	0.04753		mg/Kg		95	80 - 132
trans-1,2-Dichloroethene	0.0500	0.04705		mg/Kg		94	76 - 128
trans-1,3-Dichloropropene	0.0500	0.05145		mg/Kg		103	62 - 139
Trichloroethene	0.0500	0.04519		mg/Kg		90	77 - 127
Trichlorofluoromethane	0.0500	0.05055		mg/Kg		101	50 - 140
Vinyl chloride	0.0500	0.05580		mg/Kg		112	47 - 136
Xylenes, Total	0.100	0.1018		mg/Kg		102	80 - 137
Hexane	0.0500	0.04959		mg/Kg		99	60 - 144

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-112618/3

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	95		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	96		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: LCSD 490-112618/4

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
1,1,1,2-Tetrachloroethane	0.0500	0.04606		mg/Kg		92	80 - 136	0	50	
1,1,1-Trichloroethane	0.0500	0.04590		mg/Kg		92	72 - 140	1	50	
1,1,2,2-Tetrachloroethane	0.0500	0.04535		mg/Kg		91	66 - 134	6	50	
1,1,2-Trichloroethane	0.0500	0.04544		mg/Kg		91	78 - 128	0	50	
1,1-Dichloroethane	0.0500	0.04656		mg/Kg		93	75 - 124	0	50	
1,1-Dichloroethene	0.0500	0.04630		mg/Kg		93	75 - 131	2	50	
1,1-Dichloropropene	0.0500	0.04772		mg/Kg		95	79 - 127	2	50	
1,2,3-Trichlorobenzene	0.0500	0.05054		mg/Kg		101	70 - 150	0	50	
1,2,3-Trichloropropane	0.0500	0.04586		mg/Kg		92	65 - 139	1	50	
1,2,4-Trichlorobenzene	0.0500	0.05441		mg/Kg		109	62 - 150	2	50	
1,2,4-Trimethylbenzene	0.0500	0.05201		mg/Kg		104	77 - 139	0	50	
1,2-Dibromo-3-Chloropropane	0.0500	0.04348		mg/Kg		87	49 - 142	0	50	
1,2-Dibromoethane (EDB)	0.0500	0.04612		mg/Kg		92	80 - 135	0	50	
1,2-Dichlorobenzene	0.0500	0.04773		mg/Kg		95	80 - 134	1	50	
1,2-Dichloroethane	0.0500	0.04340		mg/Kg		87	65 - 134	2	50	
1,2-Dichloropropane	0.0500	0.04740		mg/Kg		95	69 - 120	1	50	
1,3,5-Trimethylbenzene	0.0500	0.05320		mg/Kg		106	78 - 138	2	50	
1,3-Dichlorobenzene	0.0500	0.04941		mg/Kg		99	79 - 137	0	50	
1,3-Dichloropropane	0.0500	0.04657		mg/Kg		93	78 - 126	1	42	
1,4-Dichlorobenzene	0.0500	0.04729		mg/Kg		95	77 - 139	2	50	
2,2-Dichloropropane	0.0500	0.04570		mg/Kg		91	68 - 145	1	50	
2-Butanone (MEK)	0.250	0.2108		mg/Kg		84	61 - 132	2	50	
2-Chlorotoluene	0.0500	0.04962		mg/Kg		99	78 - 132	0	50	
2-Hexanone	0.250	0.2113		mg/Kg		85	57 - 148	1	50	
4-Chlorotoluene	0.0500	0.04903		mg/Kg		98	77 - 138	6	50	
4-Methyl-2-pentanone (MIBK)	0.250	0.2429		mg/Kg		97	59 - 138	1	50	
Acetone	0.250	0.2047		mg/Kg		82	51 - 149	4	50	
Benzene	0.0500	0.04637		mg/Kg		93	75 - 127	2	50	
Bromobenzene	0.0500	0.04743		mg/Kg		95	75 - 130	2	50	
Bromochloromethane	0.0500	0.04564		mg/Kg		91	70 - 132	2	50	
Bromodichloromethane	0.0500	0.04669		mg/Kg		93	68 - 135	2	50	
Bromoform	0.0500	0.04688		mg/Kg		94	36 - 150	2	50	
Bromomethane	0.0500	0.05349	E	mg/Kg		107	43 - 142	6	50	
Carbon disulfide	0.0500	0.04634		mg/Kg		93	74 - 135	2	50	
Carbon tetrachloride	0.0500	0.04609		mg/Kg		92	70 - 141	1	50	
Chlorobenzene	0.0500	0.04683		mg/Kg		94	84 - 125	1	50	
Chlorodibromomethane	0.0500	0.04772		mg/Kg		95	66 - 134	1	50	
Chloroethane	0.0500	0.05271		mg/Kg		105	53 - 144	1	50	

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 490-112618/4

Matrix: Solid

Analysis Batch: 112618

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
							RPD	Limit		
Chloroform	0.0500	0.04519		mg/Kg		90	76 - 130	1	49	
Chloromethane	0.0500	0.05810		mg/Kg		116	23 - 150	2	50	
cis-1,2-Dichloroethene	0.0500	0.04809		mg/Kg		96	75 - 125	0	50	
cis-1,3-Dichloropropene	0.0500	0.05028		mg/Kg		101	73 - 148	1	50	
Dibromomethane	0.0500	0.04386		mg/Kg		88	71 - 130	2	50	
Dichlorodifluoromethane	0.0500	0.05575		mg/Kg		112	12 - 144	1	50	
Ethylbenzene	0.0500	0.05053		mg/Kg		101	80 - 134	0	50	
Hexachlorobutadiene	0.0500	0.04619		mg/Kg		92	65 - 148	1	50	
Isopropylbenzene	0.0500	0.05251		mg/Kg		105	80 - 150	2	50	
Methyl tert-butyl ether	0.0500	0.04642		mg/Kg		93	70 - 136	0	50	
Methylene Chloride	0.0500	0.04520		mg/Kg		90	68 - 144	2	50	
Naphthalene	0.0500	0.05093		mg/Kg		102	69 - 150	2	50	
n-Butylbenzene	0.0500	0.05477		mg/Kg		110	72 - 152	1	50	
N-Propylbenzene	0.0500	0.05190		mg/Kg		104	75 - 137	0	50	
p-Isopropyltoluene	0.0500	0.05419		mg/Kg		108	77 - 141	0	50	
sec-Butylbenzene	0.0500	0.05316		mg/Kg		106	79 - 141	0	50	
Styrene	0.0500	0.05226		mg/Kg		105	82 - 137	1	50	
tert-Butylbenzene	0.0500	0.05061		mg/Kg		101	80 - 132	0	50	
Tetrachloroethene	0.0500	0.04588		mg/Kg		92	78 - 140	1	50	
Toluene	0.0500	0.04747		mg/Kg		95	80 - 132	0	50	
trans-1,2-Dichloroethene	0.0500	0.04838		mg/Kg		97	76 - 128	3	50	
trans-1,3-Dichloropropene	0.0500	0.05031		mg/Kg		101	62 - 139	2	50	
Trichloroethene	0.0500	0.04526		mg/Kg		91	77 - 127	0	50	
Trichlorofluoromethane	0.0500	0.04922		mg/Kg		98	50 - 140	3	50	
Vinyl chloride	0.0500	0.05749		mg/Kg		115	47 - 136	3	50	
Xylenes, Total	0.100	0.1020		mg/Kg		102	80 - 137	0	50	
Hexane	0.0500	0.04989		mg/Kg		100	60 - 144	1	50	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	96		70 - 130
Toluene-d8 (Surr)	104		70 - 130

Lab Sample ID: 490-37241-A-2-D MS

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 112944

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec. Limits	
				Result	Qualifier				RPD	Limit
1,1,1,2-Tetrachloroethane	ND		0.0540	0.03251		mg/Kg	*	60	19 - 158	
1,1,1-Trichloroethane	ND		0.0540	0.04200		mg/Kg	*	78	35 - 149	
1,1,2,2-Tetrachloroethane	ND		0.0540	0.02359		mg/Kg	*	44	10 - 162	
1,1,2-Trichloroethane	ND		0.0540	0.02964		mg/Kg	*	55	19 - 157	
1,1-Dichloroethane	ND		0.0540	0.04239		mg/Kg	*	79	42 - 136	
1,1-Dichloroethene	ND		0.0540	0.04254		mg/Kg	*	79	41 - 143	
1,1-Dichloropropene	ND		0.0540	0.04123		mg/Kg	*	76	38 - 145	
1,2,3-Trichlorobenzene	ND		0.0540	0.008347		mg/Kg	*	15	10 - 157	
1,2,3-Trichloropropane	ND		0.0540	0.02321		mg/Kg	*	43	10 - 157	

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 490-37241-A-2-D MS

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 112944

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,2,4-Trichlorobenzene	ND		0.0540	0.01075		mg/Kg	*	20	10 - 167
1,2,4-Trimethylbenzene	ND		0.0540	0.02798		mg/Kg	*	49	14 - 165
1,2-Dibromo-3-Chloropropane	ND		0.0540	0.01488		mg/Kg	*	28	10 - 147
1,2-Dibromoethane (EDB)	ND		0.0540	0.02710		mg/Kg	*	50	18 - 156
1,2-Dichlorobenzene	ND		0.0540	0.01983		mg/Kg	*	37	10 - 160
1,2-Dichloroethane	ND		0.0540	0.03064		mg/Kg	*	57	28 - 138
1,2-Dichloropropane	ND		0.0540	0.03714		mg/Kg	*	69	20 - 146
1,3,5-Trimethylbenzene	ND		0.0540	0.03116		mg/Kg	*	58	18 - 164
1,3-Dichlorobenzene	ND		0.0540	0.02400		mg/Kg	*	44	10 - 162
1,3-Dichloropropane	ND		0.0540	0.02959		mg/Kg	*	55	22 - 148
1,4-Dichlorobenzene	ND		0.0540	0.02151		mg/Kg	*	40	11 - 159
2,2-Dichloropropane	ND		0.0540	0.04031		mg/Kg	*	75	33 - 148
2-Butanone (MEK)	ND		0.270	0.1352		mg/Kg	*	50	18 - 153
2-Chlorotoluene	ND		0.0540	0.03053		mg/Kg	*	57	20 - 156
2-Hexanone	ND		0.270	0.09807		mg/Kg	*	36	10 - 169
4-Chlorotoluene	ND		0.0540	0.03046		mg/Kg	*	56	17 - 159
4-Methyl-2-pentanone (MIBK)	ND		0.270	0.1341		mg/Kg	*	50	10 - 168
Acetone	ND		0.270	0.1541		mg/Kg	*	57	19 - 175
Benzene	ND		0.0540	0.03834		mg/Kg	*	71	31 - 143
Bromobenzene	ND		0.0540	0.02539		mg/Kg	*	47	12 - 157
Bromochloromethane	ND		0.0540	0.03313		mg/Kg	*	61	31 - 141
Bromodichloromethane	ND		0.0540	0.03355		mg/Kg	*	62	19 - 148
Bromoform	ND		0.0540	0.02223		mg/Kg	*	41	10 - 165
Bromomethane	ND		0.0540	0.04884		mg/Kg	*	91	10 - 164
Carbon disulfide	ND		0.0540	0.04274		mg/Kg	*	79	32 - 144
Carbon tetrachloride	ND		0.0540	0.04090		mg/Kg	*	76	31 - 149
Chlorobenzene	ND		0.0540	0.03104		mg/Kg	*	58	25 - 152
Chlorodibromomethane	ND		0.0540	0.02918		mg/Kg	*	54	14 - 146
Chloroethane	ND		0.0540	0.04980		mg/Kg	*	92	10 - 151
Chloroform	ND		0.0540	0.03799		mg/Kg	*	70	34 - 160
Chloromethane	ND		0.0540	0.05906		mg/Kg	*	109	10 - 156
cis-1,2-Dichloroethene	ND		0.0540	0.03857		mg/Kg	*	71	36 - 139
cis-1,3-Dichloropropene	ND		0.0540	0.03411		mg/Kg	*	63	15 - 166
Dibromomethane	ND		0.0540	0.02884		mg/Kg	*	53	20 - 146
Dichlorodifluoromethane	ND		0.0540	0.06949		mg/Kg	*	129	10 - 143
Ethylbenzene	ND		0.0540	0.03724		mg/Kg	*	69	23 - 161
Hexachlorobutadiene	ND		0.0540	0.01926		mg/Kg	*	36	10 - 171
Isopropylbenzene	ND		0.0540	0.03574		mg/Kg	*	66	23 - 181
Methyl tert-butyl ether	ND		0.0540	0.02982		mg/Kg	*	55	28 - 141
Methylene Chloride	ND		0.0540	0.03876		mg/Kg	*	64	24 - 182
Naphthalene	ND		0.0540	ND	F	mg/Kg	*	9	10 - 176
n-Butylbenzene	ND		0.0540	0.02763		mg/Kg	*	51	10 - 175
N-Propylbenzene	ND		0.0540	0.03452		mg/Kg	*	64	19 - 162
p-Isopropyltoluene	ND		0.0540	0.03061		mg/Kg	*	57	12 - 168
sec-Butylbenzene	ND		0.0540	0.03182		mg/Kg	*	59	12 - 170
Styrene	ND		0.0540	0.02363		mg/Kg	*	44	10 - 165
tert-Butylbenzene	ND		0.0540	0.03233		mg/Kg	*	60	20 - 164
Tetrachloroethene	ND		0.0540	0.03760		mg/Kg	*	70	33 - 161

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 490-37241-A-2-D MS

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 112944

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Toluene	ND		0.0540	0.03815		mg/Kg	☼	71	30 - 155
trans-1,2-Dichloroethene	ND		0.0540	0.04293		mg/Kg	☼	80	39 - 140
trans-1,3-Dichloropropene	ND		0.0540	0.03019		mg/Kg	☼	56	10 - 157
Trichloroethene	ND		0.0540	0.03794		mg/Kg	☼	70	27 - 153
Trichlorofluoromethane	ND		0.0540	0.04910		mg/Kg	☼	91	25 - 140
Vinyl chloride	ND		0.0540	0.05769		mg/Kg	☼	107	20 - 141
Xylenes, Total	ND		0.108	0.06908		mg/Kg	☼	64	25 - 162
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	101		70 - 130						
4-Bromofluorobenzene (Surr)	105		70 - 130						
Dibromofluoromethane (Surr)	96		70 - 130						
Toluene-d8 (Surr)	106		70 - 130						

Lab Sample ID: 490-37241-A-2-E MSD

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 112944

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1,1,2-Tetrachloroethane	ND		0.0599	0.06037	F	mg/Kg	☼	101	19 - 158	60	50
1,1,1-Trichloroethane	ND		0.0599	0.06108		mg/Kg	☼	102	35 - 149	37	50
1,1,1,2-Tetrachloroethane	ND		0.0599	0.06274	F	mg/Kg	☼	105	10 - 162	91	50
1,1,2-Trichloroethane	ND		0.0599	0.06025	E F	mg/Kg	☼	101	19 - 157	68	50
1,1-Dichloroethane	ND		0.0599	0.06479		mg/Kg	☼	108	42 - 136	42	50
1,1-Dichloroethene	ND		0.0599	0.06036		mg/Kg	☼	101	41 - 143	35	50
1,1-Dichloropropene	ND		0.0599	0.06044		mg/Kg	☼	101	38 - 145	38	50
1,2,3-Trichlorobenzene	ND		0.0599	0.01986	F	mg/Kg	☼	33	10 - 157	82	50
1,2,3-Trichloropropane	ND		0.0599	0.06182	F	mg/Kg	☼	103	10 - 157	91	50
1,2,4-Trichlorobenzene	ND		0.0599	0.02419	F	mg/Kg	☼	40	10 - 167	77	50
1,2,4-Trimethylbenzene	ND		0.0599	0.06186	F	mg/Kg	☼	101	14 - 165	75	50
1,2-Dibromo-3-Chloropropane	ND		0.0599	0.04490	F	mg/Kg	☼	75	10 - 147	100	50
1,2-Dibromoethane (EDB)	ND		0.0599	0.05939	F	mg/Kg	☼	99	18 - 156	75	50
1,2-Dichlorobenzene	ND		0.0599	0.04634	F	mg/Kg	☼	77	10 - 160	80	50
1,2-Dichloroethane	ND		0.0599	0.05836	F	mg/Kg	☼	97	28 - 138	62	50
1,2-Dichloropropane	ND		0.0599	0.06374	F	mg/Kg	☼	106	20 - 146	53	50
1,3,5-Trimethylbenzene	ND		0.0599	0.06416	F	mg/Kg	☼	107	18 - 164	69	50
1,3-Dichlorobenzene	ND		0.0599	0.05211	F	mg/Kg	☼	87	10 - 162	74	50
1,3-Dichloropropane	ND		0.0599	0.06102	F	mg/Kg	☼	102	22 - 148	69	42
1,4-Dichlorobenzene	ND		0.0599	0.05041	F	mg/Kg	☼	84	11 - 159	80	50
2,2-Dichloropropane	ND		0.0599	0.05963		mg/Kg	☼	99	33 - 148	39	50
2-Butanone (MEK)	ND		0.300	0.2798	F	mg/Kg	☼	93	18 - 153	70	50
2-Chlorotoluene	ND		0.0599	0.06265	F	mg/Kg	☼	105	20 - 156	69	50
2-Hexanone	ND		0.300	0.2436	F	mg/Kg	☼	81	10 - 169	85	50
4-Chlorotoluene	ND		0.0599	0.06326	F	mg/Kg	☼	106	17 - 159	70	50
4-Methyl-2-pentanone (MIBK)	ND		0.300	0.3250	F	mg/Kg	☼	108	10 - 168	83	50
Acetone	ND		0.300	0.2971	F	mg/Kg	☼	99	19 - 175	63	50
Benzene	ND		0.0599	0.06153		mg/Kg	☼	103	31 - 143	46	50
Bromobenzene	ND		0.0599	0.06075	F	mg/Kg	☼	101	12 - 157	82	50

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 490-37241-A-2-E MSD

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 112944

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Bromochloromethane	ND		0.0599	0.06172	F	mg/Kg	*	103	31 - 141	60	50
Bromodichloromethane	ND		0.0599	0.06262	F	mg/Kg	*	104	19 - 148	60	50
Bromoform	ND		0.0599	0.05534	F	mg/Kg	*	92	10 - 165	85	50
Bromomethane	ND		0.0599	0.07200	E	mg/Kg	*	120	10 - 164	38	50
Carbon disulfide	ND		0.0599	0.06053		mg/Kg	*	101	32 - 144	34	50
Carbon tetrachloride	ND		0.0599	0.06073		mg/Kg	*	101	31 - 149	39	50
Chlorobenzene	ND		0.0599	0.05756	F	mg/Kg	*	96	25 - 152	60	50
Chlorodibromomethane	ND		0.0599	0.06225	F	mg/Kg	*	104	14 - 146	72	50
Chloroethane	ND		0.0599	0.07289		mg/Kg	*	122	10 - 151	38	50
Chloroform	ND		0.0599	0.06139		mg/Kg	*	102	34 - 160	47	49
Chloromethane	ND		0.0599	0.08228		mg/Kg	*	137	10 - 156	33	50
cis-1,2-Dichloroethene	ND		0.0599	0.06306		mg/Kg	*	105	36 - 139	48	50
cis-1,3-Dichloropropene	ND		0.0599	0.06555	F	mg/Kg	*	109	15 - 166	63	50
Dibromomethane	ND		0.0599	0.05827	F	mg/Kg	*	97	20 - 146	68	50
Dichlorodifluoromethane	ND		0.0599	0.09330	F	mg/Kg	*	156	10 - 143	29	50
Ethylbenzene	ND		0.0599	0.06324	F	mg/Kg	*	106	23 - 161	52	50
Hexachlorobutadiene	ND		0.0599	0.04281	F	mg/Kg	*	71	10 - 171	76	50
Isopropylbenzene	ND		0.0599	0.06178	F	mg/Kg	*	103	23 - 181	53	50
Methyl tert-butyl ether	ND		0.0599	0.06143	F	mg/Kg	*	102	28 - 141	69	50
Methylene Chloride	ND		0.0599	0.06450		mg/Kg	*	101	24 - 182	50	50
Naphthalene	ND		0.0599	0.01117	F	mg/Kg	*	19	10 - 176	82	50
n-Butylbenzene	ND		0.0599	0.05805	F	mg/Kg	*	97	10 - 175	71	50
N-Propylbenzene	ND		0.0599	0.06878	F	mg/Kg	*	115	19 - 162	66	50
p-Isopropyltoluene	ND		0.0599	0.06460	F	mg/Kg	*	108	12 - 168	71	50
sec-Butylbenzene	ND		0.0599	0.06480	F	mg/Kg	*	108	12 - 170	68	50
Styrene	ND		0.0599	0.04204	F	mg/Kg	*	70	10 - 165	56	50
tert-Butylbenzene	ND		0.0599	0.06462	F	mg/Kg	*	108	20 - 164	67	50
Tetrachloroethene	ND		0.0599	0.05905		mg/Kg	*	99	33 - 161	44	50
Toluene	ND		0.0599	0.06210		mg/Kg	*	104	30 - 155	48	50
trans-1,2-Dichloroethene	ND		0.0599	0.06398		mg/Kg	*	107	39 - 140	39	50
trans-1,3-Dichloropropene	ND		0.0599	0.06291	F	mg/Kg	*	105	10 - 157	70	50
Trichloroethene	ND		0.0599	0.05830		mg/Kg	*	97	27 - 153	42	50
Trichlorofluoromethane	ND		0.0599	0.06958		mg/Kg	*	116	25 - 140	35	50
Vinyl chloride	ND		0.0599	0.08053		mg/Kg	*	134	20 - 141	33	50
Xylenes, Total	ND		0.120	0.1226	F	mg/Kg	*	102	25 - 162	56	50

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	110		70 - 130
Dibromofluoromethane (Surr)	100		70 - 130
Toluene-d8 (Surr)	106		70 - 130

Lab Sample ID: MB 490-112963/6

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier								
1,1,1,2-Tetrachloroethane	ND		0.100		mg/Kg			10/09/13 12:32		1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 490-112963/6

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	ND		0.100		mg/Kg			10/09/13 12:32	1
1,1,2,2-Tetrachloroethane	ND		0.100		mg/Kg			10/09/13 12:32	1
1,1,2-Trichloroethane	ND		0.250		mg/Kg			10/09/13 12:32	1
1,1-Dichloroethane	ND		0.100		mg/Kg			10/09/13 12:32	1
1,1-Dichloroethene	ND		0.100		mg/Kg			10/09/13 12:32	1
1,1-Dichloropropene	ND		0.100		mg/Kg			10/09/13 12:32	1
1,2,3-Trichlorobenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
1,2,3-Trichloropropane	ND		0.100		mg/Kg			10/09/13 12:32	1
1,2,4-Trichlorobenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
1,2,4-Trimethylbenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
1,2-Dibromo-3-Chloropropane	ND		0.250		mg/Kg			10/09/13 12:32	1
1,2-Dibromoethane (EDB)	ND		0.100		mg/Kg			10/09/13 12:32	1
1,2-Dichlorobenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
1,2-Dichloroethane	ND		0.100		mg/Kg			10/09/13 12:32	1
1,2-Dichloropropane	ND		0.100		mg/Kg			10/09/13 12:32	1
1,3,5-Trimethylbenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
1,3-Dichlorobenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
1,3-Dichloropropane	ND		0.100		mg/Kg			10/09/13 12:32	1
1,4-Dichlorobenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
2,2-Dichloropropane	ND		0.100		mg/Kg			10/09/13 12:32	1
2-Butanone (MEK)	ND		2.50		mg/Kg			10/09/13 12:32	1
2-Chlorotoluene	ND		0.100		mg/Kg			10/09/13 12:32	1
2-Hexanone	ND		2.50		mg/Kg			10/09/13 12:32	1
4-Chlorotoluene	ND		0.100		mg/Kg			10/09/13 12:32	1
4-Methyl-2-pentanone (MIBK)	ND		2.50		mg/Kg			10/09/13 12:32	1
Acetone	ND		2.50		mg/Kg			10/09/13 12:32	1
Benzene	ND		0.100		mg/Kg			10/09/13 12:32	1
Bromobenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
Bromochloromethane	ND		0.100		mg/Kg			10/09/13 12:32	1
Bromodichloromethane	ND		0.100		mg/Kg			10/09/13 12:32	1
Bromoform	ND		0.100		mg/Kg			10/09/13 12:32	1
Bromomethane	ND		0.100		mg/Kg			10/09/13 12:32	1
Carbon disulfide	ND		0.250		mg/Kg			10/09/13 12:32	1
Carbon tetrachloride	ND		0.100		mg/Kg			10/09/13 12:32	1
Chlorobenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
Chlorodibromomethane	ND		0.100		mg/Kg			10/09/13 12:32	1
Chloroethane	ND		0.250		mg/Kg			10/09/13 12:32	1
Chloroform	ND		0.100		mg/Kg			10/09/13 12:32	1
Chloromethane	ND		0.100		mg/Kg			10/09/13 12:32	1
cis-1,2-Dichloroethene	ND		0.100		mg/Kg			10/09/13 12:32	1
cis-1,3-Dichloropropene	ND		0.100		mg/Kg			10/09/13 12:32	1
Dibromomethane	ND		0.100		mg/Kg			10/09/13 12:32	1
Dichlorodifluoromethane	ND		0.100		mg/Kg			10/09/13 12:32	1
Ethylbenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
Hexachlorobutadiene	ND		0.250		mg/Kg			10/09/13 12:32	1
Isopropylbenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
Methyl tert-butyl ether	ND		0.100		mg/Kg			10/09/13 12:32	1
Methylene Chloride	ND		0.500		mg/Kg			10/09/13 12:32	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 490-112963/6

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.250		mg/Kg			10/09/13 12:32	1
n-Butylbenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
N-Propylbenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
p-Isopropyltoluene	ND		0.100		mg/Kg			10/09/13 12:32	1
sec-Butylbenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
Styrene	ND		0.100		mg/Kg			10/09/13 12:32	1
tert-Butylbenzene	ND		0.100		mg/Kg			10/09/13 12:32	1
Tetrachloroethene	ND		0.100		mg/Kg			10/09/13 12:32	1
Toluene	ND		0.100		mg/Kg			10/09/13 12:32	1
trans-1,2-Dichloroethene	ND		0.100		mg/Kg			10/09/13 12:32	1
trans-1,3-Dichloropropene	ND		0.100		mg/Kg			10/09/13 12:32	1
Trichloroethene	ND		0.100		mg/Kg			10/09/13 12:32	1
Trichlorofluoromethane	ND		0.100		mg/Kg			10/09/13 12:32	1
Vinyl chloride	ND		0.100		mg/Kg			10/09/13 12:32	1
Xylenes, Total	ND		0.150		mg/Kg			10/09/13 12:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 130		10/09/13 12:32	1
4-Bromofluorobenzene (Surr)	102		70 - 130		10/09/13 12:32	1
Dibromofluoromethane (Surr)	97		70 - 130		10/09/13 12:32	1
Toluene-d8 (Surr)	107		70 - 130		10/09/13 12:32	1

Lab Sample ID: MB 490-112963/7

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,1,1-Trichloroethane	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,1,2,2-Tetrachloroethane	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,1,2-Trichloroethane	ND		0.00500		mg/Kg			10/09/13 13:02	1
1,1-Dichloroethane	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,1-Dichloroethene	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,1-Dichloropropene	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,2,3-Trichlorobenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,2,3-Trichloropropane	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,2,4-Trichlorobenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,2,4-Trimethylbenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,2-Dibromo-3-Chloropropane	ND		0.00500		mg/Kg			10/09/13 13:02	1
1,2-Dibromoethane (EDB)	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,2-Dichlorobenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,2-Dichloroethane	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,2-Dichloropropane	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,3,5-Trimethylbenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,3-Dichlorobenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,3-Dichloropropane	ND		0.00200		mg/Kg			10/09/13 13:02	1
1,4-Dichlorobenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
2,2-Dichloropropane	ND		0.00200		mg/Kg			10/09/13 13:02	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 490-112963/7

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	ND		0.0500		mg/Kg			10/09/13 13:02	1
2-Chlorotoluene	ND		0.00200		mg/Kg			10/09/13 13:02	1
2-Hexanone	ND		0.0500		mg/Kg			10/09/13 13:02	1
4-Chlorotoluene	ND		0.00200		mg/Kg			10/09/13 13:02	1
4-Methyl-2-pentanone (MIBK)	ND		0.0500		mg/Kg			10/09/13 13:02	1
Acetone	ND		0.0500		mg/Kg			10/09/13 13:02	1
Benzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
Bromobenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
Bromochloromethane	ND		0.00200		mg/Kg			10/09/13 13:02	1
Bromodichloromethane	ND		0.00200		mg/Kg			10/09/13 13:02	1
Bromoform	ND		0.00200		mg/Kg			10/09/13 13:02	1
Bromomethane	ND		0.00200		mg/Kg			10/09/13 13:02	1
Carbon disulfide	ND		0.00500		mg/Kg			10/09/13 13:02	1
Carbon tetrachloride	ND		0.00200		mg/Kg			10/09/13 13:02	1
Chlorobenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
Chlorodibromomethane	ND		0.00200		mg/Kg			10/09/13 13:02	1
Chloroethane	ND		0.00500		mg/Kg			10/09/13 13:02	1
Chloroform	ND		0.00200		mg/Kg			10/09/13 13:02	1
Chloromethane	ND		0.00200		mg/Kg			10/09/13 13:02	1
cis-1,2-Dichloroethene	ND		0.00200		mg/Kg			10/09/13 13:02	1
cis-1,3-Dichloropropene	ND		0.00200		mg/Kg			10/09/13 13:02	1
Dibromomethane	ND		0.00200		mg/Kg			10/09/13 13:02	1
Dichlorodifluoromethane	ND		0.00200		mg/Kg			10/09/13 13:02	1
Ethylbenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
Hexachlorobutadiene	ND		0.00500		mg/Kg			10/09/13 13:02	1
Isopropylbenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
Methyl tert-butyl ether	ND		0.00200		mg/Kg			10/09/13 13:02	1
Methylene Chloride	ND		0.0100		mg/Kg			10/09/13 13:02	1
Naphthalene	ND		0.00500		mg/Kg			10/09/13 13:02	1
n-Butylbenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
N-Propylbenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
p-Isopropyltoluene	ND		0.00200		mg/Kg			10/09/13 13:02	1
sec-Butylbenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
Styrene	ND		0.00200		mg/Kg			10/09/13 13:02	1
tert-Butylbenzene	ND		0.00200		mg/Kg			10/09/13 13:02	1
Tetrachloroethene	ND		0.00200		mg/Kg			10/09/13 13:02	1
Toluene	ND		0.00200		mg/Kg			10/09/13 13:02	1
trans-1,2-Dichloroethene	ND		0.00200		mg/Kg			10/09/13 13:02	1
trans-1,3-Dichloropropene	ND		0.00200		mg/Kg			10/09/13 13:02	1
Trichloroethene	ND		0.00200		mg/Kg			10/09/13 13:02	1
Trichlorofluoromethane	ND		0.00200		mg/Kg			10/09/13 13:02	1
Vinyl chloride	ND		0.00200		mg/Kg			10/09/13 13:02	1
Xylenes, Total	ND		0.00300		mg/Kg			10/09/13 13:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 130		10/09/13 13:02	1
4-Bromofluorobenzene (Surr)	100		70 - 130		10/09/13 13:02	1
Dibromofluoromethane (Surr)	97		70 - 130		10/09/13 13:02	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 490-112963/7

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	103		70 - 130		10/09/13 13:02	1

Lab Sample ID: LCS 490-112963/3

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	0.0500	0.04468		mg/Kg		89	80 - 136
1,1,1-Trichloroethane	0.0500	0.04440		mg/Kg		89	72 - 140
1,1,2,2-Tetrachloroethane	0.0500	0.04357		mg/Kg		87	66 - 134
1,1,2-Trichloroethane	0.0500	0.04515		mg/Kg		90	78 - 128
1,1-Dichloroethane	0.0500	0.04633		mg/Kg		93	75 - 124
1,1-Dichloroethene	0.0500	0.04459		mg/Kg		89	75 - 131
1,1-Dichloropropene	0.0500	0.04661		mg/Kg		93	79 - 127
1,2,3-Trichlorobenzene	0.0500	0.04739		mg/Kg		95	70 - 150
1,2,3-Trichloropropane	0.0500	0.04446		mg/Kg		89	65 - 139
1,2,4-Trichlorobenzene	0.0500	0.05034		mg/Kg		101	62 - 150
1,2,4-Trimethylbenzene	0.0500	0.04966		mg/Kg		99	77 - 139
1,2-Dibromo-3-Chloropropane	0.0500	0.04241		mg/Kg		85	49 - 142
1,2-Dibromoethane (EDB)	0.0500	0.04533		mg/Kg		91	80 - 135
1,2-Dichlorobenzene	0.0500	0.04544		mg/Kg		91	80 - 134
1,2-Dichloroethane	0.0500	0.04170		mg/Kg		83	65 - 134
1,2-Dichloropropane	0.0500	0.04708		mg/Kg		94	69 - 120
1,3,5-Trimethylbenzene	0.0500	0.04950		mg/Kg		99	78 - 138
1,3-Dichlorobenzene	0.0500	0.04725		mg/Kg		95	79 - 137
1,3-Dichloropropane	0.0500	0.04555		mg/Kg		91	78 - 126
1,4-Dichlorobenzene	0.0500	0.04596		mg/Kg		92	77 - 139
2,2-Dichloropropane	0.0500	0.04446		mg/Kg		89	68 - 145
2-Butanone (MEK)	0.250	0.2172		mg/Kg		87	61 - 132
2-Chlorotoluene	0.0500	0.04776		mg/Kg		96	78 - 132
2-Hexanone	0.250	0.2141		mg/Kg		86	57 - 148
4-Chlorotoluene	0.0500	0.05047		mg/Kg		101	77 - 138
4-Methyl-2-pentanone (MIBK)	0.250	0.2434		mg/Kg		97	59 - 138
Acetone	0.250	0.2095		mg/Kg		84	51 - 149
Benzene	0.0500	0.04525		mg/Kg		90	75 - 127
Bromobenzene	0.0500	0.04565		mg/Kg		91	75 - 130
Bromochloromethane	0.0500	0.04372		mg/Kg		87	70 - 132
Bromodichloromethane	0.0500	0.04540		mg/Kg		91	68 - 135
Bromoform	0.0500	0.04502		mg/Kg		90	36 - 150
Bromomethane	0.0500	0.05145	E	mg/Kg		103	43 - 142
Carbon disulfide	0.0500	0.04518		mg/Kg		90	74 - 135
Carbon tetrachloride	0.0500	0.04442		mg/Kg		89	70 - 141
Chlorobenzene	0.0500	0.04521		mg/Kg		90	84 - 125
Chlorodibromomethane	0.0500	0.04653		mg/Kg		93	66 - 134
Chloroethane	0.0500	0.05227		mg/Kg		105	53 - 144
Chloroform	0.0500	0.04406		mg/Kg		88	76 - 130
Chloromethane	0.0500	0.06264		mg/Kg		125	23 - 150
cis-1,2-Dichloroethene	0.0500	0.04788		mg/Kg		96	75 - 125

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-112963/3

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,3-Dichloropropene	0.0500	0.04979		mg/Kg		100	73 - 148
Dibromomethane	0.0500	0.04276		mg/Kg		86	71 - 130
Dichlorodifluoromethane	0.0500	0.06384		mg/Kg		128	12 - 144
Ethylbenzene	0.0500	0.04945		mg/Kg		99	80 - 134
Hexachlorobutadiene	0.0500	0.04192		mg/Kg		84	65 - 148
Isopropylbenzene	0.0500	0.05082		mg/Kg		102	80 - 150
Methyl tert-butyl ether	0.0500	0.04560		mg/Kg		91	70 - 136
Methylene Chloride	0.0500	0.04315		mg/Kg		86	68 - 144
Naphthalene	0.0500	0.04975		mg/Kg		100	69 - 150
n-Butylbenzene	0.0500	0.05257		mg/Kg		105	72 - 152
N-Propylbenzene	0.0500	0.04918		mg/Kg		98	75 - 137
p-Isopropyltoluene	0.0500	0.05119		mg/Kg		102	77 - 141
sec-Butylbenzene	0.0500	0.04988		mg/Kg		100	79 - 141
Styrene	0.0500	0.05118		mg/Kg		102	82 - 137
tert-Butylbenzene	0.0500	0.04779		mg/Kg		96	80 - 132
Tetrachloroethene	0.0500	0.04405		mg/Kg		88	78 - 140
Toluene	0.0500	0.04627		mg/Kg		93	80 - 132
trans-1,2-Dichloroethene	0.0500	0.04693		mg/Kg		94	76 - 128
trans-1,3-Dichloropropene	0.0500	0.04947		mg/Kg		99	62 - 139
Trichloroethene	0.0500	0.04432		mg/Kg		89	77 - 127
Trichlorofluoromethane	0.0500	0.04858		mg/Kg		97	50 - 140
Vinyl chloride	0.0500	0.05896		mg/Kg		118	47 - 136
Xylenes, Total	0.100	0.09788		mg/Kg		98	80 - 137

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 130
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	94		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: LCSD 490-112963/4

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	0.0500	0.04678		mg/Kg		94	80 - 136	5	50
1,1,1-Trichloroethane	0.0500	0.04610		mg/Kg		92	72 - 140	4	50
1,1,2,2-Tetrachloroethane	0.0500	0.04587		mg/Kg		92	66 - 134	5	50
1,1,2-Trichloroethane	0.0500	0.04597		mg/Kg		92	78 - 128	2	50
1,1-Dichloroethane	0.0500	0.04850		mg/Kg		97	75 - 124	5	50
1,1-Dichloroethene	0.0500	0.04546		mg/Kg		91	75 - 131	2	50
1,1-Dichloropropene	0.0500	0.04773		mg/Kg		95	79 - 127	2	50
1,2,3-Trichlorobenzene	0.0500	0.05161		mg/Kg		103	70 - 150	9	50
1,2,3-Trichloropropane	0.0500	0.04609		mg/Kg		92	65 - 139	4	50
1,2,4-Trichlorobenzene	0.0500	0.05283		mg/Kg		106	62 - 150	5	50
1,2,4-Trimethylbenzene	0.0500	0.05317		mg/Kg		106	77 - 139	7	50
1,2-Dibromo-3-Chloropropane	0.0500	0.04386		mg/Kg		88	49 - 142	3	50
1,2-Dibromoethane (EDB)	0.0500	0.04594		mg/Kg		92	80 - 135	1	50

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 490-112963/4

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Added	Result	Qualifier				Limits		
1,2-Dichlorobenzene	0.0500	0.04824		mg/Kg		96	80 - 134	6	50
1,2-Dichloroethane	0.0500	0.04382		mg/Kg		88	65 - 134	5	50
1,2-Dichloropropane	0.0500	0.04848		mg/Kg		97	69 - 120	3	50
1,3,5-Trimethylbenzene	0.0500	0.05306		mg/Kg		106	78 - 138	7	50
1,3-Dichlorobenzene	0.0500	0.04997		mg/Kg		100	79 - 137	6	50
1,3-Dichloropropane	0.0500	0.04743		mg/Kg		95	78 - 126	4	42
1,4-Dichlorobenzene	0.0500	0.04932		mg/Kg		99	77 - 139	7	50
2,2-Dichloropropane	0.0500	0.04535		mg/Kg		91	68 - 145	2	50
2-Butanone (MEK)	0.250	0.2177		mg/Kg		87	61 - 132	0	50
2-Chlorotoluene	0.0500	0.05024		mg/Kg		100	78 - 132	5	50
2-Hexanone	0.250	0.2222		mg/Kg		89	57 - 148	4	50
4-Chlorotoluene	0.0500	0.05262		mg/Kg		105	77 - 138	4	50
4-Methyl-2-pentanone (MIBK)	0.250	0.2514		mg/Kg		101	59 - 138	3	50
Acetone	0.250	0.2168		mg/Kg		87	51 - 149	3	50
Benzene	0.0500	0.04676		mg/Kg		94	75 - 127	3	50
Bromobenzene	0.0500	0.04822		mg/Kg		96	75 - 130	5	50
Bromochloromethane	0.0500	0.04505		mg/Kg		90	70 - 132	3	50
Bromodichloromethane	0.0500	0.04676		mg/Kg		94	68 - 135	3	50
Bromoform	0.0500	0.04652		mg/Kg		93	36 - 150	3	50
Bromomethane	0.0500	0.05274	E	mg/Kg		105	43 - 142	2	50
Carbon disulfide	0.0500	0.04643		mg/Kg		93	74 - 135	3	50
Carbon tetrachloride	0.0500	0.04541		mg/Kg		91	70 - 141	2	50
Chlorobenzene	0.0500	0.04701		mg/Kg		94	84 - 125	4	50
Chlorodibromomethane	0.0500	0.04867		mg/Kg		97	66 - 134	4	50
Chloroethane	0.0500	0.05344		mg/Kg		107	53 - 144	2	50
Chloroform	0.0500	0.04498		mg/Kg		90	76 - 130	2	49
Chloromethane	0.0500	0.06296		mg/Kg		126	23 - 150	0	50
cis-1,2-Dichloroethene	0.0500	0.04891		mg/Kg		98	75 - 125	2	50
cis-1,3-Dichloropropene	0.0500	0.05163		mg/Kg		103	73 - 148	4	50
Dibromomethane	0.0500	0.04399		mg/Kg		88	71 - 130	3	50
Dichlorodifluoromethane	0.0500	0.06446		mg/Kg		129	12 - 144	1	50
Ethylbenzene	0.0500	0.05143		mg/Kg		103	80 - 134	4	50
Hexachlorobutadiene	0.0500	0.04499		mg/Kg		90	65 - 148	7	50
Isopropylbenzene	0.0500	0.05336		mg/Kg		107	80 - 150	5	50
Methyl tert-butyl ether	0.0500	0.04676		mg/Kg		94	70 - 136	3	50
Methylene Chloride	0.0500	0.04405		mg/Kg		88	68 - 144	2	50
Naphthalene	0.0500	0.05290		mg/Kg		106	69 - 150	6	50
n-Butylbenzene	0.0500	0.05582		mg/Kg		112	72 - 152	6	50
N-Propylbenzene	0.0500	0.05211		mg/Kg		104	75 - 137	6	50
p-Isopropyltoluene	0.0500	0.05461		mg/Kg		109	77 - 141	6	50
sec-Butylbenzene	0.0500	0.05385		mg/Kg		108	79 - 141	8	50
Styrene	0.0500	0.05302		mg/Kg		106	82 - 137	4	50
tert-Butylbenzene	0.0500	0.05142		mg/Kg		103	80 - 132	7	50
Tetrachloroethene	0.0500	0.04541		mg/Kg		91	78 - 140	3	50
Toluene	0.0500	0.04800		mg/Kg		96	80 - 132	4	50
trans-1,2-Dichloroethene	0.0500	0.04810		mg/Kg		96	76 - 128	2	50
trans-1,3-Dichloropropene	0.0500	0.05089		mg/Kg		102	62 - 139	3	50
Trichloroethene	0.0500	0.04516		mg/Kg		90	77 - 127	2	50

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS D 490-112963/4

Matrix: Solid

Analysis Batch: 112963

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCS D Result	LCS D Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichlorofluoromethane	0.0500	0.05101		mg/Kg		102	50 - 140	5	50
Vinyl chloride	0.0500	0.06172		mg/Kg		123	47 - 136	5	50
Xylenes, Total	0.100	0.1028		mg/Kg		103	80 - 137	5	50

Surrogate	LCS D %Recovery	LCS D Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	96		70 - 130
Toluene-d8 (Surr)	104		70 - 130

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 490-112600/1-A

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 112600

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Acenaphthylene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Anthracene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[a]anthracene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[a]pyrene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[b]fluoranthene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[g,h,i]perylene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Benzo[k]fluoranthene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Chrysene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Dibenz(a,h)anthracene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Fluorene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Fluoranthene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Indeno[1,2,3-cd]pyrene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Naphthalene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Phenanthrene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
Pyrene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
1-Methylnaphthalene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1
2-Methylnaphthalene	ND		0.00333		mg/Kg		10/08/13 07:50	10/08/13 20:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	84		13 - 120	10/08/13 07:50	10/08/13 20:17	1
Nitrobenzene-d5	63		27 - 120	10/08/13 07:50	10/08/13 20:17	1
2-Fluorobiphenyl (Surr)	68		29 - 120	10/08/13 07:50	10/08/13 20:17	1

Lab Sample ID: LCS 490-112600/2-A

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 112600

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.0333	0.02754		mg/Kg		83	36 - 120

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 490-112600/2-A

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 112600

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	0.0333	0.02726		mg/Kg		82	38 - 120
Anthracene	0.0333	0.02913		mg/Kg		87	46 - 124
Benzo[a]anthracene	0.0333	0.03086		mg/Kg		93	45 - 120
Benzo[a]pyrene	0.0333	0.02984		mg/Kg		90	45 - 120
Benzo[b]fluoranthene	0.0333	0.03083		mg/Kg		93	42 - 120
Benzo[g,h,i]perylene	0.0333	0.03440		mg/Kg		103	38 - 120
Benzo[k]fluoranthene	0.0333	0.03165		mg/Kg		95	42 - 120
Chrysene	0.0333	0.03181		mg/Kg		95	43 - 120
Dibenz(a,h)anthracene	0.0333	0.03698		mg/Kg		111	32 - 128
Fluorene	0.0333	0.02874		mg/Kg		86	42 - 120
Fluoranthene	0.0333	0.03085		mg/Kg		93	46 - 120
Indeno[1,2,3-cd]pyrene	0.0333	0.03377		mg/Kg		101	41 - 121
Naphthalene	0.0333	0.02652		mg/Kg		80	32 - 120
Phenanthrene	0.0333	0.02934		mg/Kg		88	45 - 120
Pyrene	0.0333	0.03050		mg/Kg		91	43 - 120
1-Methylnaphthalene	0.0333	0.02712		mg/Kg		81	32 - 120
2-Methylnaphthalene	0.0333	0.02717		mg/Kg		82	28 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	82		13 - 120
Nitrobenzene-d5	66		27 - 120
2-Fluorobiphenyl (Surr)	65		29 - 120

Lab Sample ID: 490-37096-F-7-B MS

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 112600

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		0.0368	0.02747		mg/Kg	☼	75	19 - 120
Acenaphthylene	ND		0.0368	0.02731		mg/Kg	☼	74	25 - 120
Anthracene	ND		0.0368	0.02813		mg/Kg	☼	77	28 - 125
Benzo[a]anthracene	ND		0.0368	0.03070		mg/Kg	☼	83	23 - 120
Benzo[a]pyrene	ND		0.0368	0.02912		mg/Kg	☼	79	15 - 128
Benzo[b]fluoranthene	ND		0.0368	0.02980		mg/Kg	☼	81	12 - 133
Benzo[g,h,i]perylene	ND		0.0368	0.03038		mg/Kg	☼	83	22 - 120
Benzo[k]fluoranthene	ND		0.0368	0.02991		mg/Kg	☼	81	28 - 120
Chrysene	ND		0.0368	0.02978		mg/Kg	☼	81	20 - 120
Dibenz(a,h)anthracene	ND		0.0368	0.03207		mg/Kg	☼	87	12 - 128
Fluorene	ND		0.0368	0.02870		mg/Kg	☼	78	20 - 120
Fluoranthene	ND		0.0368	0.03061		mg/Kg	☼	83	10 - 143
Indeno[1,2,3-cd]pyrene	ND		0.0368	0.03015		mg/Kg	☼	82	22 - 121
Naphthalene	ND		0.0368	0.02671		mg/Kg	☼	73	10 - 120
Phenanthrene	ND		0.0368	0.02968		mg/Kg	☼	81	21 - 122
Pyrene	ND		0.0368	0.03040		mg/Kg	☼	83	20 - 123
1-Methylnaphthalene	ND		0.0368	0.02732		mg/Kg	☼	74	10 - 120
2-Methylnaphthalene	ND		0.0368	0.02763		mg/Kg	☼	75	13 - 120

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 490-37096-F-7-B MS

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 112600

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	67		13 - 120
Nitrobenzene-d5	58		27 - 120
2-Fluorobiphenyl (Surr)	57		29 - 120

Lab Sample ID: 490-37096-F-7-C MSD

Matrix: Solid

Analysis Batch: 112729

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 112600

Analyte	Sample	Sample	Spike	MSD MSD		Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Acenaphthene	ND		0.0370	0.02900		mg/Kg	*	78	19 - 120	5	50	
Acenaphthylene	ND		0.0370	0.02834		mg/Kg	*	77	25 - 120	4	50	
Anthracene	ND		0.0370	0.03100		mg/Kg	*	84	28 - 125	10	49	
Benzo[a]anthracene	ND		0.0370	0.03402		mg/Kg	*	92	23 - 120	10	50	
Benzo[a]pyrene	ND		0.0370	0.03271		mg/Kg	*	88	15 - 128	12	50	
Benzo[b]fluoranthene	ND		0.0370	0.03289		mg/Kg	*	89	12 - 133	10	50	
Benzo[g,h,i]perylene	ND		0.0370	0.03594		mg/Kg	*	97	22 - 120	17	50	
Benzo[k]fluoranthene	ND		0.0370	0.03298		mg/Kg	*	89	28 - 120	10	45	
Chrysene	ND		0.0370	0.03328		mg/Kg	*	90	20 - 120	11	49	
Dibenz(a,h)anthracene	ND		0.0370	0.03808		mg/Kg	*	103	12 - 128	17	50	
Fluorene	ND		0.0370	0.02982		mg/Kg	*	81	20 - 120	4	50	
Fluoranthene	ND		0.0370	0.03350		mg/Kg	*	91	10 - 143	9	50	
Indeno[1,2,3-cd]pyrene	ND		0.0370	0.03550		mg/Kg	*	96	22 - 121	16	50	
Naphthalene	ND		0.0370	0.02728		mg/Kg	*	74	10 - 120	2	50	
Phenanthrene	ND		0.0370	0.03164		mg/Kg	*	86	21 - 122	6	50	
Pyrene	ND		0.0370	0.03387		mg/Kg	*	92	20 - 123	11	50	
1-Methylnaphthalene	ND		0.0370	0.02827		mg/Kg	*	76	10 - 120	3	50	
2-Methylnaphthalene	ND		0.0370	0.02856		mg/Kg	*	77	13 - 120	3	50	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
Terphenyl-d14	74		13 - 120
Nitrobenzene-d5	59		27 - 120
2-Fluorobiphenyl (Surr)	60		29 - 120

Method: NWTPH/VPH - Northwest - Volatile Petroleum Hydrocarbons (GC)

Lab Sample ID: MB 490-112591/6

Matrix: Solid

Analysis Batch: 112591

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C5-C6 Aliphatics	ND		5.00		mg/Kg			10/08/13 10:12	1
C6-C8 Aliphatics	ND		5.00		mg/Kg			10/08/13 10:12	1
C8-C10 Aliphatics	ND		5.00		mg/Kg			10/08/13 10:12	1
C10-C12 Aliphatics	ND		5.00		mg/Kg			10/08/13 10:12	1
C8-C10 Aromatics	ND		5.00		mg/Kg			10/08/13 10:12	1
C10-C12 Aromatics	ND		5.00		mg/Kg			10/08/13 10:12	1
C12-C13 Aromatics	ND		5.00		mg/Kg			10/08/13 10:12	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: NWTPH/VPH - Northwest - Volatile Petroleum Hydrocarbons (GC) (Continued)

Lab Sample ID: MB 490-112591/6
Matrix: Solid
Analysis Batch: 112591

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2,5-Dibromotoluene (fid)	107		60 - 140		10/08/13 10:12	1
2,5-Dibromotoluene (pid)	111		60 - 140		10/08/13 10:12	1

Lab Sample ID: LCS 490-112591/3
Matrix: Solid
Analysis Batch: 112591

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
C5-C6 Aliphatics	15.0	16.60		mg/Kg		111	70 - 130	
C6-C8 Aliphatics	10.0	10.62		mg/Kg		106	70 - 130	
C8-C10 Aliphatics	30.0	31.62		mg/Kg		105	70 - 130	
C10-C12 Aliphatics	10.0	12.42		mg/Kg		124	70 - 130	
C8-C10 Aromatics	25.0	26.25		mg/Kg		105	70 - 130	
C10-C12 Aromatics	5.00	5.680		mg/Kg		114	70 - 130	
C12-C13 Aromatics	5.00	6.017		mg/Kg		120	70 - 130	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,5-Dibromotoluene (fid)	106		60 - 140
2,5-Dibromotoluene (pid)	108		60 - 140

Lab Sample ID: LCSD 490-112591/4
Matrix: Solid
Analysis Batch: 112591

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
C5-C6 Aliphatics	15.0	14.43		mg/Kg		96	70 - 130	14	25	
C6-C8 Aliphatics	10.0	9.312		mg/Kg		93	70 - 130	13	25	
C8-C10 Aliphatics	30.0	27.72		mg/Kg		92	70 - 130	13	25	
C10-C12 Aliphatics	10.0	10.69		mg/Kg		107	70 - 130	15	25	
C8-C10 Aromatics	25.0	23.45		mg/Kg		94	70 - 130	11	25	
C10-C12 Aromatics	5.00	ND		mg/Kg		100	70 - 130	13	25	
C12-C13 Aromatics	5.00	5.228		mg/Kg		105	70 - 130	14	25	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
2,5-Dibromotoluene (fid)	105		60 - 140
2,5-Dibromotoluene (pid)	108		60 - 140

Lab Sample ID: 490-37275-J-8-A MS
Matrix: Solid
Analysis Batch: 113330

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 113054

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits	
				Result	Qualifier					
C8-C10 Aromatics	7.41		7.64	16.17		mg/Kg	✱	115	70 - 130	
C10-C12 Aromatics	8.27		1.53	9.685	4	mg/Kg	✱	93	70 - 130	
C12-C13 Aromatics	11.0		1.53	9.949	4	mg/Kg	✱	-67	70 - 130	

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: NWTPH/VPH - Northwest - Volatile Petroleum Hydrocarbons (GC) (Continued)

Lab Sample ID: 490-37275-J-8-A MS
Matrix: Solid
Analysis Batch: 113330

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 113054

<i>Surrogate</i>	<i>MS</i> %Recovery	<i>MS</i> Qualifier	<i>Limits</i>
2,5-Dibromotoluene (pid)	114		60 - 140

Lab Sample ID: 490-37275-J-8-A MSD
Matrix: Solid
Analysis Batch: 113330

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 113054

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec.		RPD	Limit
				Result	Qualifier				Limits	RPD		
C8-C10 Aromatics	7.41		7.64	13.83		mg/Kg	☼	84	70 - 130	16	25	
C10-C12 Aromatics	8.27		1.53	6.793	4 F	mg/Kg	☼	-96	70 - 130	35	25	
C12-C13 Aromatics	11.0		1.53	7.317	4 F	mg/Kg	☼	-239	70 - 130	30	25	

<i>Surrogate</i>	<i>MSD</i> %Recovery	<i>MSD</i> Qualifier	<i>Limits</i>
2,5-Dibromotoluene (pid)	109		60 - 140

Lab Sample ID: MB 490-113330/6
Matrix: Solid
Analysis Batch: 113330

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C8-C10 Aromatics	ND		5.00		mg/Kg			10/10/13 14:06	1
C10-C12 Aromatics	ND		5.00		mg/Kg			10/10/13 14:06	1
C12-C13 Aromatics	ND		5.00		mg/Kg			10/10/13 14:06	1

<i>Surrogate</i>	<i>MB</i> %Recovery	<i>MB</i> Qualifier	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
2,5-Dibromotoluene (pid)	110		60 - 140		10/10/13 14:06	1

Lab Sample ID: LCS 490-113330/3
Matrix: Solid
Analysis Batch: 113330

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	RPD
C8-C10 Aromatics	25.0	24.11		mg/Kg		96	70 - 130	
C10-C12 Aromatics	5.00	5.207		mg/Kg		104	70 - 130	
C12-C13 Aromatics	5.00	5.478		mg/Kg		110	70 - 130	

<i>Surrogate</i>	<i>LCS</i> %Recovery	<i>LCS</i> Qualifier	<i>Limits</i>
2,5-Dibromotoluene (pid)	108		60 - 140

Lab Sample ID: LCSD 490-113330/4
Matrix: Solid
Analysis Batch: 113330

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
C8-C10 Aromatics	25.0	26.02		mg/Kg		104	70 - 130	8	25	
C10-C12 Aromatics	5.00	5.582		mg/Kg		112	70 - 130	7	25	
C12-C13 Aromatics	5.00	5.980		mg/Kg		120	70 - 130	9	25	

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: NWTPH/VPH - Northwest - Volatile Petroleum Hydrocarbons (GC) (Continued)

Lab Sample ID: LCSD 490-113330/4
 Matrix: Solid
 Analysis Batch: 113330

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,5-Dibromotoluene (pid)	108		60 - 140

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: 490-37096-D-1-A DU
 Matrix: Solid
 Analysis Batch: 113587

Client Sample ID: Duplicate
 Prep Type: Total/NA
 Prep Batch: 112276

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
C6-C12	ND		ND		mg/Kg	☼	NC	10

Surrogate	DU %Recovery	DU Qualifier	Limits
a,a,a-Trifluorotoluene	92		50 - 150

Lab Sample ID: MB 490-113587/39
 Matrix: Solid
 Analysis Batch: 113587

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		5.00		mg/Kg			10/12/13 12:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	97		50 - 150		10/12/13 12:30	1

Lab Sample ID: LCS 490-113587/64
 Matrix: Solid
 Analysis Batch: 113587

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C12	10.0	9.210		mg/Kg		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	77		50 - 150

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 490-112601/1-A
 Matrix: Solid
 Analysis Batch: 113656

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 112601

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1221	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1232	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1242	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1248	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
PCB-1254	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 490-112601/1-A

Matrix: Solid

Analysis Batch: 113656

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 112601

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1260	ND		0.0333		mg/Kg		10/08/13 08:11	10/12/13 09:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	103		19 - 147				10/08/13 08:11	10/12/13 09:32	1
DCB Decachlorobiphenyl (Surr)	81		20 - 150				10/08/13 08:11	10/12/13 09:32	1

Lab Sample ID: LCS 490-112601/2-A

Matrix: Solid

Analysis Batch: 113656

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 112601

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1242	0.167	0.1698		mg/Kg		102	39 - 150
Surrogate	%Recovery	Qualifier	Limits				
Tetrachloro-m-xylene	100		19 - 147				
DCB Decachlorobiphenyl (Surr)	80		20 - 150				

Lab Sample ID: 490-37104-G-5-C MS

Matrix: Solid

Analysis Batch: 113656

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 112601

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1242	ND		0.191	0.3202		mg/Kg	☼	168	10 - 168
Surrogate	%Recovery	Qualifier	Limits						
Tetrachloro-m-xylene	98		19 - 147						
DCB Decachlorobiphenyl (Surr)	71		20 - 150						

Lab Sample ID: 490-37104-G-5-D MSD

Matrix: Solid

Analysis Batch: 113656

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 112601

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1242	ND		0.192	0.3399	F	mg/Kg	☼	177	10 - 168	6	50
Surrogate	%Recovery	Qualifier	Limits								
Tetrachloro-m-xylene	69		19 - 147								
DCB Decachlorobiphenyl (Surr)	71		20 - 150								

Method: NWTPH/EPH - Northwest - Extractable Petroleum Hydrocarbons (GC)

Lab Sample ID: MB 490-112940/1-B

Matrix: Solid

Analysis Batch: 114024

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 112940

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C8-C10 Aliphatics	ND		5.00		mg/Kg		10/09/13 09:01	10/14/13 09:20	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: NWTPH/EPH - Northwest - Extractable Petroleum Hydrocarbons (GC) (Continued)

Lab Sample ID: MB 490-112940/1-B

Matrix: Solid

Analysis Batch: 114024

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 112940

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C12 Aliphatics	ND		5.00		mg/Kg		10/09/13 09:01	10/14/13 09:20	1
C12-C16 Aliphatics	ND		5.00		mg/Kg		10/09/13 09:01	10/14/13 09:20	1
C16-C21 Aliphatics	ND		5.00		mg/Kg		10/09/13 09:01	10/14/13 09:20	1
C21-C34 Aliphatics	ND		5.00		mg/Kg		10/09/13 09:01	10/14/13 09:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	80		60 - 140				10/09/13 09:01	10/14/13 09:20	1

Lab Sample ID: MB 490-112940/1-C

Matrix: Solid

Analysis Batch: 114023

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 112940

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C8-C10 Aromatics	ND		5.00		mg/Kg		10/09/13 09:01	10/14/13 14:53	1
C10-C12 Aromatics	ND		5.00		mg/Kg		10/09/13 09:01	10/14/13 14:53	1
C12-C16 Aromatics	ND		5.00		mg/Kg		10/09/13 09:01	10/14/13 14:53	1
C16-C21 Aromatics	ND		5.00		mg/Kg		10/09/13 09:01	10/14/13 14:53	1
C21-C34 Aromatics	ND		5.00		mg/Kg		10/09/13 09:01	10/14/13 14:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	100		60 - 140				10/09/13 09:01	10/14/13 14:53	1
2-Bromonaphthalene	96		60 - 140				10/09/13 09:01	10/14/13 14:53	1
o-Terphenyl	88		60 - 140				10/09/13 09:01	10/14/13 14:53	1

Lab Sample ID: LCS 490-112940/2-B

Matrix: Solid

Analysis Batch: 114024

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 112940

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C8-C10 Aliphatics	10.0	5.564		mg/Kg		56	50 - 150
C10-C12 Aliphatics	5.00	ND		mg/Kg		83	70 - 130
C12-C16 Aliphatics	10.0	8.329		mg/Kg		83	70 - 130
C16-C21 Aliphatics	15.0	15.53		mg/Kg		104	70 - 130
C21-C34 Aliphatics	25.0	23.69		mg/Kg		95	70 - 130
Surrogate	%Recovery	Qualifier	Limits				
1-Chlorooctadecane	76		60 - 140				

Lab Sample ID: LCS 490-112940/2-C

Matrix: Solid

Analysis Batch: 114023

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 112940

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C12 Aromatics	5.00	ND		mg/Kg		84	70 - 130
C12-C16 Aromatics	15.0	13.44		mg/Kg		90	70 - 130
C16-C21 Aromatics	25.0	21.01		mg/Kg		84	70 - 130
C21-C34 Aromatics	40.0	33.31		mg/Kg		83	70 - 130

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: NWTPH/EPH - Northwest - Extractable Petroleum Hydrocarbons (GC) (Continued)

Lab Sample ID: LCS 490-112940/2-C
Matrix: Solid
Analysis Batch: 114023

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 112940

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl (Surr)	102		60 - 140
2-Bromonaphthalene	90		60 - 140
o-Terphenyl	86		60 - 140

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

Lab Sample ID: MB 490-112949/1-A
Matrix: Solid
Analysis Batch: 112980

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 112949

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C10-C24	ND		5.00		mg/Kg		10/09/13 09:22	10/10/13 00:02	1
C24-C40	ND		5.00		mg/Kg		10/09/13 09:22	10/10/13 00:02	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
o-Terphenyl	78		50 - 150	10/09/13 09:22	10/10/13 00:02	1

Lab Sample ID: LCS 490-112949/2-A
Matrix: Solid
Analysis Batch: 112980

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 112949

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
C10-C24	50.0	44.37		mg/Kg		89	55 - 129

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
o-Terphenyl	90		50 - 150

Lab Sample ID: 490-37104-F-5-B DU
Matrix: Solid
Analysis Batch: 112980

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 112949

Analyte	Sample Sample		DU DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
C10-C24	ND		6.062		mg/Kg	✱	42	50
C24-C40	ND		8.748		mg/Kg	✱	56	50

Surrogate	DU DU		Limits
	%Recovery	Qualifier	
o-Terphenyl	72		50 - 150

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 490-114526/1-A
Matrix: Solid
Analysis Batch: 114654

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 114526

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lead	ND		0.499		mg/Kg		10/15/13 13:45	10/15/13 16:50	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 490-114526/2-A
Matrix: Solid
Analysis Batch: 114654

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 114526

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Lead	19.3	19.60		mg/Kg		102	80 - 120	

Lab Sample ID: 490-37096-F-7-G MS
Matrix: Solid
Analysis Batch: 114654

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 114526

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
Lead	32.0		22.0	44.02	F	mg/Kg	✱	55	75 - 125	

Lab Sample ID: 490-37096-F-7-H MSD
Matrix: Solid
Analysis Batch: 114654

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 114526

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	RPD Limit
Lead	32.0		22.3	54.48	F	mg/Kg	✱	101	75 - 125		21	20

Method: Moisture - Percent Moisture

Lab Sample ID: 490-37104-G-1 DU
Matrix: Solid
Analysis Batch: 112469

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	81		80		%		0.8	20

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

GC/MS VOA

Analysis Batch: 112618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	8260B	112625
490-37112-2	SO-062027-100313-MW-5-10	Total/NA	Solid	8260B	112625
LCS 490-112618/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-112618/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-112618/7	Method Blank	Total/NA	Solid	8260B	

Prep Batch: 112621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	5035	

Prep Batch: 112625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	5035	
490-37112-2	SO-062027-100313-MW-5-10	Total/NA	Solid	5035	
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	5035	

Prep Batch: 112944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37241-A-2-D MS	Matrix Spike	Total/NA	Solid	5030B	
490-37241-A-2-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5030B	

Analysis Batch: 112963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	8260B	112625
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	8260B	112621
490-37241-A-2-D MS	Matrix Spike	Total/NA	Solid	8260B	112944
490-37241-A-2-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	112944
LCS 490-112963/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-112963/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-112963/6	Method Blank	Total/NA	Solid	8260B	
MB 490-112963/7	Method Blank	Total/NA	Solid	8260B	

GC/MS Semi VOA

Prep Batch: 112600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-F-7-B MS	Matrix Spike	Total/NA	Solid	3550B	
490-37096-F-7-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3550B	
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	3550B	
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	3550B	
LCS 490-112600/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 490-112600/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 112729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-F-7-B MS	Matrix Spike	Total/NA	Solid	8270C SIM	112600
490-37096-F-7-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8270C SIM	112600
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	8270C SIM	112600
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	8270C SIM	112600
LCS 490-112600/2-A	Lab Control Sample	Total/NA	Solid	8270C SIM	112600

TestAmerica Nashville

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

GC/MS Semi VOA (Continued)

Analysis Batch: 112729 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-112600/1-A	Method Blank	Total/NA	Solid	8270C SIM	112600

GC VOA

Prep Batch: 112276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-D-1-A DU	Duplicate	Total/NA	Solid	5035	

Analysis Batch: 112591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	NWTPH/VPH	112621
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	NWTPH/VPH	112621
LCS 490-112591/3	Lab Control Sample	Total/NA	Solid	NWTPH/VPH	
LCSD 490-112591/4	Lab Control Sample Dup	Total/NA	Solid	NWTPH/VPH	
MB 490-112591/6	Method Blank	Total/NA	Solid	NWTPH/VPH	

Prep Batch: 112621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	5035	
490-37112-2	SO-062027-100313-MW-5-10	Total/NA	Solid	5035	
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	5035	

Prep Batch: 113054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37275-J-8-A MS	Matrix Spike	Total/NA	Solid	5035	
490-37275-J-8-A MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 113330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	NWTPH/VPH	112621
490-37275-J-8-A MS	Matrix Spike	Total/NA	Solid	NWTPH/VPH	113054
490-37275-J-8-A MSD	Matrix Spike Duplicate	Total/NA	Solid	NWTPH/VPH	113054
LCS 490-113330/3	Lab Control Sample	Total/NA	Solid	NWTPH/VPH	
LCSD 490-113330/4	Lab Control Sample Dup	Total/NA	Solid	NWTPH/VPH	
MB 490-113330/6	Method Blank	Total/NA	Solid	NWTPH/VPH	

Analysis Batch: 113587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-D-1-A DU	Duplicate	Total/NA	Solid	NWTPH-Gx	112276
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	NWTPH-Gx	112621
490-37112-2	SO-062027-100313-MW-5-10	Total/NA	Solid	NWTPH-Gx	112621
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	NWTPH-Gx	112621
LCS 490-113587/64	Lab Control Sample	Total/NA	Solid	NWTPH-Gx	
MB 490-113587/39	Method Blank	Total/NA	Solid	NWTPH-Gx	

Analysis Batch: 114284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	NWTPH/VPH	

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

GC Semi VOA

Prep Batch: 112601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-G-5-C MS	Matrix Spike	Total/NA	Solid	3550B	
490-37104-G-5-D MSD	Matrix Spike Duplicate	Total/NA	Solid	3550B	
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	3550B	
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	3550B	
LCS 490-112601/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 490-112601/1-A	Method Blank	Total/NA	Solid	3550B	

Prep Batch: 112940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	3541	
LCS 490-112940/2-B	Lab Control Sample	Total/NA	Solid	3541	
LCS 490-112940/2-C	Lab Control Sample	Total/NA	Solid	3541	
MB 490-112940/1-B	Method Blank	Total/NA	Solid	3541	
MB 490-112940/1-C	Method Blank	Total/NA	Solid	3541	

Prep Batch: 112949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-F-5-B DU	Duplicate	Total/NA	Solid	3550B	
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	3550B	
490-37112-2	SO-062027-100313-MW-5-10	Total/NA	Solid	3550B	
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	3550B	
LCS 490-112949/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 490-112949/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 112980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-F-5-B DU	Duplicate	Total/NA	Solid	NWTPH-Dx	112949
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	NWTPH-Dx	112949
490-37112-2	SO-062027-100313-MW-5-10	Total/NA	Solid	NWTPH-Dx	112949
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	NWTPH-Dx	112949
LCS 490-112949/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Dx	112949
MB 490-112949/1-A	Method Blank	Total/NA	Solid	NWTPH-Dx	112949

Analysis Batch: 113318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37112-2	SO-062027-100313-MW-5-10	Total/NA	Solid	NWTPH-Dx	112949

Analysis Batch: 113656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-G-5-C MS	Matrix Spike	Total/NA	Solid	8082	112601
490-37104-G-5-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8082	112601
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	8082	112601
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	8082	112601
LCS 490-112601/2-A	Lab Control Sample	Total/NA	Solid	8082	112601
MB 490-112601/1-A	Method Blank	Total/NA	Solid	8082	112601

Fraction Batch: 113872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	EPH Frac	112940
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	EPH Frac	112940
LCS 490-112940/2-B	Lab Control Sample	Total/NA	Solid	EPH Frac	112940

TestAmerica Nashville

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

GC Semi VOA (Continued)

Fraction Batch: 113872 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 490-112940/2-C	Lab Control Sample	Total/NA	Solid	EPH Frac	112940
MB 490-112940/1-B	Method Blank	Total/NA	Solid	EPH Frac	112940
MB 490-112940/1-C	Method Blank	Total/NA	Solid	EPH Frac	112940

Analysis Batch: 114023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	NWTPH/EPH	113872
LCS 490-112940/2-C	Lab Control Sample	Total/NA	Solid	NWTPH/EPH	113872
MB 490-112940/1-C	Method Blank	Total/NA	Solid	NWTPH/EPH	113872

Analysis Batch: 114024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	NWTPH/EPH	113872
LCS 490-112940/2-B	Lab Control Sample	Total/NA	Solid	NWTPH/EPH	113872
MB 490-112940/1-B	Method Blank	Total/NA	Solid	NWTPH/EPH	113872

Metals

Prep Batch: 114526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-F-7-G MS	Matrix Spike	Total/NA	Solid	3051	
490-37096-F-7-H MSD	Matrix Spike Duplicate	Total/NA	Solid	3051	
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	3051	
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	3051	
LCS 490-114526/2-A	Lab Control Sample	Total/NA	Solid	3051	
MB 490-114526/1-A	Method Blank	Total/NA	Solid	3051	

Analysis Batch: 114654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37096-F-7-G MS	Matrix Spike	Total/NA	Solid	6020	114526
490-37096-F-7-H MSD	Matrix Spike Duplicate	Total/NA	Solid	6020	114526
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	6020	114526
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	6020	114526
LCS 490-114526/2-A	Lab Control Sample	Total/NA	Solid	6020	114526
MB 490-114526/1-A	Method Blank	Total/NA	Solid	6020	114526

General Chemistry

Analysis Batch: 112469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-37104-G-1 DU	Duplicate	Total/NA	Solid	Moisture	
490-37112-1	SO-062027-100313-MW-5-5	Total/NA	Solid	Moisture	
490-37112-2	SO-062027-100313-MW-5-10	Total/NA	Solid	Moisture	
490-37112-3	SO-062027-100313-MW-1-5	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Client Sample ID: SO-062027-100313-MW-5-5

Lab Sample ID: 490-37112-1

Date Collected: 10/03/13 15:15

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 92.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112625	10/08/13 08:41	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112618	10/08/13 16:14	KKK	TAL NSH
Total/NA	Prep	3550B			112600	10/08/13 07:50	LP	TAL NSH
Total/NA	Analysis	8270C SIM		1	112729	10/08/13 23:15	BES	TAL NSH
Total/NA	Prep	5035			112621	10/08/13 08:37	JLP	TAL NSH
Total/NA	Analysis	NWTPH/VPH		20	112591	10/08/13 15:05	FKG	TAL NSH
Total/NA	Analysis	NWTPH/VPH		1	112591	10/08/13 15:38	FKG	TAL NSH
Total/NA	Analysis	NWTPH/VPH		40	113330	10/10/13 15:34	FKG	TAL NSH
Total/NA	Prep	5035			112621	10/08/13 08:37	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/13/13 01:12	AMC	TAL NSH
Total/NA	Analysis	NWTPH/VPH		1	114284	10/14/13 21:47	FKG	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 04:21	JML	TAL NSH
Total/NA	Prep	3550B			112601	10/08/13 08:11	LP	TAL NSH
Total/NA	Analysis	8082		1	113656	10/12/13 12:03	WAM	TAL NSH
Total/NA	Prep	3541			112940	10/09/13 09:01	BJB	TAL NSH
Total/NA	Analysis	NWTPH/EPH		1	114023	10/14/13 15:54	KKH	TAL NSH
Total/NA	Fraction	EPH Frac			113872	10/12/13 09:28	TRF	TAL NSH
Total/NA	Analysis	NWTPH/EPH		1	114024	10/14/13 10:21	KKH	TAL NSH
Total/NA	Prep	3051			114526	10/15/13 13:45	NLI	TAL NSH
Total/NA	Analysis	6020		1	114654	10/15/13 17:22	BWW	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Client Sample ID: SO-062027-100313-MW-5-10

Lab Sample ID: 490-37112-2

Date Collected: 10/03/13 15:25

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 92.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112625	10/08/13 08:41	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112618	10/08/13 15:44	KKK	TAL NSH
Total/NA	Prep	5035			112621	10/08/13 08:37	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/13/13 00:06	AMC	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 04:37	JML	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		10	113318	10/10/13 17:39	JLF	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Client Sample ID: SO-062027-100313-MW-1-5

Lab Sample ID: 490-37112-3

Date Collected: 10/04/13 09:05

Matrix: Solid

Date Received: 10/05/13 08:15

Percent Solids: 84.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			112625	10/08/13 08:41	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112963	10/09/13 15:01	KKK	TAL NSH
Total/NA	Prep	5035			112621	10/08/13 08:37	JLP	TAL NSH
Total/NA	Analysis	8260B		1	112963	10/09/13 15:30	KKK	TAL NSH
Total/NA	Prep	3550B			112600	10/08/13 07:50	LP	TAL NSH
Total/NA	Analysis	8270C SIM		1	112729	10/08/13 23:40	BES	TAL NSH
Total/NA	Prep	5035			112621	10/08/13 08:37	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	113587	10/13/13 00:39	AMC	TAL NSH
Total/NA	Prep	3550B			112949	10/09/13 09:22	BJB	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	112980	10/10/13 04:52	JML	TAL NSH
Total/NA	Prep	3550B			112601	10/08/13 08:11	LP	TAL NSH
Total/NA	Analysis	8082		1	113656	10/12/13 12:25	WAM	TAL NSH
Total/NA	Prep	3051			114526	10/15/13 13:45	NLI	TAL NSH
Total/NA	Analysis	6020		1	114654	10/15/13 17:27	BWW	TAL NSH
Total/NA	Analysis	Moisture		1	112469	10/07/13 12:50	RRS	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL NSH
NWTPH/VPH	Northwest - Volatile Petroleum Hydrocarbons (GC)	NWTPH	TAL NSH
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	TAL NSH
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL NSH
NWTPH/EPH	Northwest - Extractable Petroleum Hydrocarbons (GC)	NWTPH	TAL NSH
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL NSH
6020	Metals (ICP/MS)	SW846	TAL NSH
Moisture	Percent Moisture	EPA	TAL NSH

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

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

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S Ellensburg WA

TestAmerica Job ID: 490-37112-1

Laboratory: TestAmerica Nashville

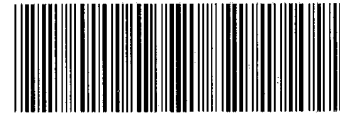
Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C789	07-19-14

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020	3051	Solid	Lead
8082	3550B	Solid	PCB-1016
8082	3550B	Solid	PCB-1221
8082	3550B	Solid	PCB-1232
8082	3550B	Solid	PCB-1242
8082	3550B	Solid	PCB-1248
8082	3550B	Solid	PCB-1254
8082	3550B	Solid	PCB-1260
8260B		Solid	1-Methylnaphthalene
8260B		Solid	2-Methylnaphthalene
8260B		Solid	Hexane
8260B	5035	Solid	1-Methylnaphthalene
8260B	5035	Solid	2-Methylnaphthalene
8260B	5035	Solid	Hexane
8270C SIM	3550B	Solid	1-Methylnaphthalene
8270C SIM	3550B	Solid	2-Methylnaphthalene
8270C SIM	3550B	Solid	Acenaphthene
8270C SIM	3550B	Solid	Acenaphthylene
8270C SIM	3550B	Solid	Anthracene
8270C SIM	3550B	Solid	Benzo[a]anthracene
8270C SIM	3550B	Solid	Benzo[a]pyrene
8270C SIM	3550B	Solid	Benzo[b]fluoranthene
8270C SIM	3550B	Solid	Benzo[g,h,i]perylene
8270C SIM	3550B	Solid	Benzo[k]fluoranthene
8270C SIM	3550B	Solid	Chrysene
8270C SIM	3550B	Solid	Dibenz(a,h)anthracene
8270C SIM	3550B	Solid	Fluoranthene
8270C SIM	3550B	Solid	Fluorene
8270C SIM	3550B	Solid	Indeno[1,2,3-cd]pyrene
8270C SIM	3550B	Solid	Naphthalene
8270C SIM	3550B	Solid	Phenanthrene
8270C SIM	3550B	Solid	Pyrene
Moisture		Solid	Percent Solids
NWTPH-Dx	3550B	Solid	C10-C24
NWTPH-Gx		Solid	C6-C12
NWTPH-Gx	5035	Solid	C6-C12

COOLER RECEIPT I



490-37112 Chain of Custody

Cooler Received/Opened On 10/5/2013 @ 0815

1. Tracking # 1203 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 94660220

2. Temperature of rep. sample or temp blank when opened: 2.6 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES..NO...NA

If yes, how many and where: (1) Front

5. Were the seals intact, signed, and dated correctly? YES..NO...NA

6. Were custody papers inside cooler? YES..NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) MM

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES..NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES..NO...NA

12. Did all container labels and tags agree with custody papers? YES..NO...NA

13a. Were VOA vials received? YES..NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA - Soils

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # NA

I certify that I unloaded the cooler and answered questions 7-14 (initial) EF

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO..NA

b. Did the bottle labels indicate that the correct preservatives were used YES..NO...NA

16. Was residual chlorine present? YES...NO..NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) EF

17. Were custody papers properly filled out (ink, signed, etc)? YES..NO...NA

18. Did you sign the custody papers in the appropriate place? YES..NO...NA

19. Were correct containers used for the analysis requested? YES..NO...NA

20. Was sufficient amount of sample sent in each container? YES..NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) EF

I certify that I attached a label with the unique LIMS number to each container (initial) EF

21. Were there Non-Conformance issues at login? YES..NO Was a NCM generated? YES..NO..#

3

LAB (LOCATION)

- CALSCIENCE (_____)
- SPL (Houston)
- XENCO (_____)
- TEST AMERICA (Nashville)
- OTHER (_____)



Shell Oil Products Chain Of Custody Record

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SD&CM	<input checked="" type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER _____	

Print Bill To Contact Name: **Brian Peters**

PO #: _____

INCIDENT # (ENV SERVICES): **7970447**

SAF #: _____

CHECK IF NO INCIDENT # APPLIES

DATE: **10/4/13**

PAGE: **1** of **1**

SAMPLING COMPANY: **Conestoga-Rovers & Associates**

LOG CODE: **NA**

ADDRESS: **20818 44th Ave W., Suite 190, Lynnwood, WA 98036**

PROJECT CONTACT (Hardcopy or PDF Report to): **Brian Peters**

TELEPHONE: **425-563-6500** FAX: **425-563-6599** E-MAIL: **Bpeters@crworld.com**

SITE ADDRESS: Street and City: **200 Railroad Ave S, Ellensburg WA** State: **WA** GLOBAL ID NO.: **NA**

EDF DELIVERABLE TO (Name, Company, Office Location): **NA** PHONE NO.: **NA** E-MAIL: **NA**

CONSULTANT PROJECT NO.: **062027**

SAMPLER NAME(S) (Print): **Stephen Rasmussen**

TURNAROUND TIME (CALENDAR DAYS):

STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT UST AGENCY:

REQUESTED ANALYSIS

SPECIAL INSTRUCTIONS OR NOTES:

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

EDD NOT NEEDED

RECEIPT VERIFICATION REQUESTED

TCLP benzene required if benzene > 10 mg/kg

Marked TAT except for those contingent tests needed for Aquatic Bioassay determination (5 day TAT or better may apply)

cc: Derek Feiman, Dfeiman@crworld.com and Shell Lab Billing@crworld.com

LAB USE ONLY	Field Sample Identification		SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.
			DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER	
	1	SO-062027-100313-MW-5-5	10/3/13	1515	SO						X
2	SO-062027-100313-MW-5-10	10/3/13	1525	SO						X	7
3	SO-062027-100413-MW-1-5	10/4/13	905	SO						X	7

TPH - Purgeable (8260B)	TPH - Extractable (8015M)	BTEX (8260B)	5 Oxygenates (8260B)	MTBE (8260B)	TBA (8260B)	DPE (8260B)	TAME (8260B)	ETBE (8260B)	4-Ethylphenol (8260B)	EDB (8260B) / EDC	Ethanol (8260B)	Methanol (8015M)	PAHs (8270c) / CPAHs	TCLP: As, Ba, Cd, Cr, Pb, Hg, Se, Ag (8010B or 8020)	PCBs (8082) + HMOs 8260B	TRPH (418.1)	NWTPH-GX	NWTPH-DX	Total Lead 6020	TEMPERATURE ON RECEIPT C°
		X															X	X		

Loc: 490
37112

Additional Analysis may be Required, please Hold Pending B. Peters Notification

Relinquished by: (Signature) *[Signature]* Date: **10/4/13** Time: **1330**

Received by: (Signature) *[Signature]*

Date: **10-5-13** Time: **08:15**

2.6 TAN

10/24/2013 Page 1 of 1

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 490-37112-1

Login Number: 37112

List Number: 1

Creator: Ford, Easton

List Source: TestAmerica Nashville

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Appendix D

Blaine Field Data Sheets

WELL GAUGING DATA

Project # B1028-LB3 Date 10/28/13 Client CRA

Site 200 S. RAILROAD AVE, ELLensburg, WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-1	1152	2					5.11	12.16	↓ ↓	
MW-2	1158	2				4.29	12.18			
MW-3	1121	2				4.48	12.49			
MW-4	1126	2				3.51	12.30			
MW-5	1140	2				4.11	12.93			
MW-6	1146	2				4.72	13.05			
MW-7	1131	2				4.21	12.83			
MW-8	1136	2				3.83	12.98			

WELL DEVELOPMENT DATA SHEET

Project #: 131028-LB3	Client: CRA
Developer: LB	Date Developed: 10/29/13
Well I.D. MW-1	Well Diameter: (circle one) <u>2</u> 3 4 6
Total Well Depth: Before 12.16 After 12.31	Depth to Water: Before 5.11 After 5.72
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF): $\{12 \times (d^2/4) \times \pi\} / 231$	Well dia.	VCF
where	2"	= 0.16
12 = in / foot	3"	= 0.37
d = diameter (in.)	4"	= 0.65
$\pi = 3.1416$	6"	= 1.47
231 = in ³ /gal	10"	= 4.08
	12"	= 6.87

1.5	X	10	=	15
1 Case Volume		Specified Volumes		gallons

Purging Device: Bailer Electric Submersible
 Middleburg Suction Pump

Type of Installed Pump _____
 Other equipment used SURGE BLOCK

TIME	TEMP (F)	pH	Cond. (mS or μ S)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
1055	—	—	SURGE WELL	w/ SURGE BLOCK	FOR 10 MIN	—
1108	—	—	START PURGE	@ 0.5 GPM	—	—
1111	49.5	7.52	2638	>1000	1.5	VERY SILTY, BROWN
1114	50.2	7.36	2522	>1000	3.0	VERY SILTY
1117	50.5	7.28	2518	>1000	4.5	VERY SILTY, DTW: 5.72
—	—	—	SURGED WELL	w/ PUMP	—	—
1120	50.6	7.19	2517	>1000	6.0	VERY SILTY
1123	50.9	7.15	2516	942	7.5	SILTY, HARD BOTTOM
1126	51.0	7.13	2515	718	9.0	SILTY, DTW: 5.72
—	—	—	SURGED WELL	w/ PUMP	—	—
1129	51.3	7.12	2514	582	10.5	SILTY
1132	51.4	7.11	2510	294	12.0	LESS SILTY
1135	51.6	7.10	2508	151	13.5	LESS SILTY, DTW: 5.72
Did Well Dewater?		If yes, note above.		Gallons Actually Evacuated:		25.5

WELL DEVELOPMENT DATA SHEET

Project #: 131028-LB3	Client: CPA
Developer: LB	Date Developed: 10/28/13
Well I.D. MW-2	Well Diameter: (circle one) ② 3 4 6
Total Well Depth: Before 12.18 After 12.31	Depth to Water: Before 4.29 After 4.45
Reason not developed:	If Free Product, thickness:
Additional Notations: 80% = 5.87	

Volume Conversion Factor (VCF): $\frac{12 \times (d^2/4) \times \pi}{231}$
 where
 12 = in / foot
 d = diameter (in.)
 $\pi = 3.1416$
 231 = in³/gal

Well dia.	VCF
2"	= 0.16
3"	= 0.37
4"	= 0.65
6"	= 1.47
10"	= 4.08
12"	= 6.87

<u>1.5</u>	X	<u>10</u>	=	<u>15</u>
1 Case Volume		Specified Volumes		gallons

Purging Device: Bailer Electric Submersible
 Middleburg Suction Pump

Type of Installed Pump _____
 Other equipment used SURGE BLOCK

TIME	TEMP (F)	pH	Cond. (mS or μ S)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
1201	_____	_____	_____	_____	_____	SURGE WELL
1213	_____	_____	_____	_____	_____	START PURGE @ 0.5 GPM
1216	61.5	6.59	1283	>1000	1.5	VERY SILTY, BROWN
1219	61.7	6.71	1238	>1000	3.0	VERY SILTY
1222	61.6	6.73	1196	>1000	4.5	VERY SILTY, DTW @ 9.41
_____	_____	_____	_____	_____	_____	SURGED WELL w/ PUMP
1225	61.0	6.76	954	>1000	6.0	VERY SILTY
1228	61.3	6.77	1011	>1000	7.5	VERY SILTY
_____	_____	_____	_____	_____	_____	WELL DEWATERED @ 7.5 GALLONS
1335	_____	_____	_____	_____	_____	RETURN TO WELL DTW: 4.33
1336	_____	_____	_____	_____	_____	SURGE WELL w/ SURGE BLOCK FOR 10 MIN
1608	_____	_____	_____	_____	_____	START PURGE @ 0.5 GPM
1611	60.8	6.71	1098	>1000	9.0	SILTY
Did Well Dewater? <u>Y</u>		If yes, note above.		Gallons Actually Evacuated:		30

WELL DEVELOPMENT DATA SHEET

Project #: <u>131026-LB3</u>	Client: <u>CRA</u>
Developer: <u>LB</u>	Date Developed: <u>10/28/13</u>
Well I.D. <u>MW-3</u>	Well Diameter: (circle one) <u>3</u> 4 6
Total Well Depth: Before <u>12.49</u> After <u>12.64</u>	Depth to Water: Before <u>4.48</u> After <u>4.56</u>
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF): (12 x (d ² /4) x π) / 231	Well dia.	VCF
where	2"	= 0.16
12 = in / foot	3"	= 0.37
d = diameter (in.)	4"	= 0.65
π = 3.1416	6"	= 1.47
231 = in ³ /gal	10"	= 4.08
	12"	= 6.87

<u>1.5</u>	X	<u>10</u>	=	<u>15</u>
1 Case Volume		Specified Volumes		gallons

Purging Device: Bailer Electric Submersible
 Middleburg Suction Pump

Type of Installed Pump _____
 Other equipment used SURGE BLOCK

TIME	TEMP (F)	pH	Cond. (mS or μS)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
<u>1205</u>	—	—	—	—	—	<u>SURGE WELL w/ SURGE BLOCK FOR 10 MIN.</u>
<u>1210</u>	—	—	—	—	—	<u>START PURGE @ 0.5 GPM</u>
<u>1219</u>	<u>54.3</u>	<u>7.66</u>	<u>1551</u>	<u>>1000</u>	<u>1.5</u>	<u>VERY SILTY, BROWN</u>
<u>1222</u>	<u>54.4</u>	<u>7.67</u>	<u>1547</u>	<u>>1000</u>	<u>3.0</u>	<u>VERY SILTY</u>
<u>1224</u>	<u>54.5</u>	<u>7.66</u>	<u>1536</u>	<u>>1000</u>	<u>4.5</u>	<u>VERY SILTY, DTW: 4.56</u>
—	—	<u>SURGED</u>	<u>WELL w/</u>	<u>PUMP</u>	—	—
<u>1227</u>	<u>54.6</u>	<u>7.65</u>	<u>1529</u>	<u>>1000</u>	<u>6.0</u>	<u>VERY SILTY</u>
<u>1230</u>	<u>54.7</u>	<u>7.64</u>	<u>1527</u>	<u>>1000</u>	<u>7.5</u>	<u>VERY SILTY</u>
<u>1233</u>	<u>54.8</u>	<u>7.62</u>	<u>1525</u>	<u>>1000</u>	<u>9.0</u>	<u>VERY SILTY DTW: 4.56</u>
—	—	<u>SURGED</u>	<u>WELL w/</u>	<u>PUMP</u>	—	—
<u>1236</u>	<u>54.9</u>	<u>7.61</u>	<u>1520</u>	<u>>1000</u>	<u>10.5</u>	<u>SILTY, HARD BOTTOM</u>
<u>1239</u>	<u>55.1</u>	<u>7.60</u>	<u>1516</u>	<u>>1000</u>	<u>12.0</u>	<u>SILTY</u>
<u>1241</u>	<u>55.2</u>	<u>7.59</u>	<u>1514</u>	<u>>1000</u>	<u>13.5</u>	<u>LESS SILTY, DTW: 4.56</u>
Did Well Dewater? <u>N</u>		If yes, note above.		Gallons Actually Evacuated:		<u>30</u>

WELL DEVELOPMENT DATA SHEET

Project #: 131028-LB3	Client: CRA
Developer: LB	Date Developed: 10/28/13
Well I.D. MW-4	Well Diameter: (circle one) ② 3 4 6
Total Well Depth: Before 12.30 After 12.51	Depth to Water: Before 3.51 After 4.26
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF):
 $\{12 \times (d^2/4) \times \pi\} / 231$
 where
 12 = in / foot
 d = diameter (in.)
 $\pi = 3.1416$
 231 = in³/gal

Well dia.	VCF
2"	= 0.16
3"	= 0.37
4"	= 0.65
6"	= 1.47
10"	= 4.08
12"	= 6.87

1.5	X	10	=	15
1 Case Volume		Specified Volumes		gallons

Purging Device: Bailer Electric Submersible
 Middleburg Suction Pump

Type of Installed Pump _____
 Other equipment used SURGE BLOCK

TIME	TEMP (F)	pH	Cond. (mS or μ S)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
1235	—	—	—	—	—	SURGED WELL w/ SURGE BLOCK FOR 10 MIN.
1246	—	—	—	—	—	START PURGE @ 0.5 GPM
1251	59.5	6.86	3713	>1000	1.5	VERY SILTY, BROWN
1254	59.9	6.63	3550	>1000	3.0	VERY SILTY
1258	60.0	6.69	3558	>1000	4.5	VERY SILTY, DTW: 6.11
—	—	—	—	—	—	SURGED WELL w/ PUMP
1301	59.7	6.73	3554	>1000	6.0	VERY SILTY
1304	59.5	6.75	3351	>1000	7.5	VERY SILTY
1307	59.2	6.78	3546	>1000	9.0	VERY SILTY, DTW: 9.71
—	—	—	—	—	—	SURGED WELL w/ PUMP
1311	59.1	6.79	3543	>1000	10.5	VERY SILTY, HARD BOTTOM
1314	58.8	6.81	3540	>1000	12.0	VERY SILTY
—	—	—	—	—	—	WELL DEWATERED @ 12 GALLONS
Did Well Dewater? <u>Y</u>		If yes, note above.		Gallons Actually Evacuated:		33.0

WELL DEVELOPMENT DATA SHEET

Project #: <u>131028-LB3</u>	Client: <u>CFA</u>
Developer: <u>LB</u>	Date Developed: <u>10/29/13</u>
Well I.D. <u>MW-5</u>	Well Diameter: (circle one) <u>2</u> 3 4 6 <u> </u>
Total Well Depth: Before <u>12.93</u> After <u>13.05</u>	Depth to Water: Before <u>4.11</u> After <u>4.23</u>
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF): $\{12 \times (d^2/4) \times \pi\} / 231$	Well dia.	VCF
where	2" =	0.16
12 = in / foot	3" =	0.37
d = diameter (in.)	4" =	0.65
$\pi = 3.1416$	6" =	1.47
231 = in ³ /gal	10" =	4.08
	12" =	6.87

<u>1.5</u>	X	<u>10</u>	=	<u>15</u>
1 Case Volume		Specified Volumes		gallons

Purging Device: Bailer Electric Submersible
 Middleburg Suction Pump

Type of Installed Pump _____
 Other equipment used SURGE BLOCK

TIME	TEMP (F)	pH	Cond. (mS or μ S)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
<u>0931</u>	_____	_____	<u>SURGED WELL</u>	<u>w/ SURGE</u>	_____	<u>BLOCK FOR 10 MIN.</u>
<u>0943</u>	_____	_____	<u>START</u>	<u>PURGE</u>	<u>0.5</u>	<u>6PM</u>
<u>0946</u>	<u>53.4</u>	<u>7.07</u>	<u>1264</u>	<u>>1000</u>	<u>1.5</u>	<u>VERY SILTY, BROWN</u>
<u>0949</u>	<u>53.2</u>	<u>6.99</u>	<u>1231</u>	<u>>1000</u>	<u>3.0</u>	<u>VERY SILTY</u>
<u>0952</u>	<u>53.4</u>	<u>6.86</u>	<u>1226</u>	<u>>1000</u>	<u>4.5</u>	<u>VERY SILTY, DTW: 4.23</u>
_____	_____	_____	<u>SURGED WELL</u>	<u>w/ PUMP</u>	_____	_____
<u>0955</u>	<u>53.5</u>	<u>6.79</u>	<u>1221</u>	<u>>1000</u>	<u>6.0</u>	<u>VERY SILTY, HARD BOTTOM</u>
<u>0958</u>	<u>53.6</u>	<u>6.75</u>	<u>1223</u>	<u>>1000</u>	<u>7.5</u>	<u>VERY SILTY</u>
<u>1001</u>	<u>53.7</u>	<u>6.73</u>	<u>1225</u>	<u>>1000</u>	<u>9.0</u>	<u>SILTY, DTW: 4.23</u>
_____	_____	_____	<u>SURGED</u>	<u>WELL</u>	<u>w/ PUMP</u>	_____
<u>1004</u>	<u>53.8</u>	<u>6.71</u>	<u>1228</u>	<u>>1000</u>	<u>10.5</u>	<u>SILTY</u>
<u>1007</u>	<u>53.9</u>	<u>6.70</u>	<u>1231</u>	<u>>1000</u>	<u>12.0</u>	<u>SILTY</u>
<u>1010</u>	<u>54.0</u>	<u>6.71</u>	<u>1233</u>	<u>>1000</u>	<u>13.5</u>	<u>LESS SILTY, DTW: 4.23</u>
Did Well Dewater?	If yes, note above.		Gallons Actually Evacuated:		<u>33.0</u>	

WELL DEVELOPMENT DATA SHEET

Project #: 131028-LB3	Client: CRA
Developer: LB	Date Developed: 10/29/13
Well I.D. MW-6	Well Diameter: (circle one) <input checked="" type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 6
Total Well Depth: Before 13.05 After 13.21	Depth to Water: Before 4.72 After 4.61
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF):
 $\{12 \times (d^2/4) \times \pi\} / 231$
 where
 12 = in / foot
 d = diameter (in.)
 $\pi = 3.1416$
 231 = in³/gal

Well dia.	VCF
2"	= 0.16
3"	= 0.37
4"	= 0.65
6"	= 1.47
10"	= 4.08
12"	= 6.87

1.5	X	10	=	15
1 Case Volume		Specified Volumes		gallons

Purging Device: Bailer Electric Submersible
 Middleburg Suction Pump

Type of Installed Pump _____
 Other equipment used SURGE BLOCK

TIME	TEMP (F)	pH	Cond. (mS or µS)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
0755	_____	SURGE	WELL w/	SURGE	BLOCK	FOR 10 MIN. _____
0810	_____	START PURGE	@ 0.5	GPM	_____	_____
0813	48.2	7.33	7715	>1000	1.5	VERY SILTY, BROWN
0816	48.8	7.32	1729	>1000	3.0	VERY SILTY
0819	49.3	7.31	1780	>1000	4.5	VERY SILTY, DTW: 4.61
_____	_____	SURGED WELL	w/	PUMP	_____	_____
0822	49.6	7.29	1810	>1000	6.0	VERY SILTY
0825	49.9	7.20	1842	>1000	7.5	VERY SILTY
0828	50.1	7.31	1856	>1000	9.0	VERY SILTY, DTW: 4.61
_____	_____	SURGED WELL	w/	PUMP	_____	_____
0831	50.2	7.30	1858	>1000	10.5	VERY SILTY, HARD BOTTOM
0834	50.3	7.29	1861	>1000	12.0	VERY SILTY
0837	50.1	7.28	1863	>1000	13.5	SILTY, DTW: 4.61
Did Well Dewater?	If yes, note above.		Gallons Actually Evacuated:		37.6	

WELL DEVELOPMENT DATA SHEET

Project #: 131028-LB3	Client: CRA
Developer: LB	Date Developed: 10/26/13
Well I.D. MW-7	Well Diameter: (circle one) <input checked="" type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 6
Total Well Depth: Before 12.83 After 13.13	Depth to Water: Before 4.21 After 4.31
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF):
 $\{12 \times (d^2/4) \times \pi\} / 231$
 where
 12 = in / foot
 d = diameter (in.)
 $\pi = 3.1416$
 231 = in³/gal

Well dia.	VCF
2"	= 0.16
3"	= 0.37
4"	= 0.65
6"	= 1.47
10"	= 4.08
12"	= 6.87

<u>1.5</u>	X	<u>10</u>	=	<u>15</u>
1 Case Volume		Specified Volumes		gallons

Purging Device: Bailer Electric Submersible
 Middleburg Suction Pump

Type of Installed Pump _____
 Other equipment used SURGE BLOCK

TIME	TEMP (F)	pH	Cond. (mS or μ S)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
1323	_____	_____	_____	_____	_____	SURGE WELL w/ SURGE BLOCK FOR 10 MIN. _____
1334	_____	_____	_____	_____	_____	START PURGE @ 6.5 GPM _____
1337	60.5	7.47	1025	>1000	1.5	VERY SILTY, BROWN
1340	60.4	7.40	1034	>1000	3.0	VERY SILTY
1343	60.1	7.35	1041	>1000	4.5	VERY SILTY, DTW: 4.31
_____	_____	_____	_____	_____	_____	SURGED WELL w/ PUMP _____
1346	59.8	7.30	1036	>1000	6.0	VERY SILTY
1349	60.1	7.29	1033	>1000	7.5	VERY SILTY
1353	60.1	7.32	1029	>1000	9.0	VERY SILTY, DTW: 4.31
_____	_____	_____	_____	_____	_____	SURGED WELL w/ PUMP _____
1356	59.6	7.31	1029	>1000	10.5	VERY SILTY, HARD BOTTOM
1359	59.7	7.30	1028	>1000	12.0	VERY SILTY
1402	59.8	7.29	1027	>1000	13.5	VERY SILTY, DTW: 4.31
Did Well Dewater? N	If yes, note above.		Gallons Actually Evacuated:		34.5	

WELL DEVELOPMENT DATA SHEET

Project #: <u>131028-LB3</u>	Client: <u>CRA</u>
Developer: <u>LB</u>	Date Developed: <u>6/29/13</u>
Well I.D. <u>MW-8</u>	Well Diameter: (circle one) <u>2</u> 3 4 6
Total Well Depth: Before <u>12.98</u> After <u>13.03</u>	Depth to Water: Before <u>383</u> After <u>394</u>
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF): $\{12 \times (d^2/4) \times \pi\} / 231$ where 12 = in / foot d = diameter (in.) $\pi = 3.1416$ 231 = in ³ /gal	Well dia.	VCF
	2"	= 0.16
	3"	= 0.37
	4"	= 0.65
	6"	= 1.47
	10"	= 4.08
	12"	= 6.87

<u>1.5</u>	X	<u>10</u>	=	<u>15</u>
1 Case Volume		Specified Volumes		gallons

Purging Device: Bailer Electric Submersible
 Middleburg Suction Pump

Type of Installed Pump _____
 Other equipment used SURGE BLOCK

TIME	TEMP (F)	pH	Cond. (mS or μ S)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
<u>0650</u>	_____	<u>SURGED</u>	<u>WELL w/</u>	<u>SURGE</u>	<u>BLOCK</u>	<u>FOR 10 MIN</u>
<u>0702</u>	_____	<u>START</u>	<u>PURGE</u>	<u>@ 0.5</u>	<u>SPM</u>	_____
<u>0705</u>	<u>61.4</u>	<u>7.54</u>	<u>1297</u>	<u>>1000</u>	<u>1.5</u>	<u>VERY SILTY, BROWN</u>
<u>0708</u>	<u>61.5</u>	<u>7.48</u>	<u>1282</u>	<u>>1000</u>	<u>3.0</u>	<u>VERY SILTY</u>
<u>0710</u>	<u>61.0</u>	<u>7.45</u>	<u>1275</u>	<u>>1000</u>	<u>4.5</u>	<u>SILTY, DTW: 394</u>
_____	_____	<u>SURGED</u>	<u>WELL w/</u>	<u>PUMP</u>	_____	_____
<u>0713</u>	<u>60.2</u>	<u>7.39</u>	<u>1276</u>	<u>>1000</u>	<u>6.0</u>	<u>SILTY</u>
<u>0716</u>	<u>59.4</u>	<u>7.38</u>	<u>1266</u>	<u>>1000</u>	<u>7.5</u>	<u>SILTY</u>
<u>0719</u>	<u>59.1</u>	<u>7.34</u>	<u>1267</u>	<u>>1000</u>	<u>9.0</u>	<u>LESS SILTY, DTW: 394</u>
_____	_____	_____	<u>SURGED</u>	<u>WELL w/</u>	<u>PUMP</u>	_____
<u>0722</u>	<u>58.8</u>	<u>7.32</u>	<u>1265</u>	<u>>1000</u>	<u>10.5</u>	<u>SILTY, HARD BOTTOM</u>
<u>0725</u>	<u>58.7</u>	<u>7.31</u>	<u>1264</u>	<u>>1000</u>	<u>12.0</u>	<u>SILTY</u>
<u>0728</u>	<u>58.6</u>	<u>7.30</u>	<u>1262</u>	<u>>1000</u>	<u>13.5</u>	<u>LESS SILTY, DTW: 394</u>
Did Well Dewater?	If yes, note above.		Gallons Actually Evacuated:		<u>25.5</u>	

ENVIRONMENTAL WELL, REMEDIATION COMPOUND, AND SITE INSPECTION FORM

INCIDENT # 7970447

ADDRESS 200 S. RAILROAD AVE

DATE: 10/26/13

CITY & STATE ELLENBURG, WA

Well ID	Observations Upon Arrival														Note Repairs Made Detailed Explanation of Maintenance Recommended and Performed	Photos of Well Condition		Repair Date and PM Initials	
	Manway Cover, Type, Condition & Size					Well Labeled / Painted Properly*		Well Cap (Gripper) Condition		Well Lock Condition			Well Pad / Surface Condition						
MW-1	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N		
MW-2	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N		
MW-3	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N		
MW-4	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N		
MW-5	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N		
MW-6	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N		
MW-7	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N		
MW-8	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N		
	Standpipe	Flush	G	P	Size (Inch)	Y	N	G	R	G	R	NL	G	P		Y	N		
	Standpipe	Flush	G	P	Size (Inch)	Y	N	G	R	G	R	NL	G	P		Y	N		
	Standpipe	Flush	G	P	Size (Inch)	Y	N	G	R	G	R	NL	G	P		Y	N		
					TOTAL # CAPS REPLACED =	0							TOTAL # OF LOCKS REPLACED	8					
Condition of Soil Boring Patches or Abandoned Monitoring Wells		G	P	N/A	If POOR, Borings/Well IDs or Location Description										Y	N			
Remediation Compound Type (Check boxes that apply)		Condition of Enclosure			Condition of Area Inside Enclosure			Compound Security			Emergency Contact Info Visible			Cleaning / Repairs Recommended and Conducted			Photos of Condition		Repair Date and PM Initials
NA		X																	
Building																			
Building w/ Fence Comp.		G	P	N/A	G	P	N/A	G	P	N/A	Y	N	N/A				Y	N	
Fenced Compound																			
Trailer																			
Number of Drums On-site	Does the Label Reveal the Source of the Contents		Labeled Correctly and Writing Legible			Drum Condition			Confirm Drums Related to Environmental		Drums Located to Min Business Interference			Detailed Explanation of Any Issues Resolved			Photos of Drum Condition		Date Drums Removed from Site and PM Initials
0	Y	N	N/A	Y	N	N/A	G	P	N/A	Y	N	Y	N	N/A				Y	N

G = Good (Acceptable) R = Replaced
P = Poor (needs attention) NL = No Lock Required

Note: All repairs other than locks and grippers require Shell PM approval prior to repair.

* = Groundwater monitoring well covers must be painted and labeled in accordance with applicable regulations.

Version 2.4, March 2008

All environmental wells and the remediation compound were in good condition, locked, and secured upon my departure (unless otherwise noted above).

LEE BURES / PJS

Print or type Name of Field Personnel & Consultant Company

SHELL BILL OF LADING

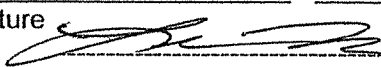
SOURCE RECORD **BILL OF LADING**

FOR NON-HAZARDOUS PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT SHELL FACILITIES IN THE STATE OF WASHINGTON OR OREGON. THE NON-HAZARDOUS PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND- WATER WELLS, IS MADE UP INTO LOADS OF APPROPRIATE SIZE TO BE TRANSPORTED & PROCESSED BY A SHELL APPROVED WASTE HAULER.

The contractor performing this work is BLAINE TECH SERVICES, INC. 22727 72ND Ave South, Suite D – 102, Kent, WA 98032. Blaine Tech Services, Inc. is authorized by SHELL OIL COMPANY (SHELL) to recover, collect, apportion into loads, and haul the Non-Hazardous Well Purgewater that is drawn from wells at the SHELL facility indicated below and to deliver that purgewater to BTS. Transport routing of the Non-Hazardous Well Purgewater may be direct from one Shell facility to BTS; from one Shell facility to BTS via another Shell facility; or any combination thereof. The Non-Hazardous Well Purgewater is and remains the property of SHELL.

This Source Record **BILL OF LADING** was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the SHELL facility described below:

		Perry Pineda	
INCIDENT #		Shell Engineer	
200	S. RAILROAD	Ave	ELLENSBURG, WA
street number	street name	city	state

WELL I.D.	GALS.	WELL I.D.	GALS.
MW-1	25.5		
MW-2	30.0		
MW-3	30.0		
MW-4	33.0		
MW-5	33.0		
MW-6	37.5		
MW-7	34.5		
MW-8	25.5		
added equip.		any other	
rinse water	4.0	adjustments	
TOTAL GALS. RECOVERED	253	loaded onto	
		BTS vehicle #	88
BTS event #	time	date	
	131028-183	1330	10/28/13
signature			

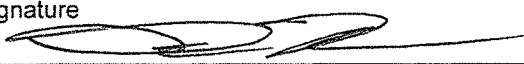
RECEIVED AT	time	date	
BTS Kent		/ /	
unloaded by			
signature			

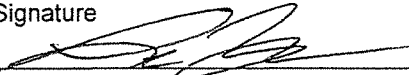
Job Clearance Form													
Station # 1910447		Station Address: 200 S. RAILROAD AVE, ELLENBURG, WA			Work Order Number: 131028-LB3		Date: 10/28/13						
Contractor Company Name: BLADIE TECH SERVICES		Contractor person in charge (print name): LIEBURS		Number of workers: 1		JSA Reference Number: (if required)		Start Time: 11:15	End Time: 1:00				
Problem/Work Description: Gauge + Develop 8 Groundwater Wells							Return Call: yes / no						
							Damage Claim: yes / no						
PPE REQUIRED (CHECK AND/OR FILL IN THIS SPACE)													
<input checked="" type="checkbox"/> SAFETY VEST	<input checked="" type="checkbox"/> HARD HAT	<input checked="" type="checkbox"/> SHOES & BOOTS	<input type="checkbox"/> HEARING PROTECTION	<input type="checkbox"/> RESPIRATOR									
<input checked="" type="checkbox"/> PROTECTIVE CLOTHING	<input checked="" type="checkbox"/> GLOVES	<input checked="" type="checkbox"/> SAFETY GLASSES/GOGGLES	<input type="checkbox"/> WELDING PPE	<input type="checkbox"/> OTHER									
<small>Contractor to complete this section below if circumstances on site or specific to this job, may generate additional hazards not are not described in the JSA.</small>													
Hazards identified by JSA			How to reduce and eliminate risk (include PPE to be worn)										
SEE JSA			NA			NA							
Work documentation requirements: Lower Risk - no JSA required Medium Risk / Higher Risk tasks - JSA required Higher Risk - JSA required & appropriate checklist completed (see below)													
Examples of Higher / Medium tasks: <input type="checkbox"/> Work at heights in all cases on open sites - on closed sites if no JSA present <input type="checkbox"/> Work in confined spaces (e.g. tank, interceptor or deep manhole entry)													
<input type="checkbox"/> Trenching or excavation related to underground tank / product lines <input type="checkbox"/> Hot work with risk of product or vapor ignition													
<input type="checkbox"/> Heavy lifting <input type="checkbox"/> LPG system degassing, installation or maintenance													
This form must be completed for each job and updated and re-signed if circumstances change or additional hazards identified.													
SIGN IN		Contractor representative name			Signature		SIGN OUT			Contractor signature			
Operating sites: to be signed by the Site Representative		LIEBURS					GENERAL SAFETY CHECKS						
Non-operating sites: to be signed by Contractor Representative only													
GENERAL SAFETY CHECKS		Site representative name			Signature		<input type="checkbox"/> Has the work area been left tidy and safe? <input type="checkbox"/> Are site personnel aware of status of work including remaining isolation? <input type="checkbox"/> Are changes to equipment documented and communicated? <input type="checkbox"/> All incidents, near incidents, unsafe situations reported? <input type="checkbox"/> Other			Site representative name		Signature	
<input type="checkbox"/> Have all site personnel been informed?		Denise Johnson								No SITE REP			
<input type="checkbox"/> Has fuel delivery services been informed?													
<input type="checkbox"/> Is a fuel delivery due?													
<input type="checkbox"/> Have isolation procedures been agreed - lock out/tag out?													
<input type="checkbox"/> Are work areas combined off to protect workers, site staff & public?													
<input type="checkbox"/> Other:													
PARTS - Ordered, Replaced and/or Disposed (if include model and serial as appropriate)													

The contractor through its authorized representative shall sign, issue and be solely responsible for all job clearance forms and the obligations arising there under applicable to the work.
 This form covers important reminders and is not intended to relieve the contractor from safely performing the work in compliance with all applicable laws and regulations.
 The Site Representative may require the contractor to stop work if it appears that the contractor or any of its workers are failing to comply with the requirements in the applicable items of this form or other applicable safety requirements.

Job Clearance Form												
SUBTRACTOR MUST COMPLETE THIS FORM ON EACH WORK DAY BEFORE WORKING ON THE JOB TO IDENTIFY HAZARDS AND CONTROL THEM TO PROTECT THE HEALTH AND SAFETY OF ALL PERSONNEL AND TO PREVENT DAMAGE TO PROPERTY AND THE ENVIRONMENT												
Station # 7970447	Station Address: 200 S. PARK ROAD AVE ELICONS BLVD, WA				Work Order Number: 131028-LB3		Date: 10/29/13					
Contractor Company Name: BLAINE INDUSTRIES		Contractor person in charge (print name): LEE BURG		Number of Workers: 1	JSA Reference Number: (if required)	Start Time: 0640	End Time: 1330	Label:	Travel Time:	Travel Distance:		
Problem/Work Description: SHAUSE + DEVELOP 8 GROUNDWATER WELLS								Return Call: yes / no	Damage Claim: yes / no			
PPE REQUIRED CHECK AND/OR FILL IN (USE SPACE)												
<input checked="" type="checkbox"/> SAFETY VEST	<input checked="" type="checkbox"/> HARD HAT	<input checked="" type="checkbox"/> SHOES & BOOTS	<input type="checkbox"/> HEARING PROTECTION	<input type="checkbox"/> RESPIRATOR								
<input checked="" type="checkbox"/> PROTECTIVE CLOTHING	<input checked="" type="checkbox"/> GLOVES	<input checked="" type="checkbox"/> SAFETY GLASSES/GOGGLES	<input type="checkbox"/> WELDING PPE	<input type="checkbox"/> OTHER								
Consider to complete this section below if circumstances on site or specific to this job may generate additional hazards, not as not described in the JSA.												
HAZARDOUS MATERIALS			HAZARDOUS MATERIALS BY JSA			How to reduce or eliminate the hazard (PPE or barrier)						
SEE JSA			NA			NA						
Work documentation requirements: Lower Risk - no JSA required Medium Risk / Higher Risk tasks - JSA required Higher Risk - JSA required & appropriate checklist completed (see below)												
<table border="0" style="width:100%;"> <tr> <td style="width:33%;">Examples of Higher / Medium Risk:</td> <td style="width:33%;"> <input type="checkbox"/> Works at heights in all cases on open areas - on closed areas if no JSA present <input type="checkbox"/> Trenching or excavation related to underground tank / product lines <input type="checkbox"/> Heavy lifting </td> <td style="width:33%;"> <input type="checkbox"/> Work in confined spaces (e.g. tank, interceptor or deep manhole entry) <input type="checkbox"/> Hot work with risk of product or vapor ignition <input type="checkbox"/> LPG system degassing, installation or maintenance </td> </tr> </table>										Examples of Higher / Medium Risk:	<input type="checkbox"/> Works at heights in all cases on open areas - on closed areas if no JSA present <input type="checkbox"/> Trenching or excavation related to underground tank / product lines <input type="checkbox"/> Heavy lifting	<input type="checkbox"/> Work in confined spaces (e.g. tank, interceptor or deep manhole entry) <input type="checkbox"/> Hot work with risk of product or vapor ignition <input type="checkbox"/> LPG system degassing, installation or maintenance
Examples of Higher / Medium Risk:	<input type="checkbox"/> Works at heights in all cases on open areas - on closed areas if no JSA present <input type="checkbox"/> Trenching or excavation related to underground tank / product lines <input type="checkbox"/> Heavy lifting	<input type="checkbox"/> Work in confined spaces (e.g. tank, interceptor or deep manhole entry) <input type="checkbox"/> Hot work with risk of product or vapor ignition <input type="checkbox"/> LPG system degassing, installation or maintenance										
This form must be completed for each job and updated and re-signed if circumstances change or additional hazards identified.												
SIGN IN				SIGN OUT								
Operating sites: to be signed by the Site Representative				Contractor representative name		Signature		Contractor signature				
Non-operating sites: to be signed by Contractor Representative only				LEE BURG								
GENERAL SAFETY CHECKS				Site representative name		Signature		Site representative name				
<ul style="list-style-type: none"> • Have all site personnel been informed? • Has fuel delivery services been informed? • Is a fuel delivery due? • Have isolation procedures been agreed - lock out/tag out? • Are work areas combined off to protect workers, site staff & public? • Other: 				NO SITE REP		AYAL		NO SITE REP				
PARTS - Order, Replaced and/or Disposed Oil (include model and serial as appropriate)												

The contractor through its authorized representative shall sign, issue and be solely responsible for all job clearance forms and the obligations arising there under applicable to the work.
 This form covers important reminders and is not intended to relieve the contractor from safely performing the work in compliance with all applicable laws and regulations.
 The Site Representative may require the contractor to stop work if it appears that the contractor or any of its workers are failing to comply with the requirements in the applicable terms of this form or other applicable safety requirements.

Site Address: <u>200 S. RAILROAD AVE, ELLENSBURG, WA</u>		Date: <u>10/28/13</u>	
Check-In with site representative completed?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A	
Is fuel delivery scheduled for today?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Emergency pump cut-off switch located?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A	
First aid kit located and confirmed ready-to-use?		<input checked="" type="checkbox"/> Yes	
Fire extinguisher located and confirmed ready-to-use?		<input checked="" type="checkbox"/> Yes	
Eye wash located and confirmed ready-to-use?		<input checked="" type="checkbox"/> Yes	
HASP	Emergency Services information located & reviewed?	<input checked="" type="checkbox"/> Yes	
	Hospital map & route located and reviewed?	<input checked="" type="checkbox"/> Yes	
	Special Hazard Notice section reviewed?	<input checked="" type="checkbox"/> Yes	
	Site Status confirmed or amended, dated and initialed?	<input checked="" type="checkbox"/> Yes	
	Emergency Response procedures reviewed with all work crew members?	<input checked="" type="checkbox"/> Yes	
	Compliance Roster signed by all work crew members?	<input checked="" type="checkbox"/> Yes	
Site walk has been performed to locate wells and identify additional hazards?		<input checked="" type="checkbox"/> Yes	
Job Safety Analysis (JSA) for each task located & reviewed by all work crew members?		<input checked="" type="checkbox"/> Yes	
Work Area Plans reviewed for suitability and effectiveness given current site conditions?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A	
Traffic Control Plans reviewed for suitability given current road, traffic & weather conditions?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A	
Stop Work Authority reviewed and understood by all work crew members?		<input checked="" type="checkbox"/> Yes	
<ul style="list-style-type: none"> In the space below, note unaddressed hazards and conditions that might compromise compliance with Approved Procedures and/or JSA's or impede the safe and proper execution of the Work Plan, Work Area Plan(s) and/or Traffic Control Plan(s). Report unaddressed hazards and adverse conditions to the Project Manager during Pre-Start Call-In and as hazards are identified or conditions change throughout the workday. DO NOT COMMENCE OR RESTART WORK until PM has been notified and mitigation measures approved. 			
Time	Hazard or Adverse Condition	PM Initials	Hazard Control Measure
Site representative briefed on planned work activities and Work Area Plans?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A	
Job Clearance Form completed?		<input checked="" type="checkbox"/> Yes	
Pre-Start Call-In completed and approval to start work received from Project Manager?		<input checked="" type="checkbox"/> Yes	
Printed Name	Signature	Time	
<u>LABURE</u>		<u>1107</u>	

Site Address: <i>200 S. RAILROAD AVE, ELLENSBURG, WA</i>		Date: <i>10/29/13</i>
Check-In with site representative completed?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
Is fuel delivery scheduled for today?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Emergency pump cut-off switch located?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
First aid kit located and confirmed ready-to-use?		<input checked="" type="checkbox"/> Yes
Fire extinguisher located and confirmed ready-to-use?		<input checked="" type="checkbox"/> Yes
Eye wash located and confirmed ready-to-use?		<input checked="" type="checkbox"/> Yes
HASP	Emergency Services information located & reviewed?	<input checked="" type="checkbox"/> Yes
	Hospital map & route located and reviewed?	<input checked="" type="checkbox"/> Yes
	Special Hazard Notice section reviewed?	<input checked="" type="checkbox"/> Yes
	Site Status confirmed or amended, dated and initialed?	<input checked="" type="checkbox"/> Yes
	Emergency Response procedures reviewed with all work crew members?	<input checked="" type="checkbox"/> Yes
	Compliance Roster signed by all work crew members?	<input checked="" type="checkbox"/> Yes
Site walk has been performed to locate wells and identify additional hazards?		<input checked="" type="checkbox"/> Yes
Job Safety Analysis (JSA) for each task located & reviewed by all work crew members?		<input checked="" type="checkbox"/> Yes
Work Area Plans reviewed for suitability and effectiveness given current site conditions?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
Traffic Control Plans reviewed for suitability given current road, traffic & weather conditions?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
Stop Work Authority reviewed and understood by all work crew members?		<input checked="" type="checkbox"/> Yes
<ul style="list-style-type: none"> • In the space below, note unaddressed hazards and conditions that might compromise compliance with Approved Procedures and/or JSA's or impede the safe and proper execution of the Work Plan, Work Area Plan(s) and/or Traffic Control Plan(s). • Report unaddressed hazards and adverse conditions to the Project Manager during Pre-Start Call-In and as hazards are identified or conditions change throughout the workday. • DO NOT COMMENCE OR RESTART WORK until PM has been notified and mitigation measures approved. 		
Time	Hazard or Adverse Condition	PM Initials Hazard Control Measure
Site representative briefed on planned work activities and Work Area Plans?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
Job Clearance Form completed?		<input checked="" type="checkbox"/> Yes
Pre-Start Call-In completed and approval to start work received from Project Manager?		<input checked="" type="checkbox"/> Yes
Printed Name <i>LEE BORG</i>	Signature 	Time <i>0640</i>

WELL GAUGING DATA

Project # 13111-RK1 Date 11/11/18 Client CRA

Site 200 Railroad Ave. S, Ellensburg

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or <u>FOC</u>	Notes
MW-1	0900	2					5.08	13.12 ✓✓	↓	
MW-2	0811	2				4.27	13.01 ✓✓			
MW-3	0820	2				4.70	13.10 ✓✓			
MW-4	0829	2				3.60	13.20 ✓✓			
MW-5	0837	2				4.08	13.20			
MW-6	0910	2				4.80	13.20			
MW-7	0845	2				4.30	13.21			
MW-8	0852	2				3.90	13.18			

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>13111-024</u>	Client: <u>CRA</u>
Sampler: <u>PK</u>	Gauging Date: <u>11/11/13</u>
Well I.D.: <u>MW-1</u>	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): <u>13.12</u>	Depth to Water (ft.): <u>5.08</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI-556</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing ~~New Tubing~~ Other _____
 Start Purge Time: 1005 Flow Rate: 100 ml/min Pump Depth: 8'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)
1011	13.30	6.10	2360	15	1.21	138.1	600	5.14
1014	13.29	6.11	2363	14	1.20	138.7	900	5.16
1017	13.28	6.11	2365	14	1.15	138.3	1200	5.20
1020	13.28	6.12	2369	12	1.13	136.7	1500	5.22
1023	13.27	6.13	2368	9	1.10	135.2	1800	5.25

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Amount actually evacuated: <u>1.82</u>
Sampling Time: <u>1024</u>	Sampling Date: <u>11/11/13</u>
Sample I.D.: <u>GW-062027-11113-PK-MW-1</u>	Laboratory: <u>T-A.</u>
Analyzed for: <u>TPH-G</u> <u>BTEX</u> <u>MTBE</u> <u>TPH-D</u>	Other: <u>SEC-C-C.</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 131111-004	Client: CRA
Sampler: RK	Gauging Date: 11/11/13
Well I.D.: MW-2	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): 13.01 [✓]	Depth to Water (ft.): 4.27
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI-556</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing ~~New Tubing~~ Other _____
 Start Purge Time: 0920 Flow Rate: 100 ml/min Pump Depth: 8'

Time	Temp. (C or °F)	pH	Cond. (mS/cm or <u>µS/cm</u>)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>ml</u>)	Depth to Water (ft.)
0926	14.70	6.23	604	17	1.27	103.5	600	4.32
0929	14.71	6.25	603	12	1.27	102.2	900	4.35
0932	14.71	6.25	601	12	1.27	100.7	1200	4.37
0935	14.73	6.26	603	9	1.26	98.3	1500	4.41
0938	14.74	6.27	598	7	1.25	96.1	1800	4.44

Did well dewater? Yes No Amount actually evacuated: 1.8L

Sampling Time: 0937 Sampling Date: 11/11/13

Sample I.D.: GW-062027-111113-RK-MW-2 Laboratory: T-A.

Analyzed for: TPH-G BTEX MTBE TPH-D Other: sec-c-o-c.

Equipment Blank I.D.: @ _____ Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>13111-224</u>	Client: <u>CRA</u>
Sampler: <u>PK</u>	Gauging Date: <u>11/11/13</u>
Well I.D.: <u>MW-3</u>	Well Diameter (in.): <u>2</u> 3 4 6 8 _____
Total Well Depth (ft.): <u>13.10</u>	Depth to Water (ft.): <u>4.70</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI-556</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing ~~New Tubing~~ Other _____
 Start Purge Time: 1051 Flow Rate: 100 mL/min Pump Depth: 8'

Time	Temp. (<u>Q</u> or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>ml</u>)	Depth to Water (ft.)
<u>1057</u>	<u>13.93</u>	<u>6.80</u>	<u>1054</u>	<u>19</u>	<u>0.78</u>	<u>148.1</u>	<u>600</u>	<u>4.75</u>
<u>1100</u>	<u>13.90</u>	<u>6.81</u>	<u>1050</u>	<u>17</u>	<u>0.79</u>	<u>140.2</u>	<u>900</u>	<u>4.79</u>
<u>1103</u>	<u>13.91</u>	<u>6.81</u>	<u>1048</u>	<u>15</u>	<u>0.78</u>	<u>143.3</u>	<u>1200</u>	<u>4.82</u>
<u>1106</u>	<u>13.91</u>	<u>6.79</u>	<u>1048</u>	<u>15</u>	<u>0.78</u>	<u>142.7</u>	<u>1500</u>	<u>4.84</u>
<u>1109</u>	<u>13.90</u>	<u>6.75</u>	<u>1049</u>	<u>12</u>	<u>0.75</u>	<u>145.4</u>	<u>1600</u>	<u>4.85</u>

Did well dewater? Yes No Amount actually evacuated: 1.8L

Sampling Time: 1110 Sampling Date: 11/11/13

Sample I.D.: GW-06202-11113-PK-MW-3 Laboratory: T.A.

Analyzed for: TPH-G BTEX MTBE TPH-D Other: SEC-C-O-C

Equipment Blank I.D.: @ _____ Time Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>131111-024</u>	Client: <u>CRA</u>
Sampler: <u>PK</u>	Gauging Date: <u>11/11/13</u>
Well I.D.: <u>MW-4</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8 _____
Total Well Depth (ft.): <u>13.20^v</u>	Depth to Water (ft.): <u>3.60</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI-556</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing ~~New Tubing~~ Other _____

Start Purge Time: 1132 Flow Rate: 100 ml/min Pump Depth: 7.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)
1138	13.87	6.85	5680	30	0.57	149.1	600	3.65
1141	13.87	6.85	5681	25	0.51	147.3	900	3.62
1144	13.88	6.83	5673	27	0.51	143.2	1200	3.67
1147	13.90	6.83	5676	23	0.50	140.7	1500	3.70
1150	13.92	6.80	5678	24	0.48	141.1	1800	3.73

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Amount actually evacuated: <u>1.8L</u>
Sampling Time: <u>1151</u>	Sampling Date: <u>11/11/13</u>
Sample I.D.: <u>GW-062027-111113-PK-MW-4</u>	Laboratory: <u>T.A.</u>
Analyzed for: <u>TPH-G</u> <u>BTEX</u> <u>MTBE</u> <u>TPH-D</u> <u>Other: sec-c-o-c.</u>	
Equipment Blank I.D.: _____ @ _____ Time	Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>131111-RK</u>	Client: <u>CRA</u>
Sampler: <u>RK</u>	Gauging Date: <u>11/11/13</u>
Well I.D.: <u>MW-5</u>	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): <u>13.20</u>	Depth to Water (ft.): <u>4.08</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI-556</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing ~~New Tubing~~ Other _____
 Start Purge Time: 1210 Flow Rate: 100 ml/min Pump Depth: 7.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)
1216	14.56	6.92	1269	20	1.07	168.2	600	4.13
1219	14.60	6.90	1260	19	1.04	160.3	900	4.17
1222	14.60	6.91	1261	19	1.02	161.4	1200	4.20
1225	14.61	6.91	1261	17	1.02	157.9	1500	4.23
1228	14.61	6.90	1258	14	1.01	155.7	1800	4.27

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Amount actually evacuated: <u>1.8L</u>
Sampling Time: <u>1229</u>	Sampling Date: <u>11/11/13</u>
Sample I.D.: <u>GW-062022-111113-RK-MW-5</u>	Laboratory: <u>T.A.</u>
Analyzed for: <u>TPH-G</u> <u>BTEX</u> <u>MTBE</u> <u>TPH-D</u>	Other: <u>SEC-C-C.</u>
Equipment Blank I.D.: _____ @ _____ Time	Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: 131111-004	Client: CRA
Sampler: PK	Gauging Date: 11/11/13
Well I.D.: MW-6	Well Diameter (in.): ② 3 4 6 8
Total Well Depth (ft.): 13.20	Depth to Water (ft.): 4.80
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: TSE-556

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing ~~New Tubing~~ Other _____
 Start Purge Time: 1247 Flow Rate: 100 ml/min Pump Depth: 7.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)
1253	14.01	7.05	2470	14	1.33	198.1	600	4.85
1256	14.05	6.98	2380	10	1.20	190.3	900	4.82
1259	14.05	6.97	2387	9	1.21	191.4	1200	4.90
1302	14.04	6.95	2390	8	1.22	185.7	1500	4.92
1305	14.04	6.96	2396	6	1.22	187.2	1800	4.93

Did well dewater? Yes No Amount actually evacuated: 1.82

Sampling Time: 1306 Sampling Date: 11/11/13

Sample I.D.: GW-062022-11113-PK-MW-6 Laboratory: T-A.

Analyzed for: TPH-G PTEX MTBE TPH-D Other: SEC-C-C.

Equipment Blank I.D.: @ Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 13111- xx	Client: CRA
Sampler: PK	Gauging Date: 11/11/13
Well I.D.: MW-7	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): 13-21	Depth to Water (ft.): 4-30
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI-556</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____

Start Purge Time: 1320 Flow Rate: 100 ml/min Pump Depth: 7.5'

Time	Temp. (<u>C</u> or °F)	pH	Cond. (mS/cm or <u>µS/cm</u>)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>ml</u>)	Depth to Water (ft.)
1326	14.60	6.75	1118	14	1.14	174.2	600	4.37
1329	14.61	6.70	1115	13	1.10	170.9	900	4.40
1332	14.61	6.71	1111	13	1.11	166.2	1200	4.42
1335	14.60	6.71	1112	12	1.13	167.3	1500	4.45
1338	14.58	6.70	1112	9	1.13	167.9	1800	4.48

Did well dewater? Yes No Amount actually evacuated: 1.8L

Sampling Time: 1339 Sampling Date: 11/11/13

Sample I.D.: GW-062027-11113-~~PK~~-MW-7 Laboratory: T.A.

Analyzed for: PHG BTEX MTBE TPH Other: see c-o-c.

Equipment Blank I.D.: @ _____ Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: 131111-004	Client: CRA
Sampler: PK	Gauging Date: 11/11/13
Well I.D.: MW-8	Well Diameter (in.): ② 3 4 6 8
Total Well Depth (ft.): 13.18	Depth to Water (ft.): 3.90
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: YSE-556

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1400 Flow Rate: 100 mL/min Pump Depth: 7.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)
1406	15.02	6.90	1079	13	1.10	170.3	600	3.95
1409	15.00	6.92	1073	12	1.13	162.1	900	3.79
1412	15.00	6.92	1070	12	1.17	160.9	1200	4.00
1415	15.00	6.91	1065	10	1.17	155.3	1500	4.03
1418	15.01	6.89	1061	10	1.16	158.9	1800	4.05

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Amount actually evacuated: 1.8L
Sampling Time: 1414	Sampling Date: 11/11/13
Sample I.D.: GW-062027-111113-PK-MW-8	Laboratory: T-A.
Analyzed for: <u>PH-G</u> <u>BTEX</u> <u>MTBE</u> <u>TPH-D</u>	Other: see c-o-c.
Equipment Blank I.D.: @ _____	Duplicate I.D.: _____

LAB (LOCATION)

- CALSCIENCE ()
- SPL Houston ()
- XENCO ()
- TEST AMERICA ()
- OTHER ()



Shell Oil Products Chain Of Custody Record

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SD&CM	<input checked="" type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: Brian Peters- 062027

INCIDENT # (ENV. SERVICES): 7 9 7 0 4 4 7

PO #: _____ **SAP #:** _____

CHECK IF NO INCIDENT # APPLIES:

DATE: 11/11/13

PAGE: 1 of 1

SAMPLING COMPANY: Blaine Tech Services

LOG CODE: _____

SITE ADDRESS: Street and City: 200 Railroad Ave S - Ellensburg

State: WA **GLOBAL ID NO.:** NA

ADDRESS: 20735 Belshaw Avenue, Carson, CA 90746

EDP DELIVERABLE TO (Name, Company, Office Location): CRA, Seattle, WA

PHONE NO.: 425-563-6500 **EMAIL:** Snell-US-LabDataManagement@CRAworld.com

CONSULTANT PROJECT NO.: 13113

PROJECT CONTACT (Hardcopy or PDF Report to): Lorin King

SAMPLER NAME(S) (Print): *1100 Dupuy*

LAB USE ONLY

TELEPHONE: (310) 885-4455 x 108 **FAX:** (310) 637-5802 **E-MAIL:** lking@blainetech.com

TURNTROUNDTIME (CALENDAR DAYS): STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

REQUESTED ANALYSIS

LA - RWQCB REPORT FORMAT UST AGENCY:

SPECIAL INSTRUCTIONS OR NOTES:

1) Please upload the "CRA EQUS 4-file EDD" to the CRA Website (<http://cralabedupload.craworld.com/equs/default.aspx>) and/or send it to the Shell-US-LabDataManagement@CRAworld.com email folder. 2) Please indicate that you have uploaded the EDD by including "EDD Uploaded to CRA website" in the body of the email used to deliver the final PDF report to the Shell-US-LabDataManagement@CRAworld.com email folder.

SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 EDD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

Copy final report to Shell.Lab.Billing@craworld.com, Shell.results@craworld.com, and Shell-US-LabDataManagement@CRAworld.com

Email Invoice to Shell.Lab.Billing@craworld.com

See Laboratory PM for WA Dept. of Ecology MTCA Method A cleanup levels for minimum detection limits.

Matrix Codes - WG (groundwater), WS (surface water), WP (drinking water source), W (Trip or Temp Blank)

LAB USE ONLY	SAMPLE ID					TIME	MATRIX	PRESERVATIVE					NO. OF CONT.	TEMPERATURE ON RECEIPT C°																			
	PROJECT NUMBER	DATE (MMDDYY)	SAMPLER INITIALS	WELL ID	HCL			HNO3	H2SO4	NONE	OTHER	NWTPH-Gx		NWTPH-Dx w/Silica Gel Cleanup	BTEX (8260B)	5 Oxygenates, MTBE, TBA, DIPE, TAME, ETBE (8260B)	EDC (8260B)	EDB	NWTPH-Dx w/o Silica Gel Cleanup	Nitrate/Nitrite by 853.2	Dissolved CO2 by SM4500C02C	Dissolved Methane by RSK-175	Full Scan VOC's By 8260	Alkalinity by SM2320B	Dissolved Iron (Ferrous)	Manganese by 6010/6020	TPH-O	MTBE (8260B)	Dissolved Lead by 6020	Total Lead	TPH-O w/o Silica Gel Cleanup		
																																Container PID Readings or Laboratory Notes	
	GW - 062027	11/11/13	PK	MW-1																													
	GW - 062027	11/11/13	PK	MW-2																													
	GW - 062027	11/11/13	PK	MW-3																													
	GW - 062027	11/11/13	PK	MW-4																													
	GW - 062027	11/11/13	PK	MW-5																													
	GW - 062027	11/11/13	PK	MW-6																													
	GW - 062027	11/11/13	PK	MW-7																													
	GW - 062027	11/11/13	PK	MW-8																													

Retinquished by: (Signature)	Received by: (Signature) <i>Shipped via FedEx</i>	Date: 11/11/13	Time:
Retinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Retinquished by: (Signature)	Received by: (Signature)	Date:	Time:

INCIDENT # 7970447

ADDRESS 200 Railroad Ave - S

DATE: 11/11/13

CITY & STATE Ellensburg WA

Well ID	Manway Cover Type, Condition & Size					Observations Upon Arrival						Note/Repairs Made, Detailed Explanation of Maintenance Recommended and Performed				Photos of Well Condition	Repair Date and PM Initials			
	Well Labeled/ Painted Properly	Well Cap (Gripper) Condition	Well Lock Condition			Well Pad / Surface Condition	Detailed Explanation of Maintenance Recommended and Performed			Photos of Well Condition	Repair Date and PM Initials									
MW-1	Standpipe	Flush	G	P	Size (inch) 6	Y	N	G	R	G	R	NL	G	P		Y	N			
MW-2	Standpipe	Flush	G	P	Size (inch) 8	Y	N	G	R	G	R	NL	G	P		Y	N			
MW-3	Standpipe	Flush	G	P	Size (inch) 8	Y	N	G	R	G	R	NL	G	P		Y	N			
MW-4	Standpipe	Flush	G	P	Size (inch) 8	Y	N	G	R	G	R	NL	G	P		Y	N			
MW-5	Standpipe	Flush	G	P	Size (inch) 8	Y	N	G	R	G	R	NL	G	P		Y	N			
MW-6	Standpipe	Flush	G	P	Size (inch) 8	Y	N	G	R	G	R	NL	G	P		Y	N			
MW-7	Standpipe	Flush	G	P	Size (inch) 8	Y	N	G	R	G	R	NL	G	P		Y	N			
MW-8	Standpipe	Flush	G	P	Size (inch) 8	Y	N	G	R	G	R	NL	G	P		Y	N			
	Standpipe	Flush	G	P	Size (inch)	Y	N	G	R	G	R	NL	G	P		Y	N			
	Standpipe	Flush	G	P	Size (inch)	Y	N	G	R	G	R	NL	G	P		Y	N			
	Standpipe	Flush	G	P	Size (inch)	Y	N	G	R	G	R	NL	G	P		Y	N			
TOTAL # CAPS REPLACED =						0	TOTAL # OF LOCKS REPLACED						0							
Condition of Soil Boring Patches or Abandoned Monitoring Wells		G	P	N/A	IPEDR Borings Well IDs or Location Description												Y	N		
Remediation Compound(s) in (Check boxes that apply)		Condition of Enclosure			Condition of Area Inside Enclosure			Compound Security			Emergency Contact Info. Visible			Cleaning/Repairs Recommended and Conducted				Photos of Condition	Repair Date and PM Initials	
NA		G			G			G			Y							Y	N	
Building		G			G			G			Y							Y	N	
Building w/ Fence Comp.		G			G			G			Y							Y	N	
Fenced Compound		G			G			G			Y							Y	N	
Trailer		G			G			G			Y							Y	N	
Number of Drums On-site	Does the Label Reveal the Source of the Contaminant?		Labeled Correctly and Writing Legible			Drum Condition			Containing Drums Related to Environmental			Drums Located to Minimize Business Interference			Detailed Explanation of Any Issues Resolved				Photos of Drum Condition	Repair Date and PM Initials
0	Y	N	N/A			G			N/A			Y							Y	N

G = Good (Acceptable) R = Replaced
P = Poor (needs attention) NL = No Lock Required

Note: All repairs other than locks and grippers require Shell PM approval prior to repair.

* = Groundwater monitoring well covers must be painted and labeled in accordance with applicable regulations.

All environmental wells and the remediation compound were in good condition, locked, and secured upon my departure (unless otherwise noted above).

Ricky Dhuvar BJS
Print or type Name of Field Personnel & Consultant Company

SHELL BILL OF LADING

SOURCE RECORD **BILL OF LADING**

FOR NON-HAZARDOUS PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT SHELL FACILITIES IN THE STATE OF WASHINGTON OR OREGON. THE NON-HAZARDOUS PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND- WATER WELLS, IS MADE UP INTO LOADS OF APPROPRIATE SIZE TO BE TRANSPORTED & PROCESSED BY A SHELL APPROVED WASTE HAULER.

The contractor performing this work is BLAINE TECH SERVICES, INC. 22727 72ND Ave South, Suite D - 102, Kent, WA 98032. Blaine Tech Services, Inc. is authorized by SHELL OIL COMPANY (SHELL) to recover, collect, apportion into loads, and haul the Non-Hazardous Well Purgewater that is drawn from wells at the SHELL facility indicated below and to deliver that purgewater to BTS. Transport routing of the Non-Hazardous Well Purgewater may be direct from one Shell facility to BTS; from one Shell facility to BTS via another Shell facility; or any combination thereof. The Non-Hazardous Well Purgewater is and remains the property of SHELL.

This Source Record **BILL OF LADING** was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the SHELL facility described below:

7970447 Perry Pineda
INCIDENT # Shell Engineer

200 Railroad Ave. S Ellensburg WA
street number street name city state

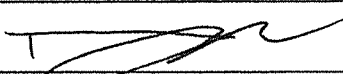
WELL I.D.	GALS.	WELL I.D.	GALS.
MW-1	1 0.5		
MW-2	1 0.5		
MW-3	1 0.5		
MW-4	1 0.5		
MW-5	1 0.5		
MW-6	1 0.5		
MW-7	1 0.5		
MW-8	1 0.5		
added equip.		any other	
rinse water	1 1	adjustments	
TOTAL GALS. RECOVERED	5	loaded onto	
		BTS vehicle #	<u>90</u>
BTS event #	time	date	
<u>13111-PA1</u>	<u>1620</u>	<u>11/11/13</u>	
signature <u>[Signature]</u>			

RECEIVED AT	time	date	
BTS Kent		<u>1/1/</u>	
unloaded by			
signature _____			

Job Clearance Form										
Station # 7970442	Station Address: 200 Railroad Ave. S, Ebensburg	Work Order Number: 13111-RM1			Date: 11/1/13					
Contractor Company Name BTS	Contractor person in charge (print name): Ricky Dugan	Number of Workers: 1	JSA Reference Number: (if required)	Start Time: 0800	End Time: 1433	Level:	Travel Time:	Travel Distance:		
Problem/Work Description:						Return Call: yes / no				
						Damage Claim: yes / no				
PRE-REQUIRED CHECK AND/OR FULL-BANK SPACE										
<input checked="" type="checkbox"/> SAFETY VEST	<input checked="" type="checkbox"/> HARD HAT	<input checked="" type="checkbox"/> SHOES & BOOTS	<input type="checkbox"/> HEARING PROTECTION	<input type="checkbox"/> RESPIRATOR						
<input checked="" type="checkbox"/> PROTECTIVE CLOTHING	<input checked="" type="checkbox"/> GLOVES	<input checked="" type="checkbox"/> SAFETY GLASSES/GOGGLES	<input type="checkbox"/> WELDING PPE	<input type="checkbox"/> OTHER						
Contractor to complete this section below. If circumstances on site or specific to this job, may generate additional hazards, that are not described in the JSA.										
Hazard 1			Hazard 2			Hazard 3				
Grange Purge Sample			N/A							
Work documentation requirements: Lower Risk - no JSA required Medium Risk / Higher Risk tasks - JSA required Higher Risk - JSA required & appropriate checklist completed (see below)										
Examples of Higher / Medium Risk: <ul style="list-style-type: none"> <input type="checkbox"/> Work at heights: in all cases on open sites - on closed sites if no JSA present <input type="checkbox"/> Trenching or excavation related to underground tank / product lines <input type="checkbox"/> Heavy lifting <input type="checkbox"/> Work in confined spaces (e.g. tank, interceptor or deep manhole entry) <input type="checkbox"/> Hot work with risk of product or vapor ignition <input type="checkbox"/> LPG system degassing, installation or maintenance 										
This form must be completed for each job and updated and re-signed if circumstances change or additional hazards identified.										
SIGN IN			SIGN OUT							
Operating sites: to be signed by the Site Representative			Contractor representative name: Ricky Dugan			Signature:			Contractor signature:	
Non-operating sites: to be signed by Contractor Representative only			Site representative name:			Signature:				
GENERAL SAFETY CHECKS			GENERAL SAFETY CHECKS							
<ul style="list-style-type: none"> • Have all site personnel been informed? • Has fuel delivery service been informed? • Is a fuel delivery due? • Have isolation procedures been agreed - lock out/tag out? • Are work areas cordoned off to protect workers, site staff & public? • Other: 			<ul style="list-style-type: none"> • Has the work area been left tidy and safe? • Are site personnel aware of status of work including remaining isolation? • Are changes to equipment documented and communicated? • All incidents, near incidents, unsafe situations reported? • Other: 							
PARTS - Ordered, Replaced and/or Disposed OI (include model and serial #s as appropriate)										

The contractor through its authorized representative shall sign, issue and be solely responsible for all job clearance forms and the obligations arising there under applicable to the work.

This form covers important reminders and is not intended to relieve the contractor from safely performing the work in compliance with all applicable laws and regulations. The Site Representative may require the contractor to stop work if it appears that the contractor or any of its workers are failing to comply with the requirements in the applicable terms of this form or other applicable safety requirements.

Site Address: <u>200 Railroad Ave. S, Ellensburg</u>		Date: <u>11/11/13</u>	
Check-In with site representative completed?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A	
Is fuel delivery scheduled for today?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Emergency pump cut-off switch located?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A	
First aid kit located and confirmed ready-to-use?		<input checked="" type="checkbox"/> Yes	
Fire extinguisher located and confirmed ready-to-use?		<input checked="" type="checkbox"/> Yes	
Eye wash located and confirmed ready-to-use?		<input checked="" type="checkbox"/> Yes	
HASP	Emergency Services information located & reviewed?	<input checked="" type="checkbox"/> Yes	
	Hospital map & route located and reviewed?	<input checked="" type="checkbox"/> Yes	
	Special Hazard Notice section reviewed?	<input checked="" type="checkbox"/> Yes	
	Site Status confirmed or amended, dated and initialed?	<input checked="" type="checkbox"/> Yes	
	Emergency Response procedures reviewed with all work crew members?	<input checked="" type="checkbox"/> Yes	
	Compliance Roster signed by all work crew members?	<input checked="" type="checkbox"/> Yes	
Site walk has been performed to locate wells and identify additional hazards?		<input checked="" type="checkbox"/> Yes	
Job Safety Analysis (JSA) for each task located & reviewed by all work crew members?		<input checked="" type="checkbox"/> Yes	
Work Area Plans reviewed for suitability and effectiveness given current site conditions?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A	
Traffic Control Plans reviewed for suitability given current road, traffic & weather conditions?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A	
Stop Work Authority reviewed and understood by all work crew members?		<input checked="" type="checkbox"/> Yes	
<ul style="list-style-type: none"> • In the space below, note unaddressed hazards and conditions that might compromise compliance with Approved Procedures and/or JSA's or impede the safe and proper execution of the Work Plan, Work Area Plan(s) and/or Traffic Control Plan(s). • Report unaddressed hazards and adverse conditions to the Project Manager during Pre-Start Call-In and as hazards are identified or conditions change throughout the workday. • DO NOT COMMENCE OR RESTART WORK until PM has been notified and mitigation measures approved. 			
Time	Hazard or Adverse Condition	PM Initials	Hazard Control Measure
Site representative briefed on planned work activities and Work Area Plans?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A	
Job Clearance Form completed?		<input checked="" type="checkbox"/> Yes	
Pre-Start Call-In completed and approval to start work received from Project Manager?		<input checked="" type="checkbox"/> Yes	
Printed Name <u>Erney Dupont</u>	Signature 	Time <u>0800</u>	

WELL GAUGING DATA

Project # 140320-SS1 Date 3/20/14 Client CRA-Seattle

Site 200 Railroad Ave South Ellensburg, WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-1	0922	2					4.66	13.18	TOC	
MW-2	1033	2					4.02	12.96		
MW-3	1118	2				4.15	13.05			
MW-4	1209	2				2.70	13.12			
MW-5	1249	2				3.38	13.12			
MW-6	1335	2				4.30	13.14			
MW-7	1407	2				3.62	13.14			
MW-8	1448	2				3.25	13.13	└─		

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>140320-SS1</u>	Client: <u>7970447</u>
Sampler: <u>SS</u>	Gauging Date: <u>3/20/14</u>
Well I.D.: <u>MW-1</u>	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): <u>13.18</u>	Depth to Water (ft.): <u>4.66</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 556</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing ~~New Tubing~~ Other _____
 Start Purge Time: 0938 Flow Rate: 100 mL/min Pump Depth: 7'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or <u>µS/cm</u>)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>mL</u>)	Depth to Water (ft.)
0943	7.78	5.45	2580	217	8.41	216.4	500	4.66
0946	7.30	5.03	2726	188	3.27	205.6	800	4.67
0949	7.29	4.94	2737	162	2.64	202.0	1100	4.68
0952	7.22	4.92	2740	148	2.43	201.0	1400	4.68
0955	7.18	4.91	2740	120	2.28	199.8	1700	4.68
0958	7.14	4.91	2740	116	2.29	198.6	2000	4.68

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Amount actually evacuated: <u>2000 mL</u>
Sampling Time: <u>1015</u>	Sampling Date: <u>3/20/14</u>
Sample I.D.: <u>GW-062027-032014-SS-MW-1</u> Laboratory: <u>TA</u>	
Analyzed for: TPH-G BTEX MTBE TPH-D Other: <u>See COC</u>	
Equipment Blank I.D.: @ Time Duplicate I.D.:	

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140320-SS1	Client: 7970447
Sampler: SS	Gauging Date: 3/20/14
Well I.D.: MW-2	Well Diameter (in.): ② 3 4 6 8 ____
Total Well Depth (ft.): 12.96	Depth to Water (ft.): 4.02
Depth to Free Product: _____	Thickness of Free Product (feet): _____
Referenced to: <u>PVC</u> Grade	Flow Cell Type: YSI SSG

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1035 Flow Rate: 100 mL/min Pump Depth: 6' BTDC

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1040	8.40	6.12	922	81	4.93	169.3	500	4.03
1043	8.64	6.44	856	64	1.14	160.8	800	4.04
1046	8.61	6.56	846	52	0.75	158.1	1100	4.05
1049	8.50	6.60	828	32	0.59	156.6	1400	4.06
1052	8.44	6.61	827	28	0.55	154.3	1700	4.06
1055	8.41	6.61	827	26	0.53	152.0	2000	4.06

Did well dewater? Yes <u>(No)</u>	Amount actually evacuated: 2000 mL
Sampling Time: 1115	Sampling Date: 3/20/14
Sample I.D.: GW-067027-072014-SS-MV-2	Laboratory: TA
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See COC
Equipment Blank I.D.: @ _____	Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140320-SS1	Client: 7970447
Sampler: SS	Gauging Date: 3/20/14
Well I.D.: MW-3	Well Diameter (in.): 2 3 4 6 8 ____
Total Well Depth (ft.): 13.05	Depth to Water (ft.): 4.15
Depth to Free Product: _____	Thickness of Free Product (feet): _____
Referenced to: <u>PVC</u> Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1122 Flow Rate: 100 mL/min Pump Depth: 6.5' BIOC

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1127	9.02	5.83	991	312	3.34	167.2	500	4.15
1130	9.18	6.54	990	263	0.50	153.6	800	4.18
1133	8.52	6.69	980	201	0.43	152.9	1100	4.19
1136	8.88	6.70	977	199	0.47	154.0	1400	4.19

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Amount actually evacuated: 1400
Sampling Time: 1150	Sampling Date: 3/20/14
Sample I.D.: GW-062027-032014-SS-MW-3	Laboratory: TA
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See COC
Equipment Blank I.D.: @ <small>Time</small>	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140326-SS1	Client: 7970447
Sampler: SS	Gauging Date: 3/20/14
Well I.D.: ML-4	Well Diameter (in.): ② 3 4 6 8
Total Well Depth (ft.): 13.12	Depth to Water (ft.): 2.76
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <u>PVC</u> Grade	Flow Cell Type: YSI SSG

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1213 Flow Rate: 100 mL/min Pump Depth: 8' BTOC

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1218	8.04	6.80	4906	286	3.71	192.4	300	2.80
1221	8.07	6.79	5189	201	1.78	197.8	800	2.88
1224	8.11	6.78	5192	206	1.66	199.2	1100	2.94
1227	8.16	6.78	5193	198	1.62	200.4	1400	2.98

Did well dewater? Yes No Amount actually evacuated: 1400 mL

Sampling Time: 1245 Sampling Date: 3/20/14

Sample I.D.: GW-062027-032014-SS-ML-4 Laboratory: TA

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140320-SS1	Client: 7970447
Sampler: SS	Gauging Date: 3/20/14
Well I.D.: MV-5	Well Diameter (in.): ② 3 4 6 8
Total Well Depth (ft.): 13.12	Depth to Water (ft.): 3.38
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: YSI SSG

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1253 Flow Rate: 100 mL/min Pump Depth: 6.5' BTOC

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or pfs)	Depth to Water (ft.)
1258	11.41	7.38	1470	40	3.89	185.4	300	3.40
1301	11.74	7.12	1259	34	2.34	183.7	800	3.42
1304	11.78	7.11	1260	28	0.33	182.0	1100	3.44
1307	11.83	7.11	1261	27	0.31	181.6	1400	3.46

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Amount actually evacuated: 1400 mL
Sampling Time: 1325	Sampling Date: 3/20/14
Sample I.D.: GW-062027-032014-SS-MV-5 Laboratory: TA	
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See COC
Equipment Blank I.D.: @	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140320-SS1	Client: 7970447
Sampler: SS	Gauging Date: 3/20/14
Well I.D.: MW-G	Well Diameter (in.): ② 3 4 6 8 ____
Total Well Depth (ft.): 13.14	Depth to Water (ft.): 4.30
Depth to Free Product: _____	Thickness of Free Product (feet): _____
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI SSG</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1338 Flow Rate: 100 mL/min Pump Depth: 6.5 BTOC

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1343	8.95	5.74	3668	63	6.96	232.4	500	4.30
1346	8.61	4.72	3906	62	1.30	214.0	800	4.30
1349	8.55	4.55	3945	41	1.05	213.5	1100	4.30
1352	8.53	4.56	3948	36	1.01	212.4	1400	4.30
1355	8.48	4.56	3949	33	0.98	211.8	1700	4.30

Did well dewater? Yes <input checked="" type="radio"/> No <input type="radio"/>	Amount actually evacuated: 1700 mL
Sampling Time: 1410	Sampling Date: 3/20/14
Sample I.D.: GW-062027-032014-SS-MW-G	Laboratory: TA
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See COC
Equipment Blank I.D.: @ _____	Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140320-SS1	Client: 7970447
Sampler: 5S	Gauging Date: 3/20/14
Well I.D.: MW-7	Well Diameter (in.): ② 3 4 6 8
Total Well Depth (ft.): 13.14	Depth to Water (ft.): 3.62
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <u>PVO</u> Grade	Flow Cell Type: <u>YSI 556</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1412 Flow Rate: 100 ml/min Pump Depth: 6' BTOC

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)
1417	10.32	6.14	1431	49	6.69	193.5	800	3.66
1420	10.16	6.63	1221	33	0.37	190.6	800	3.71
1423	10.08	6.63	1224	24	0.35	188.1	1100	3.74
1426	10.01	6.63	1224	20	0.34	186.2	1400	3.77

Did well dewater? Yes <input type="checkbox"/> <u>No</u> <input checked="" type="checkbox"/>	Amount actually evacuated: 1400 mL
Sampling Time: 1445	Sampling Date: 3/20/14
Sample I.D.: <u>GW-062027-032014-SS-MV-7</u>	Laboratory: <u>TA</u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: <u>See Coc</u>
Equipment Blank I.D.: @ _____	Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140320-531	Client: 7970447
Sampler: SS	Gauging Date: 3/20/14
Well I.D.: MW-8	Well Diameter (in.): \varnothing 3 4 6 8 <u> </u>
Total Well Depth (ft.): 13.13	Depth to Water (ft.): 3.25
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI SSG</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other
 Start Purge Time: 1453 Flow Rate: 100 mL/min Pump Depth: 5.5' BTOC

Time	Temp. (DO or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)
1458	11.02	6.06	1250	101	4.77	203.7	500	3.25
1501	11.38	6.65	1216	94	0.23	200.4	800	3.25
1504	11.53	6.74	1207	77	0.15	201.3	1100	3.25
1507	11.61	6.77	1202	71	0.14	201.1	1400	3.25
1510	11.65	6.77	1200	67	0.12	200.8	1700	3.25

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Amount actually evacuated: 1700
Sampling Time: 1535	Sampling Date: 3/20/14
Sample I.D.: GW-262027-032014-53-MW-8	Laboratory: TA
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See COC
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LAB (LOCATION)

- CALSCIENCE ()
- SPL Houston ()
- XENCO ()
- TEST AMERICA ()
- OTHER ()

Shell Oil Products Chain Of Custody Record

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SDACH	<input checked="" type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: Brian Peters- 062027

INCIDENT # (ENV SERVICES): 7 9 7 0 4 4 7

CHECK IF NO INCIDENT # APPLIES

DATE: 3/20/14

PO # **SAP #**

LAB/FIRM COMPANY: Blaine Tech Services

ADDRESS: 20735 Belshaw Avenue, Carson, CA 90746

PROJECT CONTACT (Hardcopy or PDF Report to): Lorin King

TELEPHONE: (310) 885-4455 x 108 **PHONE:** (310) 637-5802 **EMAIL:** lking@blainetech.com

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT UST AGENCY:

SITE ADDRESS: Street and City: 200 Railroad Ave S - Ellensburg

State: WA **GLOBAL ID NO.:** NA

EDF DELIVERABLE TO (Name, Company, Office Location): CRA, Seattle, WA

PHONE NO.: 425-863-6500 **E-MAIL:** Shell-US-LabDataManagement@CRAworld.com

CONSULTANT PROJECT NO.:

SPECIAL INSTRUCTIONS OR NOTES:
 1) Please upload the "CRA EQUIS 4-file EDD" to the CRA Website (<http://cralabeddupload.craworld.com/equis/default.aspx>) and/or send it to the Shell-US-LabDataManagement@CRAworld.com email folder. 2) Please indicate that you have uploaded the EDD by including "EOD Uploaded to CRA website" in the body of the email used to deliver the final PDF report to the Shell-US-LabDataManagement@CRAworld.com email folder.

Copy final report to Shell.Lab.Billing@craworld.com, Shell.results@craworld.com, and Shell-US-LabDataManagement@CRAworld.com

Email invoice to Shell.Lab.Billing@craworld.com
 See Laboratory PM for WA Dept. of Ecology MTCA Method A cleanup levels for minimum detection limits.

SAMPLER NAME(S) (Print): Seth Sarmiento

LAB USE ONLY:

REQUESTED ANALYSIS

SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 EDD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

Matrix Codes - WG (groundwater), WS (surface water), WP (drinking water source), W (Trip or Temp Blank)

LAB USE ONLY	SAMPLE ID					TIME	MATRIX	PRESERVATIVE					NO. OF CONT.	NWTPH-GX	NWTPH-DX w/Silica Gel Cleanup (8260B)	BTEX (8260B)	5 Oxygenates, MTBE, TBA, DIPE, TAME, ETBE (8260B)	EDC (8260B)	EDB	NWTPH-DX w/ Silica Gel Cleanup	Nitrate/Nitrite by 353.2	Dissolved CO2 by SM4500CO2C	Dissolved Methane by RSK-175	Full Scan VOC's by 8260	Alkalinity by SM2320B	Dissolved Iron (Ferrous)	Manganese by 6010/6020	TPH-O	MTBE (8260B)	Dissolved Lead by 6020	Total Lead	TEMPERATURE ON RECEIPT C°	Container PID Readings or Laboratory Notes	
	PROJECT NUMBER	DATE (MMDDYY)	SAMPLER INITIALS	WELL ID				HCL	HNO3	H2SO4	NONE	OTHER																						
	GW	062027	032014	SS	MW-1	1015	WG	X	X			11	X	X	X		X	X	X															
	GW	062027	032014	SS	MW-2	1115		X	X			11	X	X	Y		X	X	Y															
	GW	062027	032014	SS	MW-3	1150		X	X			11	X	X	X		X	X	Y															
	GW	062027	032014	SS	MW-4	1248		X	X			11	X	X	Y		X	X	Y															
	GW	062027	032014	SS	MW-5	1325		X	X			11	X	X	X		X	X	Y															
	GW	062027	032014	SS	MW-6	1410		X	X			11	X	X	X		X	X	Y															
	GW	062027	032014	SS	MW-7	1445		X	X			11	X	X	X		X	X	Y															
	GW	062027	032014	SS	MW-8	1535		X	X			11	X	X	X		X	X	Y															

Relinquished by: (Signature) 	Received by: (Signature) Shipped via FedEx	Date: 3/21/14
Relinquished by: (Signature)	Received by: (Signature)	Date:
Relinquished by: (Signature)	Received by: (Signature)	Date:

ENVIRONMENTAL WELL, REMEDIATION COMPOUND, AND SITE INSPECTION FORM

INCIDENT # 7970447

ADDRESS 200 S Railroad Ave Ellensburg, WA

DATE: 3/20/14

CITY & STATE Ellensburg, WA

Well ID	Observations Upon Arrival													Note Repairs Made Detailed Explanation of Maintenance Recommended and Performed	Photos of Well Condition		Repair Date and PM Initials										
	Manway Cover, Type, Condition & Size					Well Labeled / Painted Properly*		Well Cap (Gripper) Condition		Well Lock Condition			Well Pad / Surface Condition														
MW-1	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N										
MW-2	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N										
MW-3	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N										
MW-4	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N										
MW-5	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N										
MW-6	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N										
MW-7	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N										
MW-8	Standpipe	Flush	G	P	8	Y	N	G	R	G	R	NL	G	P		Y	N										
MW-9	Standpipe	Flush	G	P		Y	N	G	R	G	R	NL	G	P		Y	N										
	Standpipe	Flush	G	P		Y	N	G	R	G	R	NL	G	P		Y	N										
	Standpipe	Flush	G	P		Y	N	G	R	G	R	NL	G	P		Y	N										
TOTAL # CAPS REPLACED =									0										= TOTAL # OF LOCKS REPLACED								
Condition of Soil Boring Patches or Abandoned Monitoring Wells			G	P	N/A	If POOR, Borings/Well IDs or Location Description													Y	N							
Remediation Compound Type (Check boxes that apply)		Condition of Enclosure			Condition of Area Inside Enclosure			Compound Security			Emergency Contact Info Visible			Cleaning / Repairs Recommended and Conducted				Photos of Condition		Repair Date and PM Initials							
NA		G			G			G			Y							Y		N							
Building		G			G			G			Y							Y		N							
Building w/ Fence Comp.		G			G			G			Y							Y		N							
Fenced Compound		G			G			G			Y							Y		N							
Trailer		G			G			G			Y							Y		N							
Number of Drums On-site		Does the Label Reveal the Source of the Contents		Labeled Correctly and Writing Legible			Drum Condition			Confirm Drums Related to Environmental		Drums Located to Min. Business Interference			Detailed Explanation of Any Issues Resolved				Photos of Drum Condition		Date Drums Removed from Site and PM Initials						
0		Y		Y			G			Y		Y							Y		N						

G = Good (Acceptable) R = Replaced
P = Poor (needs attention) NL = No Lock Required

Note: All repairs other than locks and grippers require Shell PM approval prior to repair.

* = Groundwater monitoring well covers must be painted and labeled in accordance with applicable regulations.
Version 2.4, March 2008

All environmental wells and the remediation compound were in good condition, locked, and secured upon my departure (unless otherwise noted above).

Seth Sarmiento - Blaine Tech
Print or type Name of Field Personnel & Consultant Company

SHELL BILL OF LADING

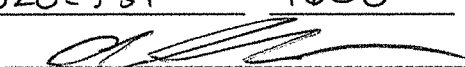
SOURCE RECORD **BILL OF LADING**

FOR NON-HAZARDOUS PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT SHELL FACILITIES IN THE STATE OF WASHINGTON OR OREGON. THE NON-HAZARDOUS PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND- WATER WELLS, IS MADE UP INTO LOADS OF APPROPRIATE SIZE TO BE TRANSPORTED & PROCESSED BY A SHELL APPROVED WASTE HAULER.

The contractor performing this work is BLAINE TECH SERVICES, INC. 22727 72ND Ave South, Suite D - 102, Kent, WA 98032. Blaine Tech Services, Inc. is authorized by SHELL OIL COMPANY (SHELL) to recover, collect, apportion into loads, and haul the Non-Hazardous Well Purgewater that is drawn from wells at the SHELL facility indicated below and to deliver that purgewater to BTS. Transport routing of the Non-Hazardous Well Purgewater may be direct from one Shell facility to BTS; from one Shell facility to BTS via another Shell facility; or any combination thereof. The Non-Hazardous Well Purgewater is and remains the property of SHELL.

This Source Record **BILL OF LADING** was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the SHELL facility described below:

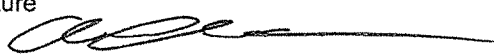
7970447
 INCIDENT # Perry Pineda
 Shell Engineer
 200 Railroad Ave Ellensburg WA
 street number street name city state

WELL I.D.	GALS.	WELL I.D.	GALS.
MW-1	10.5		
MW-2	10.5		
MW-3	10.5		
MW-4	10.5		
MW-5	10.5		
MW-6	10.5		
MW-7	10.5		
MW-8	10.5		
added equip.		any other	
rinse water	10.5	adjustments	
TOTAL GALS. RECOVERED	4.5	loaded onto	
		BTS vehicle #	92
BTS event #	time	date	
140320-581	1600	3/20/14	
signature			

RECEIVED AT	time	date	
BTS Kent		/ /	
unloaded by	signature		

Job Clearance Form															
Station #		Station Address: <u>200 Railroad Ave Ellensburg WA</u>			Work Order Number: <u>140320-SS1</u>			Date: <u>3/20/14</u>							
Contractor Company Name: <u>Moine Tech</u>		Contractor person in charge (print name): <u>Eric Tanner</u>		Number of Workers: <u>1</u>	JSA Reference Number: (If required)	Start Time: <u>0800</u>	End Time: <u>1330</u>	Labor:	Travel Time:						
Problem/Work Description: <u>Gauge, purge, sample groundwater wells</u>								Return Call: <u>yes / no</u>	Damage Claim: <u>yes / no</u>						
PPE REQUIRED (CHECK AN X OR FILL IN BLANK SPACE)															
<input checked="" type="checkbox"/> SAFETY VEST	<input checked="" type="checkbox"/> HARD HAT	<input checked="" type="checkbox"/> SHOES & BOOTS	<input type="checkbox"/> HEARING PROTECTION	<input type="checkbox"/> RESPIRATOR	<input checked="" type="checkbox"/> PROTECTIVE CLOTHING	<input checked="" type="checkbox"/> GLOVES	<input checked="" type="checkbox"/> SAFETY GLASSES/GOOGLES	<input type="checkbox"/> WELDING PPE	<input type="checkbox"/> OTHER _____						
<small>Contractor to complete this section below if circumstances on site or specific to this job, may generate additional hazards, that are not described in the JSA</small>															
Hazard ID #			Hazard(s) identified by JSA			How to reduce or minimize risk (include PPE, jobs, warn)									
<u>Gauge</u>			<u>N/A</u>			<u>N/A</u>									
<u>Purge</u>															
<u>Sample</u>															
Work documentation requirements: <u>Lower Risk - no JSA required</u> <u>Medium Risk / Higher Risk tasks - JSA required</u> <u>Higher Risk - JSA required & appropriate checklist completed (see below)</u>															
Examples of Higher / Medium Risk: <table style="width:100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input type="checkbox"/> Work at heights: in all cases on open sites - on closed sites if no JSA present</td> <td style="width: 50%; border: none;"><input type="checkbox"/> Work in confined spaces (e.g. tank, interceptor or deep manhole entry)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Trenching or excavation related to underground tank / product lines</td> <td style="border: none;"><input type="checkbox"/> Hot work with risk of product or vapor ignition</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Heavy lifting</td> <td style="border: none;"><input type="checkbox"/> LPG system degassing, installation or maintenance</td> </tr> </table>										<input type="checkbox"/> Work at heights: in all cases on open sites - on closed sites if no JSA present	<input type="checkbox"/> Work in confined spaces (e.g. tank, interceptor or deep manhole entry)	<input type="checkbox"/> Trenching or excavation related to underground tank / product lines	<input type="checkbox"/> Hot work with risk of product or vapor ignition	<input type="checkbox"/> Heavy lifting	<input type="checkbox"/> LPG system degassing, installation or maintenance
<input type="checkbox"/> Work at heights: in all cases on open sites - on closed sites if no JSA present	<input type="checkbox"/> Work in confined spaces (e.g. tank, interceptor or deep manhole entry)														
<input type="checkbox"/> Trenching or excavation related to underground tank / product lines	<input type="checkbox"/> Hot work with risk of product or vapor ignition														
<input type="checkbox"/> Heavy lifting	<input type="checkbox"/> LPG system degassing, installation or maintenance														
<small>This form must be completed for each job and updated and re-signed if circumstances change or additional hazards identified.</small>															
SIGN IN		Contractor representative name			Signature		SIGN OUT								
Operating sites: to be signed by the Site Representative		<u>Seth Sarmiento</u>					GENERAL SAFETY CHECKS								
Non-operating sites: to be signed by Contractor Representative only															
GENERAL SAFETY CHECKS		Site representative name			Signature		• Has the work area been left tidy and safe? • Are site personnel aware of status of work including remaining isolation? • Are changes to equipment documented and communicated? • All incidents, near incidents, unsafe situations reported? • Other								
• Have all site personnel been informed? • Has LUL delivery been informed? • Is a LUL delivery due? • Have isolation procedures been agreed - lock out/tag out? • Are work areas cordoned off to protect workers, site staff & public? • Clear		<u>Denise Johnson</u>													
		Site representative name			Signature		Site representative name: <u>Denise Johnson</u> Signature:								
PARTS - Ordered, Replaced and/or Disposed Of (include model and serial as appropriate)															

The contractor through its authorized representative shall sign, issue and be solely responsible for all job clearance forms and the obligations arising there under applicable to the work.
 This form covers important reminders and is not intended to relieve the contractor from safely performing the work in compliance with all applicable laws and regulations.
 The Site Representative may require the contractor to stop work if it appears that the contractor or any of its workers are failing to comply with the requirements in the applicable forms of this form or other applicable safety requirements.

Site Address: <i>200 Railroad Ave Ellensburg, WA</i>		Date: <i>3/20/14</i>
Check-In with site representative completed?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
Is fuel delivery scheduled for today?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Emergency pump cut-off switch located?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
First aid kit located and confirmed ready-to-use?		<input checked="" type="checkbox"/> Yes
Fire extinguisher located and confirmed ready-to-use?		<input checked="" type="checkbox"/> Yes
Eye wash located and confirmed ready-to-use?		<input checked="" type="checkbox"/> Yes
HASP	Emergency Services information located & reviewed?	<input checked="" type="checkbox"/> Yes
	Hospital map & route located and reviewed?	<input checked="" type="checkbox"/> Yes
	Special Hazard Notice section reviewed?	<input checked="" type="checkbox"/> Yes
	Site Status confirmed or amended, dated and initialed?	<input checked="" type="checkbox"/> Yes
	Emergency Response procedures reviewed with all work crew members?	<input checked="" type="checkbox"/> Yes
Compliance Roster signed by all work crew members?		<input checked="" type="checkbox"/> Yes
Site walk has been performed to locate wells and identify additional hazards?		<input checked="" type="checkbox"/> Yes
Job Safety Analysis (JSA) for each task located & reviewed by all work crew members?		<input checked="" type="checkbox"/> Yes
Work Area Plans reviewed for suitability and effectiveness given current site conditions?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
Traffic Control Plans reviewed for suitability given current road, traffic & weather conditions?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
Stop Work Authority reviewed and understood by all work crew members?		<input checked="" type="checkbox"/> Yes
<ul style="list-style-type: none"> • In the space below, note unaddressed hazards and conditions that might compromise compliance with Approved Procedures and/or JSA's or impede the safe and proper execution of the Work Plan, Work Area Plan(s) and/or Traffic Control Plan(s). • Report unaddressed hazards and adverse conditions to the Project Manager during Pre-Start Call-In and as hazards are identified or conditions change throughout the workday. • DO NOT COMMENCE OR RESTART WORK until PM has been notified and mitigation measures approved. 		
Time	Hazard or Adverse Condition	PM Initials
Site representative briefed on planned work activities and Work Area Plans?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
Job Clearance Form completed?		<input checked="" type="checkbox"/> Yes
Pre-Start Call-In completed and approval to start work received from Project Manager?		<input checked="" type="checkbox"/> Yes
Printed Name <i>Seth Sarmiento</i>	Signature 	Time <i>0915</i>

WELL GAUGING DATA

Project # 1410522-LR2 Date 5/22/14 Client CRA

Site ZOO RAILROAD AVE S, ELLENSBURG, WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOG	Notes
MW-1	0850	2					6.22	13.12	↓	
MW-2	0858	2				3.89	12.88			
MW-3	0903	2				3.87	12.98			
MW-4	0909	2				2.67	13.05			
MW-5	0914	2				3.19	13.09			
MW-6	0918	2				4.12	13.12			
MW-7	0924	2				3.51	13.08			
MW-8	0930	2				3.05	13.11	↓		

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>140522-LB</u>	Client: <u>CPA</u>
Sampler: <u>LB</u>	Gauging Date: <u>5/22/14</u>
Well I.D.: <u>MW-1</u>	Well Diameter (in.): <u>3</u> 3 4 6 8 _____
Total Well Depth (ft.): <u>13.12</u>	Depth to Water (ft.): <u>6.22</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>VG</u> Grade	Flow Cell Type: <u>YSI 536</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 0943 Flow Rate: 100 mL/Min Pump Depth: 9'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0949	12.37	6.87	1341	18	1.33	31.6	600	6.25
0952	12.46	6.86	1339	16	1.31	30.4	900	6.25
0955	12.48	6.85	1338	15	1.30	29.5	1200	6.25
0958	12.49	6.84	1337	14	1.29	28.4	1500	6.25
1001	12.50	6.83	1336	13	1.28	27.3	1800	6.25

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Amount actually evacuated: <u>1.8L</u>
Sampling Time: <u>1002</u>	Sampling Date: <u>5/22/14</u>
Sample I.D.: <u>6W-068027-052214-LB-MW-1</u>	Laboratory: <u>TA</u>
Analyzed for: <u>TPH</u> <u>BTEX</u> MTBE <u>TPH-D</u>	Other: <u>SEE COL</u>
Equipment Blank I.D.: _____ @ _____ Time	Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>140522-LBZ</u>	Client: <u>CRA</u>
Sampler: <u>LB</u>	Gauging Date: <u>5/22/14</u>
Well I.D.: <u>MW-2</u>	Well Diameter (in.): <u>4</u> 3 4 6 8 _____
Total Well Depth (ft.): <u>12.88</u>	Depth to Water (ft.): <u>3.89</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 550</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1025 Flow Rate: 100 mL/MIN Pump Depth: 65'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1031	13.22	6.90	704	17	1.35	40.5	600	4.01
1034	13.25	6.90	760	15	1.31	37.9	900	4.01
1037	13.24	6.89	757	14	1.30	33.4	1200	4.01
1040	13.23	6.88	756	13	1.29	32.6	1500	4.01
1043	13.22	6.87	755	12	1.28	31.2	1800	4.01

Did well dewater? Yes <input checked="" type="checkbox"/>	Amount actually evacuated: <u>1.8L</u>
Sampling Time: <u>1044</u>	Sampling Date: <u>5/22/14</u>
Sample I.D.: <u>6w-062077-052214-LB-MW-2</u>	Laboratory: <u>TA</u>
Analyzed for: <u>TPH-G</u> <u>BTEX</u> <u>MTBE</u> <u>TPH-D</u>	Other: <u>SEE COC</u>
Equipment Blank I.D.: @ _____	Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>140522-LB2</u>	Client: <u>CRA</u>
Sampler: <u>LB</u>	Gauging Date: <u>5/22/14</u>
Well I.D.: <u>MW-3</u>	Well Diameter (in.): <u>2</u> 3 4 6 8 <u> </u>
Total Well Depth (ft.): <u>12.98</u>	Depth to Water (ft.): <u>3.87</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>VSI 556</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1104 Flow Rate: 100 mL / MIN Pump Depth: 6.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1110	13.96	6.99	1003	18	1.30	29.8	600	3.89
1113	14.01	6.98	1002	16	1.29	31.1	900	3.90
1116	14.02	6.97	1000	15	1.26	30.8	1200	3.90
1119	14.02	6.96	998	14	1.25	29.4	1500	3.90
1122	14.01	6.97	997	13	1.24	28.6	1800	3.90

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Amount actually evacuated: <u>1.8L</u>
Sampling Time: <u>1123</u>	Sampling Date: <u>5/22/14</u>
Sample I.D.: <u>6W-062027-052214-LB-MW-3</u>	Laboratory: <u>TA</u>
Analyzed for: <u>TPH</u> <u>BTEX</u> MTBE <u>PHEN</u>	Other: <u>SEE COC</u>
Equipment Blank I.D.: _____ @ _____ Time	Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>140522-LB2</u>	Client: <u>CRA</u>
Sampler: <u>LB</u>	Gauging Date: <u>5/22/14</u>
Well I.D.: <u>MW-4</u>	Well Diameter (in.): <u>2</u> 3 4 6 8 _____
Total Well Depth (ft.): <u>13.05</u>	Depth to Water (ft.): <u>2.67</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 550</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1145 Flow Rate: 100 mL / MIN Pump Depth: 5.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1157	14.14	7.16	1172	16	1.15	34.6	600	2.69
1154	14.11	7.13	1169	14	1.10	28.5	900	2.69
1157	14.15	7.11	1167	13	1.09	26.4	1200	2.69
1200	14.16	7.10	1166	12	1.08	25.2	1500	2.69
1203	14.17	7.09	1165	11	1.07	24.6	1800	2.69

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Amount actually evacuated: <u>1.8L</u>
Sampling Time: <u>1204</u>	Sampling Date: <u>5/22/14</u>
Sample I.D.: <u>GW-062027-052214-LB-MW-4</u>	Laboratory: <u>TA</u>
Analyzed for: <u>TPH-G</u> <u>BTEX</u> <u>MTBE</u> <u>PPH-D</u> Other <u>SEE COC</u>	
Equipment Blank I.D.: _____ @ _____ Time	Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140522-LB2	Client: CRA
Sampler: LB	Gauging Date: 5/22/14
Well I.D.: MW-5	Well Diameter (in.): ② 3 4 6 8 _____
Total Well Depth (ft.): 13.09	Depth to Water (ft.): 3.19
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 550</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____

Start Purge Time: 1221 Flow Rate: 100 mL/MIN Pump Depth: 6'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1227	14.04	6.51	1258	18	1.41	88.7	600	3.21
1230	14.06	6.61	1259	17	1.38	81.4	900	3.21
1233	14.08	6.63	1258	16	1.34	80.1	1200	3.21
1236	14.09	6.64	1257	15	1.33	79.6	1500	3.21
1239	14.10	6.65	1256	14	1.32	78.2	1800	3.21

Did well dewater? Yes <input checked="" type="checkbox"/> NO	Amount actually evacuated: 1.8L
Sampling Time: 1240	Sampling Date: 5/22/14
Sample I.D.: GW-062027-062214-LB-MW-5	Laboratory: TA
Analyzed for: TPH-C BTEX MTBE PPH-D	Other: <u>SEE COC</u>
Equipment Blank I.D.: @	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140522-LBL	Client: CPA
Sampler: LB	Gauging Date: 5/22/14
Well I.D.: MW-6	Well Diameter (in.): \varnothing 3 4 6 8 ____
Total Well Depth (ft.): 13.12	Depth to Water (ft.): 4.12
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PYO Grade	Flow Cell Type: YSI 536

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1301 Flow Rate: 100 mL/min Pump Depth: 7'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1307	16.33	7.08	4044	18	1.37	67.6	600	4.16
1310	16.38	7.01	4043	17	1.35	64.5	900	4.16
1313	16.39	6.98	4087	16	1.33	63.4	1200	4.16
1316	16.40	6.97	4036	15	1.32	62.1	1500	4.16
1319	16.42	6.96	4035	14	1.31	61.6	1800	4.16

Did well dewater? Yes <input checked="" type="checkbox"/>	Amount actually evacuated: 1.8L
Sampling Time: 1320	Sampling Date: 5/22/14
Sample I.D.: MW-6	Laboratory: TA
Analyzed for: TPH-G BTEX MTBE TPH-D Other: SEE COC	
Equipment Blank I.D.: @ <small>Time</small>	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>140522-LB2</u>	Client: <u>CRA</u>
Sampler: <u>LB</u>	Gauging Date: <u>5/22/14</u>
Well I.D.: <u>MW-7</u>	Well Diameter (in.): <u>3</u> 3 4 6 8 _____
Total Well Depth (ft.): <u>13.08</u>	Depth to Water (ft.): <u>3.51</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 556</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1341 Flow Rate: 100 ML / MIN Pump Depth: 6.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)
1347	15.50	6.97	1153	21	1.14	36.1	600	3.55
1350	15.41	7.01	1143	20	1.10	27.6	900	3.55
1353	15.42	7.03	1142	19	1.09	26.4	1200	3.55
1356	15.43	7.02	1141	18	1.08	25.3	1500	3.55
1359	15.45	7.01	1140	17	1.07	24.8	1800	3.55

Did well dewater? Yes <input checked="" type="checkbox"/> <u>NO</u>	Amount actually evacuated: <u>1.6L</u>
Sampling Time: <u>1400</u>	Sampling Date: <u>5/22/14</u>
Sample I.D.: <u>GW-062067-052214-LB-mw.7</u>	Laboratory: <u>TA</u>
Analyzed for: <u>TPH-G</u> <u>BTEX</u> <u>MTBE</u> <u>TPH-D</u>	Other: <u>SEE COL</u>
Equipment Blank I.D.: _____ @ _____ Time	Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>140522-LB2</u>	Client: <u>CRA</u>
Sampler: <u>LB</u>	Gauging Date: <u>5/22/14</u>
Well I.D.: <u>MW-8</u>	Well Diameter (in.): <u>2</u> 3 4 6 8 _____
Total Well Depth (ft.): <u>13.11</u>	Depth to Water (ft.): <u>3.05</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSE 536</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1417 Flow Rate: 100 mL/min Pump Depth: 6'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1423	14.96	6.94	1234	18	1.27	42.3	600	3.09
1426	14.95	6.78	1233	16	1.23	35.8	900	3.09
1429	14.95	6.75	1232	15	1.20	31.4	1200	3.09
1432	14.94	6.74	1231	14	1.19	30.6	1500	3.09
1435	14.93	6.73	1230	13	1.18	29.2	1800	3.09

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Amount actually evacuated: <u>1.8L</u>
Sampling Time: <u>1436</u>	Sampling Date: <u>5/22/14</u>
Sample I.D.: <u>GW-062027-052214-LB-MW-8</u>	Laboratory: <u>TA</u>
Analyzed for: <u>TPH-G</u> <u>BTEX</u> MTBE <u>TPH-D</u>	Other: <u>SEE COL</u>
Equipment Blank I.D.: _____ @ _____ Time	Duplicate I.D.: _____

Shell Oil Products Chain Of Custody Record

LAB (LOCATION)
 CALSCIENCE ()
 SPL Houston ()
 XENCO ()
 TEST AMERICA ()
 OTHER ()

Please Check Appropriate Box:
 ENV. SERVICES MOTIVA RETAIL SHELL RETAIL
 MOTIVA SDCM CONSULTANT LUBES
 SHELL PIPELINE OTHER ()

Print Bill To Contact Name: **Brian Peters- 062027**
 INCIDENT # (ENV SERVICES): **7 9 7 0 4 4 7**
 PO # _____ SAP # _____
 CHECK IF NO INCIDENT # APPLIES
 DATE: **5/22/14**
 PAGE: **1** of **1**

SAMPLER COMPANY: **Blaine Tech Services**
 ADDRESS: **20735 Belshaw Avenue, Carson, CA 90746**
 PROJECT CONTACT (if hardcopy or PDF Report to): **Lorin King**
 TELEPHONE: **(310) 885-4455 x 108** FAX: **(310) 637-5802** E-MAIL: **lking@blainetech.com**

LOG CODE: _____

SITE ADDRESS: Street and City: **200 Railroad Ave S - Ellensburg** State: **WA** GLOBAL ID NO.: **NA**
 EDP DELIVERABLE TO (Name, Company, Office Location): **CRA, Seattle, WA** PHONE NO.: **425-563-6500** E-MAIL: **Shell-US-LabDataManagement@CRAworld.com** CONSULTANT PROJECT NO.: **140522-182**
 SAMPLER NAME(S) (Print): **LEE BORES** LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND
 LA - RWQCB REPORT FORMAT UST AGENCY:

SPECIAL INSTRUCTIONS OR NOTES:
 1) Please upload the "CRA EQuIS 4-file EDD" to the CRA Website (http://cralabedupload.craworld.com/equis/default.aspx) and/or send it to the Shell-US-LabDataManagement@CRAworld.com email folder. 2) Please indicate that you have uploaded the EDD by including "EDD Uploaded to CRA website" in the body of the email used to deliver the final PDF report to the Shell-US-LabDataManagement@CRAworld.com email folder.

SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 EDD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

Copy final report to Shell.Lab.Billing@craworld.com, Shell.results@craworld.com, and Shell-US-LabDataManagement@CRAworld.com
 Email Invoice to Shell.Lab.Billing@craworld.com
 See Laboratory PM for WA Dept. of Ecology MTCA Method A cleanup levels for minimum detection limits.

Matrix Codes - WG (groundwater), WS (surface water), WP (drinking water source), W (Trip or Temp Blank)

LAB USE ONLY	SAMPLE ID					TIME	MATRIX	PRESERVATIVE					NO. OF CONT.	REQUESTED ANALYSIS														TEMPERATURE ON RECEIPT C°			
	PROJECT NUMBER	DATE (MMDDYY)	SAMPLER INITIALS	WELL ID	HCL			HNO3	H2SO4	NONE	OTHER	NWTPH-Dx		NWTPH-Dx w/Silica Gel Cleanup (8260B)	BTEX (8260B)	6 Oxygenates, MTBE, TBA, DIPE, TAME, ETBE (8260B)	EDC (8260B)	EDB	NWTPH-Dx w/o Silica Gel Cleanup	Nitrate/Nitrite by 363.2	Dissolved CO2 by SM4600C02C	Dissolved Methane by RSK-175	Full Scan VOC's By 8260	Alkalinity by SM2320B	Dissolved Iron (Ferrous)	Manganese by 6010/6020	TPH-O		MTBE (8260B)	Total Lead	Container PID Readings or Laboratory Notes
GW	062027	052214	LB	MW-1	1002	WG	X	X																	X	X					
SW	062027	052214	LB	MW-2	1044	WG	X	X																	X	X					
GW	062027	052214	LB	MW-3	1123	WG	X	X																	X	X					
GW	062027	052214	LB	MW-4	1204	WG	X	X																	X	X					
GW	062027	052214	LB	MW-5	1240	WG	X	X																	X	X					
GW	062027	052214	LB	MW-6	1320	WG	X	X																	X	X					
GW	062027	052214	LB	MW-7	1400	WG	X	X																	X	X					
GW	062027	052214	LB	MW-8	1426	WG	X	X																	X	X					

Retinquished by: (Signature) _____ Date: _____ Time: _____
 Received by: (Signature) **SHEPPED VIA FEDEX** Date: **5/28/14** Time: _____
 Retinquished by: (Signature) _____ Date: _____ Time: _____
 Received by: (Signature) _____ Date: _____ Time: _____
 Retinquished by: (Signature) _____ Date: _____ Time: _____
 Received by: (Signature) _____ Date: _____ Time: _____

ENVIRONMENTAL WELL, REMEDIATION COMPOUND, AND SITE INSPECTION FORM

INCIDENT # 797047
 DATE: 5/22/14

ADDRESS 200 RAILROAD AVE S
 CITY & STATE ELLENBURG, WA

Well ID	Observations Upon Arrival														Note Repairs Made Detailed Explanation of Maintenance Recommended and Performed	Photos of Well Condition		Repair Date and PM Initials		
	Manway Cover, Type, Condition & Size					Well Labeled / Painted Properly*		Well Cap (Gripper) Condition		Well Lock Condition			Well Pad / Surface Condition							
MW-1	Standpipe	Flush	G	P	8 Size (inch)	G	N	G	R	G	R	NL	G	P		Y	N			
MW-2	Standpipe	Flush	G	P	8 Size (inch)	G	N	G	R	G	R	NL	G	P		Y	N			
MW-3	Standpipe	Flush	G	P	8 Size (inch)	G	N	G	R	G	R	NL	G	P		Y	N			
MW-4	Standpipe	Flush	G	P	8 Size (inch)	G	N	G	R	G	R	NL	G	P		Y	N			
MW-5	Standpipe	Flush	G	P	8 Size (inch)	G	N	G	R	G	R	NL	G	P		Y	N			
MW-6	Standpipe	Flush	G	P	8 Size (inch)	G	N	G	R	G	R	NL	G	P		Y	N			
MW-7	Standpipe	Flush	G	P	8 Size (inch)	G	N	G	R	G	R	NL	G	P		Y	N			
MW-8	Standpipe	Flush	G	P	8 Size (inch)	G	N	G	R	G	R	NL	G	P		Y	N			
	Standpipe	Flush	G	P	Size (inch)	Y	N	G	R	G	R	NL	G	P		Y	N			
	Standpipe	Flush	G	P	Size (inch)	Y	N	G	R	G	R	NL	G	P		Y	N			
	Standpipe	Flush	G	P	Size (inch)	Y	N	G	R	G	R	NL	G	P		Y	N			
TOTAL # CAPS REPLACED =									0		= TOTAL # OF LOCKS REPLACED									
Condition of Soil Boring Patches or Abandoned Monitoring Wells				G	P	N/A	If POOR, Borings/Well IDs or Location Description								Y	N				
Remediation Compound Type (Check boxes that apply)		Condition of Enclosure			Condition of Area Inside Enclosure			Compound Security			Emergency Contact Info Visible			Cleaning / Repairs Recommended and Conducted			Photos of Condition		Repair Date and PM Initials	
NA		X																		
Building																				
Building w/ Fence Comp.																				
Fenced Compound																				
Trailer																				
Number of Drums On-site		Does the Label Reveal the Source of the Contents		Labeled Correctly and Writing Legible			Drum Condition			Confirm Drums Related to Environmental		Drums Located to Min Business Interference			Detailed Explanation of Any Issues Resolved			Photos of Drum Condition		Date Drums Removed from Site and PM Initials
0		Y N N/A		Y N N/A			G P N/A			Y N		Y N N/A						Y N		

G = Good (Acceptable) R = Replaced
 P = Poor (needs attention) NL = No Lock Required

Note: All repairs other than locks and grippers require Shell PM approval prior to repair.

* = Groundwater monitoring well covers must be painted and labeled in accordance with applicable regulations.

All environmental wells and the remediation compound were in good condition, locked, and secured upon my departure (unless otherwise noted above).

LEE BURES / BTR

Print or type Name of Field Personnel & Consultant Company

Job Clearance Form									
Station # 7470417		Station Address: 200 RAILROAD AVES, ELLISBURG, WA			Work Order Number: 140522-LB2		Date: 5/22/14		
Contractor Company Name: BLATINE TECH SERVICES		Contractor person in charge (print name): LEE BURES		Number of workers: 1	JSA Reference Number: (if required)	Start Time: 0840	End Time: 1500	Lead in: 	Travel Time:
Problem/Work Description: GAUGE, PURSE, & SAMPLE 8 GROUNDWATER WELLS								Return Call: yes / no	
								Damage Claim: yes / no	
PPE REQUIRED (CHECK AND/OR FILL BLANK SPACE)									
<input checked="" type="checkbox"/> SAFETY VEST		<input checked="" type="checkbox"/> HARD HAT		<input checked="" type="checkbox"/> SHOES & BOOTS		<input type="checkbox"/> HEARING PROTECTION		<input type="checkbox"/> RESPIRATOR	
<input checked="" type="checkbox"/> PROTECTIVE CLOTHING		<input checked="" type="checkbox"/> GLOVES		<input checked="" type="checkbox"/> SAFETY GLASSES/GOGGLES		<input type="checkbox"/> WELDING PPE		<input type="checkbox"/> OTHER	
<small>Contractor to complete this section below if circumstances on site or specific to this job may generate additional hazards, not as not described in the JSA</small>									
TASKS			Hazard(s) not covered by JSA			New Product or Process Risk (include PPE to be worn)			
GAUGE			NIL			NA			
PURSE									
SAMPLE									
<small>Work documentation requirements: Lower Risk - no JSA required Medium Risk / Higher Risk tasks - JSA required Higher Risk - JSA required & appropriate check list completed (see below)</small>									
<small>Examples of Higher / Medium risks:</small>		<input type="checkbox"/> Work at heights: in all cases on open sites - on closed sites if no JSA present				<input type="checkbox"/> Work in confined spaces (e.g. tank, intercept or deep manhole entry)			
		<input type="checkbox"/> Trenching or excavation related to underground tank / product lines				<input type="checkbox"/> Hot work with risk of product or vapour ignition			
		<input type="checkbox"/> Heavy lifting				<input type="checkbox"/> LPG system degassing, installation or maintenance			
This form must be completed for each job and updated and re-signed if circumstances change or additional hazards identified.									
SIGN IN		Contractor representative name			Signature			SIGN OUT	
Operating sites: to be signed by the Site Representative		Lee Bures						Contractor signature	
Non-operating sites: to be signed by Contractor Representative only									
GENERAL SAFETY CHECKS									
<ul style="list-style-type: none"> Have all site personnel been informed? Has fuel delivery service been informed? Is a fuel delivery due? Have isolation procedures been agreed - lock out/tag out? Are work areas confined off to protect workers, site staff & public? Other: 					<ul style="list-style-type: none"> Has the work area been left tidy and safe? Are site personnel aware of status of work including remaining isolation? Are changes to equipment documented and communicated? All incidents, near incidents, unsafe situations reported? Other: 				
Site representative name					Signature				
Denise Johnson									
PARTS - Ordered, Replaced and/or Disposed OI (include model and serial # as appropriate)									

The contractor through its authorized representative shall sign, issue and be solely responsible for all job clearance forms and the obligations arising there under applicable to the work.
 This form covers important reminders and is not intended to relieve the contractor from safely performing the work in compliance with all applicable laws and regulations.
 The Site Representative may require the contractor to stop work if it appears that the contractor or any of its workers are failing to comply with the requirements in the applicable terms of this form or other applicable safety requirements.

WELL GAUGING DATA

Project # 140805-JBI Date 8/5/14 Client CRA

Site 200 Rail Road Ave S Ellensburg WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-1	0611	2					5.08	13.12	↓	
MW-2	0614	2					4.43	12.89		
MW-3	0618	2					4.69	12.97		
MW-4	0622	2					3.61	13.05		
MW-5	0626	2					4.12	13.08		
MW-6	0630	2					4.72	13.12		
MW-7	0634	2					4.34	13.08		
MW-8	0639	2					3.88	13.12		↓

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140805-JB1	Client: CRA
Sampler: JB	Gauging Date: 8/5/14
Well I.D.: mw-1	Well Diameter (in.): <input checked="" type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8
Total Well Depth (ft.): 13.12	Depth to Water (ft.): 5.08
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <input checked="" type="radio"/> PVC Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 0702 Flow Rate: 100 mL/min Pump Depth: 10'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0708	15.58	6.35	1991	174	3.04	59.1	600	5.11
0711	15.66	6.25	1948	150	3.26	48.4	900	5.11
0714	15.74	6.20	1936	101	2.75	42.3	1200	5.11
0717	15.77	6.17	1929	53	2.62	40.9	1500	5.11
0720	15.84	6.16	1919	41	2.57	39.1	1800	5.11

Did well dewater? Yes <input checked="" type="radio"/> No	Amount actually evacuated: 1.8L
Sampling Time: 0730	Sampling Date: 8/5/14
Sample I.D.: GW-062027-080514-JB-mw1	Laboratory: TA
Analyzed for: TP <input checked="" type="radio"/> BTEX <input checked="" type="radio"/> MTBE <input checked="" type="radio"/>	Other: See CoC
Equipment Blank I.D.: @	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140805-JB1	Client: CRA
Sampler: JB	Gauging Date: 8/5/14
Well I.D.: mw-2	Well Diameter (in.): <input checked="" type="radio"/> 2 3 4 6 8 ___
Total Well Depth (ft.): 12.89	Depth to Water (ft.): 4.43
Depth to Free Product: _____	Thickness of Free Product (feet): _____
Referenced to: <input checked="" type="radio"/> PVC <input type="radio"/> Grade	Flow Cell Type: VS1556

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 0738 Flow Rate: 100 mL/min Pump Depth: 9'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0744	17.00	6.63	796	16	2.74	49.7	600	4.48
0747	16.99	6.60	782	9	2.24	46.1	900	4.48
0750	17.02	6.59	765	7	2.94	46.4	1200	4.48
0753	17.07	6.58	753	4	2.85	45.2	1500	4.48
0756	17.01	6.57	751	3	2.81	44.7	1800	4.48

Did well dewater? Yes <input checked="" type="radio"/> No	Amount actually evacuated: 1.8L
Sampling Time: 0810	Sampling Date: 8/5/14
Sample I.D.: GW-062027-080514-JB-mw-2	Laboratory: TA
Analyzed for: <input checked="" type="checkbox"/> TPH <input checked="" type="checkbox"/> BTEX <input checked="" type="checkbox"/> MTBE <input checked="" type="checkbox"/> TPED	Other: See C0C
Equipment Blank I.D.: @	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140805-381	Client: CRA
Sampler: JB	Gauging Date: 8/5/14
Well I.D.: mw-4	Well Diameter (in.): <input checked="" type="radio"/> 2 3 4 6 8 ___
Total Well Depth (ft.): 13.05	Depth to Water (ft.): 3.61
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <input checked="" type="radio"/> PVE <input type="radio"/> Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 0854 Flow Rate: 100 ml/min Pump Depth: 7'

Time	Temp. (<input checked="" type="radio"/> °C or °F)	pH	Cond. (mS/cm or <input checked="" type="radio"/> µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <input checked="" type="radio"/> ml)	Depth to Water (ft.)
0900	19.88	7.08	1279	21	2.59	41.9	600	3.65
0903	19.66	7.08	1277	17	2.81	43.1	900	3.65
0906	19.56	7.08	1263	15	2.89	42.5	1200	3.65
0909	19.50	7.07	1254	14	2.79	21.8	1500	3.65
0912	19.43	7.07	1247	14	2.74	21.2	1800	3.65

Did well dewater? Yes No Amount actually evacuated: 1.8L

Sampling Time: 0920 Sampling Date: 8/5/14

Sample I.D.: Gw-062027-080514-JB-mw-4 Laboratory: TA

Analyzed for: TPEL BTEX MTBE TRLD Other: See CdC

Equipment Blank I.D.: @ Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140805-JB1	Client: CRA
Sampler: JB	Gauging Date: 8/5/14
Well I.D.: mw-5	Well Diameter (in.): <input checked="" type="radio"/> 2 3 4 6 8 ___
Total Well Depth (ft.): 13.08	Depth to Water (ft.): 4.12
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <input checked="" type="radio"/> PVC Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 0927 Flow Rate: 100 mL/min Pump Depth: 9'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0933	16.06	6.97	1137	4	1.66	92.4	600	4.14
0936	16.25	6.86	1139	2	1.81	90.2	900	4.14
0939	16.38	6.80	1138	3	1.76	89.3	1200	4.14
0942	16.30	6.78	1136	2	1.69	89.7	1500	4.14
0945	16.28	6.78	1134	2	1.61	88.8	1800	4.14

Did well dewater? Yes <input checked="" type="radio"/> No	Amount actually evacuated: 1.8 L
Sampling Time: 0959	Sampling Date: 8/5/14
Sample I.D.: GW-062027-080514-JB-mw-5	Laboratory: TA
Analyzed for: <input checked="" type="checkbox"/> TRP <input checked="" type="checkbox"/> BTEX <input type="checkbox"/> MTBE <input checked="" type="checkbox"/> TPED	Other: See CoC
Equipment Blank I.D.: @ <small>Time</small>	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140805 - JB1	Client: CRA
Sampler: JB	Gauging Date: 8/5/14
Well I.D.: mw-6	Well Diameter (in.): ② 3 4 6 8
Total Well Depth (ft.): 13.12	Depth to Water (ft.): 4.72
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1002 Flow Rate: 100 ml/min Pump Depth: 9'

Time	Temp. (C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)
1008	20.59	5.88	1892	7	1.98	74.3	660	4.77
1011	20.80	5.92	1899	7	2.09	75.4	900	4.77
1014	20.67	5.91	1892	7	1.92	72.7	1200	4.77
1017	20.62	5.90	1894	5	1.87	72.1	1500	4.77
1020	20.71	5.89	1892	5	1.85	72.0	1800	4.77

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Amount actually evacuated: 1.8L
Sampling Time: 1027	Sampling Date: 8/5/14
Sample I.D.: GW-062027-080514-JB-mw-6	Laboratory: TA
Analyzed for: TPH <input checked="" type="checkbox"/> BTEX <input checked="" type="checkbox"/> MTBE <input checked="" type="checkbox"/> TRH <input checked="" type="checkbox"/>	Other: See CoC
Equipment Blank I.D.: @	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>140805-JB1</u>	Client: <u>CRA</u>
Sampler: <u>JB</u>	Gauging Date: <u>8/5/14</u>
Well I.D.: <u>mw-7</u>	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): <u>13.08</u>	Depth to Water (ft.): <u>4.34</u>
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 556</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1037 Flow Rate: 180 ml/min Pump Depth: 9'

Time	Temp. (<u>C</u> or °F)	pH	Cond. (mS/cm or <u>µS/cm</u>)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>ml</u>)	Depth to Water (ft.)
1043	17.86	6.83	1003	21	2.18	42.1	600	4.38
1046	18.07	6.78	994	20	2.10	40.8	900	4.38
1049	17.90	6.77	992	19	2.06	39.4	1200	4.38
1052	17.81	6.77	989	15	1.97	38.6	1500	4.38
1055	17.89	6.77	984	13	1.95	37.9	1800	4.38

Did well dewater? Yes <input type="checkbox"/> <u>No</u> <input checked="" type="checkbox"/>	Amount actually evacuated: <u>1.8L</u>
Sampling Time: <u>1103</u>	Sampling Date: <u>8/5/14</u>
Sample I.D.: <u>CW-062027-080514-JB-mw-7</u>	Laboratory: <u>TA</u>
Analyzed for: <u>TPH</u> <u>BTEX</u> <u>MTBE</u> <u>THM-D</u>	Other: <u>see CaC</u>
Equipment Blank I.D.: <u> </u> @ <u> </u> Time	Duplicate I.D.: <u> </u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140805-JB1	Client: CRA
Sampler: JB	Gauging Date: 8/5/14
Well I.D.: mw-8	Well Diameter (in.): <input checked="" type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="checkbox"/> _____
Total Well Depth (ft.): 13.12	Depth to Water (ft.): 3.88
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <input checked="" type="radio"/> PVC <input type="radio"/> Grade	Flow Cell Type: YS1556

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1111 Flow Rate: 100 ml/min Pump Depth: 8'

Time	Temp. (<input checked="" type="radio"/> °C or °F)	pH	Cond. (mS/cm or <input checked="" type="radio"/> µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <input checked="" type="radio"/> ml)	Depth to Water (ft.)
1117	17.38	6.82	1162	44	2.84	52.1	600	3.92
1120	17.55	6.81	1165	35	2.85	52.9	900	3.92
1123	17.53	6.82	1172	23	2.69	51.3	1200	3.92
1126	17.46	6.82	1175	20	2.62	50.7	1500	3.92
1129	17.43	6.83	1177	17	2.56	50.2	1800	3.92

Did well dewater? Yes <input type="radio"/> No <input checked="" type="radio"/>	Amount actually evacuated: 1.8L
Sampling Time: 1135	Sampling Date: 8/5/14
Sample I.D.: CW-062027-080514-JB-mw-8	Laboratory: TA
Analyzed for: <input checked="" type="checkbox"/> TPH <input checked="" type="checkbox"/> BTEX <input type="checkbox"/> MTBE <input checked="" type="checkbox"/> TPH	Other: See COC
Equipment Blank I.D.: @ _____	Duplicate I.D.: _____

Shell Oil Products Chain Of Custody Record

LAB (LOCATION)

- CALSCIENCE ()
 SPL Houston ()
 XENCO ()
 TEST AMERICA ()
 OTHER ()

Please Check Appropriate Box:

- ENV. SERVICES NOTIYA RETAIL SHELL RETAIL
 NOTIYA SD&CM CONSULTANT LUBES
 SHELL PIPELINE OTHER ()

Print Bill To Contact Name:

Brian Peters- 062027

INCIDENT # (ENV SERVICES)

7 9 7 0 4 4 7

CHECK IF NO INCIDENT # APPLIES

DATE: 8/5/14

PO #

SAP #

PAGE: 1 of 1

SAMPLING COMPANY: **Blaine Tech Services** LOG CODE: _____

ADDRESS: **20735 Belshaw Avenue, Carson, CA 90746**

PROJECT CONTACT (Hardcopy or PDF Report to): **Lorin King**

TELEPHONE: (310) 885-4455 x 108 FAX: (310) 637-5802 EMAIL: king@blainetech.com

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT UST AGENCY:

SPECIAL INSTRUCTIONS OR NOTES:
 1) Please upload the "CRA EQuIS 4-file EDD" to the CRA Website (<http://craledupload.craworld.com/equis/default.aspx>) and/or send it to the Shell-US-LabDataManagement@CRAworld.com email folder. 2) Please indicate that you have uploaded the EDD by including "EDD Uploaded to CRA website" in the body of the email used to deliver the final PDF report to the Shell-US-LabDataManagement@CRAworld.com email folder.

Copy final report to Shell.Lab.Billing@craworld.com, Shell.results@craworld.com, and Shell-US-LabDataManagement@CRAworld.com

See Laboratory PM for WA Dept. of Ecology MTCA Method A cleanup levels for minimum detection limits.

Matrix Codes - WG (groundwater), WS (surface water), WP (drinking water source), W(Trip or Temp Blank)

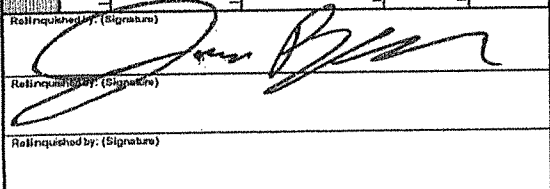
SITE ADDRESS: Street and City: **200 Railroad Ave S - Ellensburg** State: **WA** COUNCIL DISTRICT: **NA**

PHONE NO.: **425-563-6500** EMAIL: Shell-US-LabDataManagement@CRAworld.com CONSULTANT PROJECT NO.: **140805-JB1**

SAMPLER NAME(S) (P-Tag): **Justin Blackburn** LAB USE ONLY

REQUESTED ANALYSIS

LAB USE ONLY	PROJECT NUMBER	DATE (MMDDYY)	SAMPLER INITIALS	WELL ID	TIME	MATRIX	PRESERVATIVE					NO. OF CONT.	NWTPH-Gx	NWTPH-Dx w/Silica Gel Cleanup (8260B)	BTEX (8260B)	5 Oxygenates, MTBE, TBA, DIPE, TAME, ETBE (8260B)	EDC (8260B)	EDB	NWTPH-Dx w/o Silica Gel Cleanup	Nitrate/Nitrite by 353.2	Dissolved CO2 by SM4500CO2C	Dissolved Methane by RSK-175	Full Scan VOC's By 8260	Alkalinity by SM2320B	Dissolved Iron (Ferrous)	Manganese by 6010/6020	TPH-O	MTBE (8260B)	Dissolved Lead by 6020	Total Lead	TEMPERATURE ON RECEIPT C°	Container PID Readings or Laboratory Notes					
							HCL	HNO3	H2SO4	NONE	OTHER																										
	062027	080514	JB	mw-1	0730	WG	X	X		X	11	X	X																								
	062027	080514	JB	mw-2	0810	WG	X	X		X	11	X	X																								
	062027	080514	JB	mw-3	0840	WG	X	X		X	11	X	X																								
	062027	080514	JB	mw-4	0920	WG	X	X		X	11	X	X																								
	062027	080514	JB	mw-5	0953	WG	X	X		X	11	X	X																								
	062027	080514	JB	mw-6	1027	WG	X	X		X	11	X	X																								
	062027	080514	JB	mw-7	1103	WG	X	X		X	11	X	X																								
	062027	080514	JB	mw-8	1135	WG	X	X		X	11	X	X																								

Relinquished by: (Signature) 

Received by: (Signature) **Shipped via Fed ex**

Date: **8/5/14**

ENVIRONMENTAL WELL, REMEDIATION COMPOUND, AND SITE INSPECTION FORM

INCIDENT # 7970447

ADDRESS 200 Railroad Ave S

DATE: 8/5/14

CITY & STATE Ellensburg WA

Well ID	Observations Upon Arrival													Note Repairs Made Detailed Explanation of Maintenance Recommended and Performed	Photos of Well Condition		Repair Date and PM Initials			
	Manway Cover, Type, Condition & Size					Well Labeled / Painted Properly*		Well Cap (Gripper) Condition		Well Lock Condition			Well Pad / Surface Condition							
MW-1	Standpipe	Flush	G	P	Size (Inch) 5	Y	N	G	R	G	R	NL	G	P		Y	N			
MW-2	Standpipe	Flush	G	P	Size (Inch) 8	Y	N	G	R	G	R	NL	G	P		Y	N			
MW-3	Standpipe	Flush	G	P	Size (Inch) 8	Y	N	G	R	G	R	NL	G	P		Y	N			
MW-4	Standpipe	Flush	G	P	Size (Inch) 8	Y	N	G	R	G	R	NL	G	P		Y	N			
MW-5	Standpipe	Flush	G	P	Size (Inch) 8	Y	N	G	R	G	R	NL	G	P		Y	N			
MW-6	Standpipe	Flush	G	P	Size (Inch) 8	Y	N	G	R	G	R	NL	G	P		Y	N			
MW-7	Standpipe	Flush	G	P	Size (Inch) 8	Y	N	G	R	G	R	NL	G	P		Y	N			
MW-8	Standpipe	Flush	G	P	Size (Inch) 8	Y	N	G	R	G	R	NL	G	P		Y	N			
	Standpipe	Flush	G	P	Size (Inch)	Y	N	G	R	G	R	NL	G	P		Y	N			
	Standpipe	Flush	G	P	Size (Inch)	Y	N	G	R	G	R	NL	G	P		Y	N			
	Standpipe	Flush	G	P	Size (Inch)	Y	N	G	R	G	R	NL	G	P		Y	N			
TOTAL # CAPS REPLACED =					0	TOTAL # OF LOCKS REPLACED					0									
Condition of Soil Boring Patches of Abandoned Monitoring Wells		G	P	N/A	If PODR, Borings/Well IDs or Location Description													Y	N	
Remediation Compound Type (Check boxes that apply)		Condition of Enclosure			Condition of Area Inside Enclosure			Compound Security			Emergency Contact Info Visible			Cleaning / Repairs Recommended and Conducted			Photos of Condition		Repair Date and PM Initials	
NA		G			G			G			Y			/			Y			
Building		G			G			G			Y			/			Y			
Building w/ Fence Comp.		G			G			G			Y			/			Y			
Fenced Compound		G			G			G			Y			/			Y			
Trailer		G			G			G			Y			/			Y			
Number of Drums On-site	Does the Label Reveal the Source of the Contents	Labeled Correctly and Writing Legible			Drum Condition			Confirm Drums Related to Environmental		Drums Located to Min Business Interference			Detailed Explanation of Any Issues Resolved			Photos of Drum Condition		Date Drums Removed from Site and PM Initials		
0	Y	N	N/A	Y	N	N/A	G	P	N/A	Y	N	Y	N	N/A				Y	N	

G = Good (Acceptable) R = Replaced
P = Poor (needs attention) NL = No Lock Required

Note: All repairs other than locks and grippers require Shell PM approval prior to repair.

* = Groundwater monitoring well covers must be painted and labeled in accordance with applicable regulations.
Version 2.4, March 2008

All environmental wells and the remediation compound were in good condition, locked, and secured upon my departure (unless otherwise noted above).

Justin Blackburn / BTS
Print or type Name of Field Personnel & Consultant Company

SHELL BILL OF LADING

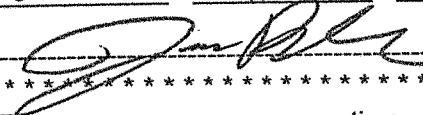
SOURCE RECORD BILL OF LADING
 FOR NON-HAZARDOUS PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT SHELL FACILITIES IN THE STATE OF WASHINGTON OR OREGON. THE NON-HAZARDOUS PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND- WATER WELLS, IS MADE UP INTO LOADS OF APPROPRIATE SIZE TO BE TRANSPORTED & PROCESSED BY A SHELL APPROVED WASTE HAULER.

The contractor performing this work is BLAINE TECH SERVICES, INC. 22727 72ND Ave South, Suite D - 102, Kent, WA 98032. Blaine Tech Services, Inc. is authorized by SHELL OIL COMPANY (SHELL) to recover, collect, apportion into loads, and haul the Non-Hazardous Well Purgewater that is drawn from wells at the SHELL facility indicated below and to deliver that purgewater to BTS. Transport routing of the Non-Hazardous Well Purgewater may be direct from one Shell facility to BTS; from one Shell facility to BTS via another Shell facility; or any combination thereof. The Non-Hazardous Well Purgewater is and remains the property of SHELL.

This Source Record **BILL OF LADING** was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the SHELL facility described below:

7970447 Perry Pineda
 INCIDENT # Shell Engineer

200 RailRoad Ave S Ellensburg WA
 street number street name city state

WELL I.D.	GALS.	WELL I.D.	GALS.
<u>mw-1</u>	<u>1 .5</u>	<u> </u>	<u> </u>
<u>mw-2</u>	<u>1 .5</u>	<u> </u>	<u> </u>
<u>mw-3</u>	<u>1 .5</u>	<u> </u>	<u> </u>
<u>mw-4</u>	<u>1 .5</u>	<u> </u>	<u> </u>
<u>mw-5</u>	<u>1 .5</u>	<u> </u>	<u> </u>
<u>mw-6</u>	<u>1 .5</u>	<u> </u>	<u> </u>
<u>mw-7</u>	<u>1 .5</u>	<u> </u>	<u> </u>
<u>mw-8</u>	<u>1 .5</u>	<u> </u>	<u> </u>
added equip.	<u> </u>	any other	<u> </u>
rinse water	<u>1 4</u>	adjustments	<u> </u>
TOTAL GALS.	<u>8</u>	loaded onto	<u> </u>
RECOVERED	<u> </u>	BTS vehicle #	<u>90</u>
BTS event #	<u>140805-JB1</u>	time	<u>1155</u>
		date	<u>8/5/14</u>
signature	<u></u>		

RECEIVED AT		time	date
<u>BTS Kent</u>		<u> </u>	<u>1/1</u>
unloaded by	<u> </u>		
signature	<u> </u>		

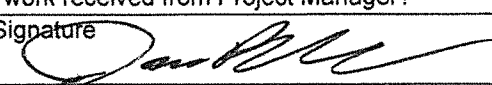
Job Clearance Form											
Station # 7970447		Station Address: 200 Railroad Ave S Ellensburg WA			Work Order Number: 140805-JB1		Date: 8/5/14				
Contractor Company Name: BTS		Contractor person in charge (print name): Justin Blackburn		Number of Workers: 1	JSA Reference Number: <i>(if required)</i>	Start Time: 605	End Time: 1200	Laborer	Travel Time:		
Problem/Work Description: Gauge, Purge & Sample groundwater wells							Return Call:	yes/ no			
							Damage Claim:	yes/ no			
(CHECK REQUIRED CHECK AND DRILL HOLE SPACE)											
<input checked="" type="checkbox"/> SAFETY VEST		<input checked="" type="checkbox"/> HARD HAT		<input checked="" type="checkbox"/> SHOES & BOOTS		<input type="checkbox"/> HEARING PROTECTION		<input type="checkbox"/> RESPIRATOR			
<input checked="" type="checkbox"/> PROTECTIVE CLOTHING		<input checked="" type="checkbox"/> GLOVES		<input checked="" type="checkbox"/> SAFETY GLASSES/GOGGLES		<input type="checkbox"/> WELDING PPE		<input type="checkbox"/> OTHER			
Contractor to complete this section below if circumstances on site or specific to this job may generate additional hazards that are not described in the JSA											
(JOB TYPE)			Hazard(s) not covered by JSA			Hazard(s) identified on Job Safety Analysis (JSA) that do not require PPE to be worn					
Gauge Purge Sample			N/A			N/A					
Work documentation requirements: Lower Risk - no JSA required Medium Risk / Higher Risk tasks - JSA required Higher Risk - JSA required & appropriate checklist completed (see below)											
<table border="0" style="width:100%;"> <tr> <td style="width:50%; vertical-align: top;"> Examples of Higher / Medium tasks: <input type="checkbox"/> Works at heights: in all cases on open sites - on closed sites if no JSA present <input type="checkbox"/> Trenching or excavation related to underground tank / product lines <input type="checkbox"/> Heavy lifting </td> <td style="width:50%; vertical-align: top;"> <input type="checkbox"/> Work in confined spaces (e.g. tank, interceptor or deep manhole entry) <input type="checkbox"/> Hot work with risk of product or vapor ignition <input type="checkbox"/> LPQ system degassing, installation or maintenance </td> </tr> </table>										Examples of Higher / Medium tasks: <input type="checkbox"/> Works at heights: in all cases on open sites - on closed sites if no JSA present <input type="checkbox"/> Trenching or excavation related to underground tank / product lines <input type="checkbox"/> Heavy lifting	<input type="checkbox"/> Work in confined spaces (e.g. tank, interceptor or deep manhole entry) <input type="checkbox"/> Hot work with risk of product or vapor ignition <input type="checkbox"/> LPQ system degassing, installation or maintenance
Examples of Higher / Medium tasks: <input type="checkbox"/> Works at heights: in all cases on open sites - on closed sites if no JSA present <input type="checkbox"/> Trenching or excavation related to underground tank / product lines <input type="checkbox"/> Heavy lifting	<input type="checkbox"/> Work in confined spaces (e.g. tank, interceptor or deep manhole entry) <input type="checkbox"/> Hot work with risk of product or vapor ignition <input type="checkbox"/> LPQ system degassing, installation or maintenance										
This form must be completed for each job and updated and re-signed if circumstances change or additional hazards identified.											
SIGN IN		Contractor representative name Justin Blackburn			Signature <i>[Signature]</i>			SIGN OUT		Contractor signature <i>[Signature]</i>	
Operating sites: to be signed by the Site Representative		Non-operating sites: to be signed by Contractor Representative only			GENERAL SAFETY CHECKS • Has the work area been left tidy and safe? • Are site personnel aware of status of work including remaining isolation? • Are changes to equipment documented and communicated? • All incidents, near incidents, unsafe situations reported? • Other:			Site representative name Denice Tompkins		Signature <i>[Signature]</i>	
GENERAL SAFETY CHECKS • Have all site personnel been informed? • Has fuel delivery service been informed? • Is fuel delivery due? • Have isolation procedures been agreed - lock out/tag out? • Are work areas cordoned off to protect workers, site staff & public? • Other:		Site representative name [Signature]									
PARTS - Ordered, Replaced and/or Disposed Of (include model and serial as appropriate)											

The contractor through its authorized representative shall sign, issue and be solely responsible for all job clearance forms and the obligations arising there under applicable to the work.
 This form covers important reminders and is not intended to relieve the contractor from safely performing the work in compliance with all applicable laws and regulations.
 The Site Representative may require the contractor to stop work if it appears that the contractor or any of its workers are failing to comply with the requirements in the applicable items of this form or other applicable safety requirements.

Site Address: 200 Railroad Ave S Ellensburg WA		Date: 8/5/14
Check-in with site representative completed?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
Is fuel delivery scheduled for today?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Emergency pump cut-off switch located?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
First aid kit located and confirmed ready-to-use?		<input checked="" type="checkbox"/> Yes
Fire extinguisher located and confirmed ready-to-use?		<input type="checkbox"/> Yes
Eye wash located and confirmed ready-to-use?		<input checked="" type="checkbox"/> Yes
HASP	Emergency Services information located & reviewed?	<input checked="" type="checkbox"/> Yes
	Hospital map & route located and reviewed?	<input checked="" type="checkbox"/> Yes
	Special Hazard Notice section reviewed?	<input checked="" type="checkbox"/> Yes
	Site Status confirmed or amended, dated and initialed?	<input checked="" type="checkbox"/> Yes
	Emergency Response procedures reviewed with all work crew members?	<input type="checkbox"/> Yes
	Compliance Roster signed by all work crew members?	<input checked="" type="checkbox"/> Yes
Site walk has been performed to locate wells and identify additional hazards?		<input type="checkbox"/> Yes
Job Safety Analysis (JSA) for each task located & reviewed by all work crew members?		<input checked="" type="checkbox"/> Yes
Work Area Plans reviewed for suitability and effectiveness given current site conditions?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
Traffic Control Plans reviewed for suitability given current road, traffic & weather conditions?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
Stop Work Authority reviewed and understood by all work crew members?		<input checked="" type="checkbox"/> Yes

- In the space below, note unaddressed hazards and conditions that might compromise compliance with Approved Procedures and/or JSA's or impede the safe and proper execution of the Work Plan, Work Area Plan(s) and/or Traffic Control Plan(s).
- Report unaddressed hazards and adverse conditions to the Project Manager during Pre-Start Call-In and as hazards are identified or conditions change throughout the workday.
- DO NOT COMMENCE OR RESTART WORK until PM has been notified and mitigation measures approved.

Time	Hazard or Adverse Condition	PM Initials	Hazard Control Measure

Site representative briefed on planned work activities and Work Area Plans?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
Job Clearance Form completed?		<input checked="" type="checkbox"/> Yes
Pre-Start Call-In completed and approval to start work received from Project Manager?		<input type="checkbox"/> Yes
Printed Name Justin Blackburn	Signature 	Time 605

Appendix E

Survey Data



STATEWIDE LAND SURVEYING INC.

Coordinate System		UTM Zone	Vertical Datum	Quad Map	Station No.	Address	
Washington State		Zone 10	Navd 88	Ellensburg South		200 Railroad Ave S	
Plane Coordinate						Ellensburg, WA	
System Nad 83							
2011							
Well	Northing (Y)	Easting (X)	Latitude	Longitude	El. Surface	El. Rim	El. PVC
MW-1	604548.64	1626786.27	N46°59'28.0101"	W120°33'16.6290"	1508.07	1508.07	1507.56
MW-2	604500.17	1626709.89	N46°59'27.5311"	W120°33'17.7303"	1507.08	1507.10	1506.75
MW-3	604626.02	1626752.06	N46°59'28.7736"	W120°33'17.1233"	1507.85	1507.89	1507.23
MW-4	604641.57	1626830.04	N46°59'28.9277"	W120°33'15.9986"	1506.81	1506.86	1506.25
MW-5	604516.89	1626888.79	N46°59'27.6974"	W120°33'15.1498"	1507.03	1507.09	1506.69
MW-6	604512.45	1626807.95	N46°59'27.6530"	W120°33'16.3160"	1507.57	1507.57	1507.17
MW-7	604562.58	1626834.81	N46°59'28.1481"	W120°33'15.9290"	1506.89	1507.12	1506.83
MW-8	604563.09	1626871.63	N46°59'28.1533"	W120°33'15.3978"	1506.93	1506.96	1506.50
SB-10	604511.64	1626795.71	N46°59'27.6450"	W120°33'16.4924"	1507.48		

500 N.W. 20th St., Suite 101
 Gresham, Oregon 97030
www.statewidesurveying.com survey@statewidesurveying.com
 (o) 503.665-7777 (f) 503-665.7988

MONITORING WELL SURVEY



CONESTOGA-ROVERS & ASSOCIATES

SITUATED IN THE SOUTHWEST QUARTER OF SECTION 2, TOWNSHIP 17 NORTH, RANGE 18 EAST OF THE WILLAMETTE MERIDIAN, CITY OF ELLENSBURG, COUNTY OF KITTITAS, STATE OF WASHINGTON.



SCALE: 1" = 40'

VERTICAL DATUM

NAVD 88(GEOID 2012A)

UTM ZONE

ZONE 10

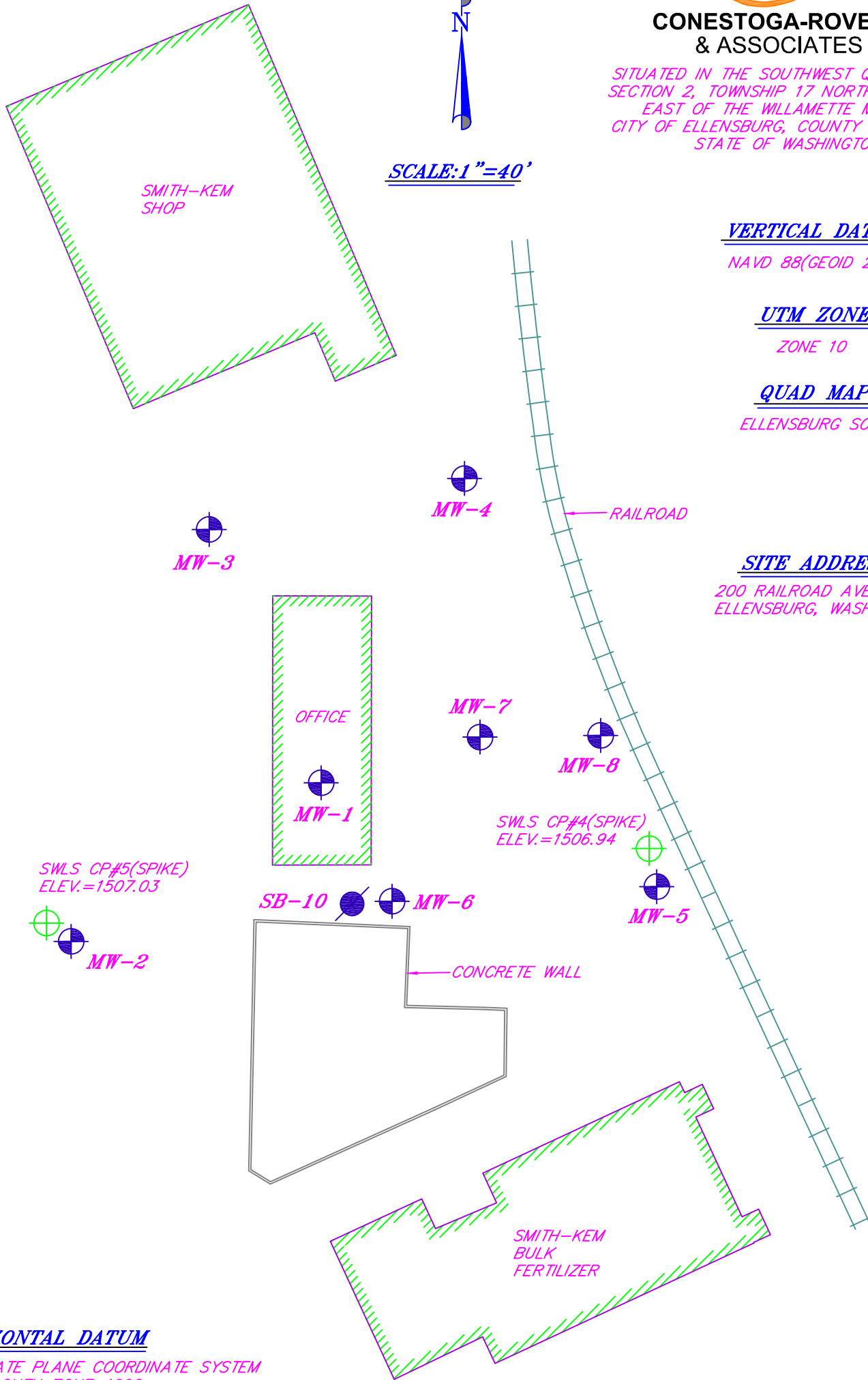
QUAD MAP

ELLENSBURG SOUTH

SITE ADDRESS

200 RAILROAD AVE. SOUTH
ELLENSBURG, WASHINGTON

RAILROAD AVENUE



HORIZONTAL DATUM

WASHINGTON STATE PLANE COORDINATE SYSTEM
NAD 83/2011, SOUTH ZONE 4602,
IN U.S. SURVEY FEET.

SITE BENCHMARKS

STATEWIDE LAND SURVEYING SITE CONTROL POINT NUMBER 4 AND 5. SPIKES AS SHOWN HEREON. ELEVATION FOR CP# 4 IS 1506.94 AND CP#5 IS 1507.03 FEET. ELEVATION WAS DERIVED FROM THE WASHINGTON STATE REFERENCE NETWORK.

LEGEND

- = MONITORING WELL AS NOTED.
- = SOIL BORING AS NOTED.
- = SITE BENCHMARK AS NOTED.
- SB. = SOIL BORING.
- MW = MONITORING WELL.



STATEWIDE LAND SURVEYING INC. WWW.STATEWIDESURVEYING.COM E.SURVEY@STATEWIDESURVEYING.COM		
DRAWN KDC	DATE 10/28/13	
CHECKED DHH	DATE 10/28/13	
SCALE 1" = 40'	SHEET 1 OF 1	PROJECT NO. 2013-118

Appendix F

Groundwater Laboratory Analytical Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-40187-1
TestAmerica Sample Delivery Group: SAP / 062027
Client Project/Site: 200 Railroad Ave S, Ellensburg, WA

For:
Conestoga-Rovers & Associates, Inc.
20818 44th Ave W
Suite 190
Lynnwood, Washington 98036

Attn: Brian Peters



Authorized for release by:
12/17/2013 12:48:50 PM

Ryan Fitzwater, Senior Project Manager
(615)726-0177
ryan.fitzwater@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
SDG: SAP / 062027

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-40187-1	GW-062027-111113-RM-MW-1	Ground Water	11/11/13 10:24	11/12/13 08:30
490-40187-2	GW-062027-111113-RM-MW-2	Ground Water	11/11/13 09:39	11/12/13 08:30
490-40187-3	GW-062027-111113-RM-MW-3	Ground Water	11/11/13 11:10	11/12/13 08:30
490-40187-4	GW-062027-111113-RM-MW-4	Ground Water	11/11/13 11:51	11/12/13 08:30
490-40187-5	GW-062027-111113-RM-MW-5	Ground Water	11/11/13 12:29	11/12/13 08:30
490-40187-6	GW-062027-111113-RM-MW-6	Ground Water	11/11/13 13:06	11/12/13 08:30
490-40187-7	GW-062027-111113-RM-MW-7	Ground Water	11/11/13 13:39	11/12/13 08:30
490-40187-8	GW-062027-111113-RM-MW-8	Ground Water	11/11/13 14:19	11/12/13 08:30



Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
SDG: SAP / 062027

Job ID: 490-40187-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-40187-1

Comments

No additional comments.

Receipt

The samples were received on 11/12/2013 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.8° C, 2.0° C and 4.5° C.

Except:

The following samples were received at the laboratory without a sample collection time documented on the chain of custody: GW-062027-111113-RM-MW-5 (490-40187-5). Times taken from labels.

GC/MS VOA

Method(s) 8260B: The following volatiles sample(s) was diluted due to foaming at the time of purging during the original sample analysis: GW-062027-111113-RM-MW-4 (490-40187-4). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

GC Semi VOA

No analytical or quality issues were noted.

VOA Prep

No analytical or quality issues were noted.

Job ID: 490-40187-2

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-40187-2

Comments

No additional comments.

Receipt

The samples were received on 11/12/2013 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.8° C, 2.0° C and 4.5° C.

Except:

The following samples were received at the laboratory without a sample collection time documented on the chain of custody: GW-062027-111113-RM-MW-5 (490-40187-5). Times taken from labels.

GC VOA

Method(s) NWTPH-Gx: Insufficient sample volume was available to perform batch duplicate associated with batch 121669. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) NWTPH-Gx: The following samples were diluted due to the nature of the sample matrix: GW-062027-111113-RM-MW-1 (490-40187-1), GW-062027-111113-RM-MW-4 (490-40187-4), GW-062027-111113-RM-MW-6 (490-40187-6), GW-062027-111113-RM-MW-8 (490-40187-8). Elevated reporting limits (RLs) are provided.

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
SDG: SAP / 062027

Job ID: 490-40187-2 (Continued)

Laboratory: TestAmerica Nashville (Continued)

Method(s) NWTPH-Gx: Insufficient sample volume was available to perform batch duplicate associated with batch 122267. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) NWTPH-Dx: The following sample(s) contained a hydrocarbon pattern which does not match a typical Total Petroleum Hydrocarbon (TPH) pattern used by the laboratory for quantitative purposes: GW-062027-111113-RM-MW-4 (490-40187-4).

Method(s) NWTPH-Dx: There was insufficient contamination present to perform a pattern match for the following sample(s): (490-40187-1 DU), GW-062027-111113-RM-MW-1 (490-40187-1), GW-062027-111113-RM-MW-3 (490-40187-3), GW-062027-111113-RM-MW-5 (490-40187-5).

Method(s) NWTPH-Dx: The following sample(s) contained a hydrocarbon pattern that most closely resembles a Diesel Fuel #2 product used by the laboratory for quantitative purposes: GW-062027-111113-RM-MW-2 (490-40187-2), GW-062027-111113-RM-MW-6 (490-40187-6).

Method(s) NWTPH-Dx: The percent surrogate failed between the source and duplicate samples due to non-homogeneity of sample matrix.

Method(s) NWTPH-Dx: Surrogate recovery for the following sample(s) was outside control limits: GW-062027-111113-RM-MW-4 (490-40187-4). Re-extraction and/or re-analysis was performed with concurring results.

Method(s) NWTPH-Dx: Surrogate recovery for the following sample(s) was outside control limits: GW-062027-111113-RM-MW-7 (490-40187-7), GW-062027-111113-RM-MW-8 (490-40187-8). Re-extraction and/or re-analysis was performed with concurring results.

Method(s) NWTPH-Dx: The following sample(s) contained a hydrocarbon pattern which does not match a typical Total Petroleum Hydrocarbon (TPH) pattern used by the laboratory for quantitative purposes: GW-062027-111113-RM-MW-4 (490-40187-4).

Method(s) NWTPH-Dx: Re-extraction and/or re-analysis was performed with concurring results. The original analysis has been reported. GW-062027-111113-RM-MW-6 (490-40187-6).

Method(s) NWTPH-Dx: Re-extraction and/or re-analysis was performed with concurring results. The original analysis has been reported. GW-062027-111113-RM-MW-6 (490-40187-6).

Method(s) NWTPH-Dx: The following sample(s) contained a hydrocarbon pattern which does not match a typical Total Petroleum Hydrocarbon (TPH) pattern used by the laboratory for quantitative purposes: GW-062027-111113-RM-MW-4 (490-40187-4).

Method(s) NWTPH-Dx: Reanalysis of the following sample(s) was performed outside of the analytical holding time: (490-40187-3 DU), GW-062027-111113-RM-MW-2 (490-40187-2), GW-062027-111113-RM-MW-3 (490-40187-3), GW-062027-111113-RM-MW-4 (490-40187-4), GW-062027-111113-RM-MW-5 (490-40187-5). Original extraction contaminated. Re-extraction reported with qualification.

No other analytical or quality issues were noted.

Metals

No analytical or quality issues were noted.

Organic Prep

Method(s) 3510C: The following sample(s) formed emulsions during the extraction procedure: (490-40187-1 DU), GW-062027-111113-RM-MW-1 (490-40187-1), GW-062027-111113-RM-MW-2 (490-40187-2), GW-062027-111113-RM-MW-3 (490-40187-3), GW-062027-111113-RM-MW-4 (490-40187-4), GW-062027-111113-RM-MW-5 (490-40187-5), GW-062027-111113-RM-MW-6 (490-40187-6), GW-062027-111113-RM-MW-7 (490-40187-7), GW-062027-111113-RM-MW-8 (490-40187-8). The emulsions were broken up using centrifuge.

Method(s) 3510C: The following sample(s) formed emulsions during the extraction procedure: (490-40187-8 DU). The emulsions were

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
SDG: SAP / 062027

Job ID: 490-40187-2 (Continued)

Laboratory: TestAmerica Nashville (Continued)

broken up using pour backs.

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch __122375__.

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 125222.

No other analytical or quality issues were noted.

VOA Prep

No analytical or quality issues were noted.

Job ID: 490-40187-3

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-40187-3

Comments

No additional comments.

Receipt

The samples were received on 11/12/2013 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.8° C, 2.0° C and 4.5° C.

Except:

The following samples were received at the laboratory without a sample collection time documented on the chain of custody: GW-062027-111113-RM-MW-5 (490-40187-5). Times taken from labels.

GC Semi VOA

Method(s) NWTPH-Dx: There was insufficient contamination present to perform a pattern match for the following sample(s): (490-40187-1 DU), GW-062027-111113-RM-MW-1 (490-40187-1).

Method(s) NWTPH-Dx: The following sample(s) contained a hydrocarbon pattern which does not match a typical Total Petroleum Hydrocarbon (TPH) pattern used by the laboratory for quantitative purposes: GW-062027-111113-RM-MW-4 (490-40187-4).

Method(s) NWTPH-Dx: The following sample(s) contained a hydrocarbon pattern which does not match a typical Total Petroleum Hydrocarbon (TPH) pattern used by the laboratory for quantitative purposes: GW-062027-111113-RM-MW-6 (490-40187-6).

Method(s) NWTPH-Dx: Surrogate recovery for the following sample(s) was outside control limits: GW-062027-111113-RM-MW-6 (490-40187-6). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. The hydrocarbon results and pattern were confirmed by re-extraction and re-analysis.

Method(s) NWTPH-Dx: Surrogate recovery for the following sample(s) was outside control limits: GW-062027-111113-RM-MW-7 (490-40187-7), GW-062027-111113-RM-MW-8 (490-40187-8). Re-extraction and/or re-analysis was performed with concurring results.

Method(s) NWTPH-Dx: Surrogate recovery for the following sample(s) was outside control limits: GW-062027-111113-RM-MW-4 (490-40187-4). Re-extraction and/or re-analysis was performed with concurring results.

Method(s) NWTPH-Dx: Surrogate recovery for the following sample(s) was outside control limits: GW-062027-111113-RM-MW-1 (490-40187-1). Evidence of matrix interferences is not obvious. The hydrocarbon results have been confirmed by re-extraction and re-analysis.

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
SDG: SAP / 062027

Job ID: 490-40187-3 (Continued)

Laboratory: TestAmerica Nashville (Continued)

Method(s) NWTPH-Dx: There was insufficient contamination present to perform a pattern match for the following sample(s):
GW-062027-111113-RM-MW-1 (490-40187-1).

Method(s) NWTPH-Dx: Surrogate recovery for the following sample(s) was outside control limits: GW-062027-111113-RM-MW-4
(490-40187-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) NWTPH-Dx: The following sample(s) contained a hydrocarbon pattern which does not match a typical Total Petroleum
Hydrocarbon (TPH) pattern used by the laboratory for quantitative purposes: GW-062027-111113-RM-MW-4 (490-40187-4).

No other analytical or quality issues were noted.

Organic Prep

Method(s) 3510C: The following sample(s) formed emulsions during the extraction procedure: (490-40187-1 DU). The emulsions were
broken up using centrifuge.

Method(s) 3510C: The following sample(s) formed emulsions during the extraction procedure: (490-40187-8 DU),
GW-062027-111113-RM-MW-1 (490-40187-1), GW-062027-111113-RM-MW-2 (490-40187-2), GW-062027-111113-RM-MW-3
(490-40187-3), GW-062027-111113-RM-MW-4 (490-40187-4), GW-062027-111113-RM-MW-5 (490-40187-5),
GW-062027-111113-RM-MW-6 (490-40187-6), GW-062027-111113-RM-MW-7 (490-40187-7), GW-062027-111113-RM-MW-8
(490-40187-8). The emulsions were broken up using pour backs.

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with
batch 122375.

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with
batch 122939.

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with
batch 125222.

Method(s) 3510C: The following sample(s) formed emulsions during the extraction procedure: GW-062027-111113-RM-MW-4
(490-40187-4). The emulsions were broken up using the centrifuge.

No other analytical or quality issues were noted.

Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
SDG: SAP / 062027

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Client Sample ID: GW-062027-111113-RM-MW-1

Lab Sample ID: 490-40187-1

Date Collected: 11/11/13 10:24

Matrix: Ground Water

Date Received: 11/12/13 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			11/19/13 05:19	1
Benzene	ND		1.00		ug/L			11/19/13 05:19	1
Diisopropyl ether	ND		2.00		ug/L			11/19/13 05:19	1
Ethyl tert-butyl ether	ND		1.00		ug/L			11/19/13 05:19	1
Ethylbenzene	ND		1.00		ug/L			11/19/13 05:19	1
Methyl tert-butyl ether	ND		1.00		ug/L			11/19/13 05:19	1
Tert-amyl methyl ether	ND		1.00		ug/L			11/19/13 05:19	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			11/19/13 05:19	1
Toluene	ND		1.00		ug/L			11/19/13 05:19	1
Xylenes, Total	ND		2.00		ug/L			11/19/13 05:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		70 - 130		11/19/13 05:19	1
4-Bromofluorobenzene (Surr)	91		70 - 130		11/19/13 05:19	1
Dibromofluoromethane (Surr)	110		70 - 130		11/19/13 05:19	1
Toluene-d8 (Surr)	95		70 - 130		11/19/13 05:19	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		500		ug/L			11/15/13 22:05	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	82		50 - 150		11/15/13 22:05	5

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0100		ug/L		11/18/13 10:36	11/18/13 15:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	114		70 - 130	11/18/13 10:36	11/18/13 15:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	177		105		ug/L		11/15/13 14:57	11/17/13 04:17	1
C24-C40	ND		105		ug/L		11/15/13 14:57	11/17/13 04:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	36	X	50 - 150	11/15/13 14:57	11/17/13 04:17	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	178		100		ug/L		11/14/13 09:13	11/15/13 20:30	1
C24-C40	ND		100		ug/L		11/14/13 09:13	11/16/13 18:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	61		50 - 150	11/14/13 09:13	11/15/13 20:30	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00284		0.00200		mg/L		11/13/13 11:01	11/13/13 18:46	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Client Sample ID: GW-062027-111113-RM-MW-2

Lab Sample ID: 490-40187-2

Date Collected: 11/11/13 09:39

Matrix: Ground Water

Date Received: 11/12/13 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			11/19/13 05:47	1
Benzene	ND		1.00		ug/L			11/19/13 05:47	1
Diisopropyl ether	ND		2.00		ug/L			11/19/13 05:47	1
Ethyl tert-butyl ether	ND		1.00		ug/L			11/19/13 05:47	1
Ethylbenzene	ND		1.00		ug/L			11/19/13 05:47	1
Methyl tert-butyl ether	ND		1.00		ug/L			11/19/13 05:47	1
Tert-amyl methyl ether	ND		1.00		ug/L			11/19/13 05:47	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			11/19/13 05:47	1
Toluene	ND		1.00		ug/L			11/19/13 05:47	1
Xylenes, Total	ND		2.00		ug/L			11/19/13 05:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 130		11/19/13 05:47	1
4-Bromofluorobenzene (Surr)	92		70 - 130		11/19/13 05:47	1
Dibromofluoromethane (Surr)	110		70 - 130		11/19/13 05:47	1
Toluene-d8 (Surr)	98		70 - 130		11/19/13 05:47	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			11/15/13 20:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	83		50 - 150		11/15/13 20:01	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0100		ug/L		11/18/13 10:36	11/18/13 16:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	113		70 - 130	11/18/13 10:36	11/18/13 16:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		95.2		ug/L		11/15/13 14:57	11/17/13 04:32	1
C24-C40	ND		95.2		ug/L		11/15/13 14:57	11/17/13 04:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	63		50 - 150	11/15/13 14:57	11/17/13 04:32	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		95.2		ug/L		11/15/13 14:57	12/07/13 21:36	1
C24-C40	ND		95.2		ug/L		11/15/13 14:57	12/07/13 21:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	75		50 - 150	11/15/13 14:57	12/07/13 21:36	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		11/13/13 11:01	11/13/13 19:00	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Client Sample ID: GW-062027-111113-RM-MW-3

Lab Sample ID: 490-40187-3

Date Collected: 11/11/13 11:10

Matrix: Ground Water

Date Received: 11/12/13 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			11/19/13 06:16	1
Benzene	ND		1.00		ug/L			11/19/13 06:16	1
Diisopropyl ether	ND		2.00		ug/L			11/19/13 06:16	1
Ethyl tert-butyl ether	ND		1.00		ug/L			11/19/13 06:16	1
Ethylbenzene	ND		1.00		ug/L			11/19/13 06:16	1
Methyl tert-butyl ether	ND		1.00		ug/L			11/19/13 06:16	1
Tert-amyl methyl ether	ND		1.00		ug/L			11/19/13 06:16	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			11/19/13 06:16	1
Toluene	ND		1.00		ug/L			11/19/13 06:16	1
Xylenes, Total	ND		2.00		ug/L			11/19/13 06:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 130		11/19/13 06:16	1
4-Bromofluorobenzene (Surr)	92		70 - 130		11/19/13 06:16	1
Dibromofluoromethane (Surr)	112		70 - 130		11/19/13 06:16	1
Toluene-d8 (Surr)	95		70 - 130		11/19/13 06:16	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			11/15/13 20:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	82		50 - 150		11/15/13 20:32	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0100		ug/L		11/18/13 10:36	11/18/13 16:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	111		70 - 130	11/18/13 10:36	11/18/13 16:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.5		ug/L		11/15/13 14:57	11/17/13 04:48	1
C24-C40	ND		93.5		ug/L		11/15/13 14:57	11/17/13 04:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	67		50 - 150	11/15/13 14:57	11/17/13 04:48	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.5		ug/L		11/15/13 14:57	12/07/13 21:52	1
C24-C40	ND		93.5		ug/L		11/15/13 14:57	12/07/13 21:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	75		50 - 150	11/15/13 14:57	12/07/13 21:52	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0109		0.00200		mg/L		11/13/13 11:01	11/13/13 19:05	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Client Sample ID: GW-062027-111113-RM-MW-4

Lab Sample ID: 490-40187-4

Date Collected: 11/11/13 11:51

Matrix: Ground Water

Date Received: 11/12/13 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		10.0		ug/L			11/19/13 20:18	10
Benzene	ND		10.0		ug/L			11/19/13 20:18	10
Diisopropyl ether	ND		20.0		ug/L			11/19/13 20:18	10
Ethyl tert-butyl ether	ND		10.0		ug/L			11/19/13 20:18	10
Ethylbenzene	ND		10.0		ug/L			11/19/13 20:18	10
Methyl tert-butyl ether	ND		10.0		ug/L			11/19/13 20:18	10
Tert-amyl methyl ether	ND		10.0		ug/L			11/19/13 20:18	10
tert-Butyl alcohol (TBA)	ND		100		ug/L			11/19/13 20:18	10
Toluene	ND		10.0		ug/L			11/19/13 20:18	10
Xylenes, Total	ND		20.0		ug/L			11/19/13 20:18	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 130		11/19/13 20:18	10
4-Bromofluorobenzene (Surr)	89		70 - 130		11/19/13 20:18	10
Dibromofluoromethane (Surr)	109		70 - 130		11/19/13 20:18	10
Toluene-d8 (Surr)	94		70 - 130		11/19/13 20:18	10

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		1000		ug/L			11/15/13 23:37	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	83		50 - 150		11/15/13 23:37	10

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0100		ug/L		11/18/13 10:36	11/18/13 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	112		70 - 130	11/18/13 10:36	11/18/13 17:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	883		111		ug/L		11/15/13 14:57	11/17/13 05:04	1
C24-C40	565		111		ug/L		11/15/13 14:57	11/17/13 05:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	18	X	50 - 150	11/15/13 14:57	11/17/13 05:04	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	720		111		ug/L		11/15/13 14:57	12/07/13 22:07	1
C24-C40	302		111		ug/L		11/15/13 14:57	12/07/13 22:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	18	X	50 - 150	11/15/13 14:57	12/07/13 22:07	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00502		0.00200		mg/L		11/13/13 11:01	11/14/13 16:36	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Client Sample ID: GW-062027-111113-RM-MW-5

Lab Sample ID: 490-40187-5

Date Collected: 11/11/13 12:29

Matrix: Ground Water

Date Received: 11/12/13 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			11/19/13 07:11	1
Benzene	ND		1.00		ug/L			11/19/13 07:11	1
Diisopropyl ether	ND		2.00		ug/L			11/19/13 07:11	1
Ethyl tert-butyl ether	ND		1.00		ug/L			11/19/13 07:11	1
Ethylbenzene	ND		1.00		ug/L			11/19/13 07:11	1
Methyl tert-butyl ether	ND		1.00		ug/L			11/19/13 07:11	1
Tert-amyl methyl ether	ND		1.00		ug/L			11/19/13 07:11	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			11/19/13 07:11	1
Toluene	ND		1.00		ug/L			11/19/13 07:11	1
Xylenes, Total	ND		2.00		ug/L			11/19/13 07:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 130		11/19/13 07:11	1
4-Bromofluorobenzene (Surr)	92		70 - 130		11/19/13 07:11	1
Dibromofluoromethane (Surr)	100		70 - 130		11/19/13 07:11	1
Toluene-d8 (Surr)	91		70 - 130		11/19/13 07:11	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			11/15/13 21:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	84		50 - 150		11/15/13 21:03	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0100		ug/L		11/18/13 10:36	11/18/13 18:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	110		70 - 130	11/18/13 10:36	11/18/13 18:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		105		ug/L		11/15/13 14:57	11/17/13 05:19	1
C24-C40	ND		105		ug/L		11/15/13 14:57	11/17/13 05:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	62		50 - 150	11/15/13 14:57	11/17/13 05:19	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		105		ug/L		11/15/13 14:57	12/07/13 22:23	1
C24-C40	ND		105		ug/L		11/15/13 14:57	12/07/13 22:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	67		50 - 150	11/15/13 14:57	12/07/13 22:23	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		11/13/13 11:01	11/13/13 19:15	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Client Sample ID: GW-062027-111113-RM-MW-6

Lab Sample ID: 490-40187-6

Date Collected: 11/11/13 13:06

Matrix: Ground Water

Date Received: 11/12/13 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			11/19/13 07:39	1
Benzene	ND		1.00		ug/L			11/19/13 07:39	1
Diisopropyl ether	ND		2.00		ug/L			11/19/13 07:39	1
Ethyl tert-butyl ether	ND		1.00		ug/L			11/19/13 07:39	1
Ethylbenzene	ND		1.00		ug/L			11/19/13 07:39	1
Methyl tert-butyl ether	ND		1.00		ug/L			11/19/13 07:39	1
Tert-amyl methyl ether	ND		1.00		ug/L			11/19/13 07:39	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			11/19/13 07:39	1
Toluene	ND		1.00		ug/L			11/19/13 07:39	1
Xylenes, Total	ND		2.00		ug/L			11/19/13 07:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 130		11/19/13 07:39	1
4-Bromofluorobenzene (Surr)	92		70 - 130		11/19/13 07:39	1
Dibromofluoromethane (Surr)	108		70 - 130		11/19/13 07:39	1
Toluene-d8 (Surr)	91		70 - 130		11/19/13 07:39	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		500		ug/L			11/15/13 23:06	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	82		50 - 150		11/15/13 23:06	5

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0100		ug/L		11/18/13 10:36	11/18/13 18:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	107		70 - 130	11/18/13 10:36	11/18/13 18:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	758		111		ug/L		11/15/13 14:57	11/17/13 05:35	1
C24-C40	149		111		ug/L		11/15/13 14:57	11/17/13 05:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	45	X	50 - 150	11/15/13 14:57	11/17/13 05:35	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	841		95.2		ug/L		11/14/13 09:13	11/15/13 22:04	1
C24-C40	ND		95.2		ug/L		11/14/13 09:13	11/16/13 20:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	68		50 - 150	11/14/13 09:13	11/15/13 22:04	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		11/13/13 11:01	11/13/13 19:19	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Client Sample ID: GW-062027-111113-RM-MW-7

Lab Sample ID: 490-40187-7

Date Collected: 11/11/13 13:39

Matrix: Ground Water

Date Received: 11/12/13 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			11/19/13 08:07	1
Benzene	ND		1.00		ug/L			11/19/13 08:07	1
Diisopropyl ether	ND		2.00		ug/L			11/19/13 08:07	1
Ethyl tert-butyl ether	ND		1.00		ug/L			11/19/13 08:07	1
Ethylbenzene	ND		1.00		ug/L			11/19/13 08:07	1
Methyl tert-butyl ether	ND		1.00		ug/L			11/19/13 08:07	1
Tert-amyl methyl ether	ND		1.00		ug/L			11/19/13 08:07	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			11/19/13 08:07	1
Toluene	ND		1.00		ug/L			11/19/13 08:07	1
Xylenes, Total	ND		2.00		ug/L			11/19/13 08:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 130		11/19/13 08:07	1
4-Bromofluorobenzene (Surr)	90		70 - 130		11/19/13 08:07	1
Dibromofluoromethane (Surr)	108		70 - 130		11/19/13 08:07	1
Toluene-d8 (Surr)	93		70 - 130		11/19/13 08:07	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			11/15/13 21:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	80		50 - 150		11/15/13 21:34	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0100		ug/L		11/18/13 10:36	11/18/13 19:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	100		70 - 130	11/18/13 10:36	11/18/13 19:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		111		ug/L		11/15/13 14:57	11/17/13 05:51	1
C24-C40	ND		111		ug/L		11/15/13 14:57	11/17/13 05:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	37	X	50 - 150	11/15/13 14:57	11/17/13 05:51	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		100		ug/L		11/14/13 09:13	11/15/13 22:51	1
C24-C40	ND		100		ug/L		11/14/13 09:13	11/25/13 14:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	49	X	50 - 150	11/14/13 09:13	11/15/13 22:51	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		11/13/13 11:01	11/13/13 19:24	1

TestAmerica Nashville

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Client Sample ID: GW-062027-111113-RM-MW-8

Lab Sample ID: 490-40187-8

Date Collected: 11/11/13 14:19

Matrix: Ground Water

Date Received: 11/12/13 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			11/19/13 08:35	1
Benzene	ND		1.00		ug/L			11/19/13 08:35	1
Diisopropyl ether	ND		2.00		ug/L			11/19/13 08:35	1
Ethyl tert-butyl ether	ND		1.00		ug/L			11/19/13 08:35	1
Ethylbenzene	ND		1.00		ug/L			11/19/13 08:35	1
Methyl tert-butyl ether	ND		1.00		ug/L			11/19/13 08:35	1
Tert-amyl methyl ether	ND		1.00		ug/L			11/19/13 08:35	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			11/19/13 08:35	1
Toluene	ND		1.00		ug/L			11/19/13 08:35	1
Xylenes, Total	ND		2.00		ug/L			11/19/13 08:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 130		11/19/13 08:35	1
4-Bromofluorobenzene (Surr)	88		70 - 130		11/19/13 08:35	1
Dibromofluoromethane (Surr)	110		70 - 130		11/19/13 08:35	1
Toluene-d8 (Surr)	89		70 - 130		11/19/13 08:35	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		500		ug/L			11/15/13 22:36	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	83		50 - 150		11/15/13 22:36	5

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0100		ug/L		11/18/13 10:36	11/18/13 19:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	110		70 - 130	11/18/13 10:36	11/18/13 19:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		96.2		ug/L		11/15/13 14:57	11/17/13 06:07	1
C24-C40	ND		96.2		ug/L		11/15/13 14:57	11/17/13 06:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	29	X	50 - 150	11/15/13 14:57	11/17/13 06:07	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		100		ug/L		11/14/13 09:13	11/15/13 23:06	1
C24-C40	ND		100		ug/L		11/14/13 09:13	11/25/13 14:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	47	X	50 - 150	11/14/13 09:13	11/15/13 23:06	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00224		0.00200		mg/L		11/13/13 11:01	11/13/13 19:29	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 490-122865/7

Matrix: Water

Analysis Batch: 122865

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			11/19/13 01:08	1
Benzene	ND		1.00		ug/L			11/19/13 01:08	1
Diisopropyl ether	ND		2.00		ug/L			11/19/13 01:08	1
Ethyl tert-butyl ether	ND		1.00		ug/L			11/19/13 01:08	1
Ethylbenzene	ND		1.00		ug/L			11/19/13 01:08	1
Methyl tert-butyl ether	ND		1.00		ug/L			11/19/13 01:08	1
Tert-amyl methyl ether	ND		1.00		ug/L			11/19/13 01:08	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			11/19/13 01:08	1
Toluene	ND		1.00		ug/L			11/19/13 01:08	1
Xylenes, Total	ND		2.00		ug/L			11/19/13 01:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 130		11/19/13 01:08	1
4-Bromofluorobenzene (Surr)	89		70 - 130		11/19/13 01:08	1
Dibromofluoromethane (Surr)	109		70 - 130		11/19/13 01:08	1
Toluene-d8 (Surr)	96		70 - 130		11/19/13 01:08	1

Lab Sample ID: LCS 490-122865/3

Matrix: Water

Analysis Batch: 122865

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	50.0	56.47		ug/L		113	77 - 121
Benzene	50.0	51.64		ug/L		103	80 - 121
Diisopropyl ether	50.0	49.09		ug/L		98	61 - 142
Ethyl tert-butyl ether	50.0	47.73		ug/L		95	63 - 135
Ethylbenzene	50.0	56.65		ug/L		113	80 - 130
Methyl tert-butyl ether	50.0	50.91		ug/L		102	72 - 133
Tert-amyl methyl ether	50.0	44.97		ug/L		90	63 - 135
tert-Butyl alcohol (TBA)	500	382.6		ug/L		77	54 - 150
Toluene	50.0	52.11		ug/L		104	80 - 126
Xylenes, Total	100	114.4		ug/L		114	80 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		70 - 130
4-Bromofluorobenzene (Surr)	90		70 - 130
Dibromofluoromethane (Surr)	108		70 - 130
Toluene-d8 (Surr)	92		70 - 130

Lab Sample ID: LCSD 490-122865/4

Matrix: Water

Analysis Batch: 122865

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane	50.0	56.68		ug/L		113	77 - 121	0	17
Benzene	50.0	51.09		ug/L		102	80 - 121	1	17
Diisopropyl ether	50.0	49.53		ug/L		99	61 - 142	1	50

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 490-122865/4

Matrix: Water

Analysis Batch: 122865

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
							RPD	Limit		
Ethyl tert-butyl ether	50.0	48.32		ug/L		97	63 - 135	1	19	
Ethylbenzene	50.0	56.38		ug/L		113	80 - 130	0	15	
Methyl tert-butyl ether	50.0	51.29		ug/L		103	72 - 133	1	16	
Tert-amyl methyl ether	50.0	45.41		ug/L		91	63 - 135	1	15	
tert-Butyl alcohol (TBA)	500	392.4		ug/L		78	54 - 150	3	32	
Toluene	50.0	53.72		ug/L		107	80 - 126	3	15	
Xylenes, Total	100	111.9		ug/L		112	80 - 132	2	15	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	108		70 - 130
4-Bromofluorobenzene (Surr)	90		70 - 130
Dibromofluoromethane (Surr)	110		70 - 130
Toluene-d8 (Surr)	96		70 - 130

Lab Sample ID: 490-40187-2 MS

Matrix: Ground Water

Analysis Batch: 122865

Client Sample ID: GW-062027-111113-RM-MW-2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec. Limits	
				Result	Qualifier				RPD	Limit
1,2-Dichloroethane	ND		50.0	51.31		ug/L		103	64 - 136	
Benzene	ND		50.0	47.05		ug/L		94	75 - 133	
Diisopropyl ether	ND		50.0	45.22		ug/L		90	10 - 200	
Ethyl tert-butyl ether	ND		50.0	43.20		ug/L		86	60 - 138	
Ethylbenzene	ND		50.0	51.89		ug/L		104	79 - 139	
Methyl tert-butyl ether	ND		50.0	44.80		ug/L		90	66 - 141	
Tert-amyl methyl ether	ND		50.0	40.39		ug/L		81	61 - 138	
tert-Butyl alcohol (TBA)	ND		500	372.4		ug/L		74	50 - 183	
Toluene	ND		50.0	46.84		ug/L		94	75 - 136	
Xylenes, Total	ND		100	103.0		ug/L		103	74 - 141	

Surrogate	MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	105		70 - 130
4-Bromofluorobenzene (Surr)	92		70 - 130
Dibromofluoromethane (Surr)	109		70 - 130
Toluene-d8 (Surr)	89		70 - 130

Lab Sample ID: 490-40187-2 MSD

Matrix: Ground Water

Analysis Batch: 122865

Client Sample ID: GW-062027-111113-RM-MW-2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec. Limits		RPD	
				Result	Qualifier				RPD	Limit		
1,2-Dichloroethane	ND		50.0	49.78		ug/L		100	64 - 136	3	17	
Benzene	ND		50.0	42.34		ug/L		85	75 - 133	11	17	
Diisopropyl ether	ND		50.0	43.99		ug/L		88	10 - 200	3	50	
Ethyl tert-butyl ether	ND		50.0	44.28		ug/L		89	60 - 138	2	19	
Ethylbenzene	ND		50.0	46.56		ug/L		93	79 - 139	11	15	
Methyl tert-butyl ether	ND		50.0	47.21		ug/L		94	66 - 141	5	16	
Tert-amyl methyl ether	ND		50.0	42.21		ug/L		84	61 - 138	4	15	

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 490-40187-2 MSD

Client Sample ID: GW-062027-111113-RM-MW-2

Matrix: Ground Water

Prep Type: Total/NA

Analysis Batch: 122865

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
tert-Butyl alcohol (TBA)	ND		500	441.5		ug/L		88	50 - 183	17	32
Toluene	ND		50.0	43.18		ug/L		86	75 - 136	8	15
Xylenes, Total	ND		100	92.87		ug/L		93	74 - 141	10	15

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	108		70 - 130
4-Bromofluorobenzene (Surr)	92		70 - 130
Dibromofluoromethane (Surr)	107		70 - 130
Toluene-d8 (Surr)	92		70 - 130

Lab Sample ID: MB 490-122985/7

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 122985

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dichloroethane	ND		1.00		ug/L			11/19/13 13:46	1
Benzene	ND		1.00		ug/L			11/19/13 13:46	1
Diisopropyl ether	ND		2.00		ug/L			11/19/13 13:46	1
Ethyl tert-butyl ether	ND		1.00		ug/L			11/19/13 13:46	1
Ethylbenzene	ND		1.00		ug/L			11/19/13 13:46	1
Methyl tert-butyl ether	ND		1.00		ug/L			11/19/13 13:46	1
Tert-amyl methyl ether	ND		1.00		ug/L			11/19/13 13:46	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			11/19/13 13:46	1
Toluene	ND		1.00		ug/L			11/19/13 13:46	1
Xylenes, Total	ND		2.00		ug/L			11/19/13 13:46	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	114		70 - 130		11/19/13 13:46	1
4-Bromofluorobenzene (Surr)	88		70 - 130		11/19/13 13:46	1
Dibromofluoromethane (Surr)	109		70 - 130		11/19/13 13:46	1
Toluene-d8 (Surr)	95		70 - 130		11/19/13 13:46	1

Lab Sample ID: LCS 490-122985/3

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 122985

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
1,2-Dichloroethane	50.0	53.56		ug/L		107	77 - 121
Benzene	50.0	47.59		ug/L		95	80 - 121
Diisopropyl ether	50.0	46.19		ug/L		92	61 - 142
Ethyl tert-butyl ether	50.0	46.26		ug/L		93	63 - 135
Ethylbenzene	50.0	51.48		ug/L		103	80 - 130
Methyl tert-butyl ether	50.0	48.83		ug/L		98	72 - 133
Tert-amyl methyl ether	50.0	43.99		ug/L		88	63 - 135
tert-Butyl alcohol (TBA)	500	408.5		ug/L		82	54 - 150
Toluene	50.0	50.21		ug/L		100	80 - 126
Xylenes, Total	100	102.8		ug/L		103	80 - 132

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-122985/3

Matrix: Water

Analysis Batch: 122985

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	107		70 - 130
4-Bromofluorobenzene (Surr)	92		70 - 130
Dibromofluoromethane (Surr)	108		70 - 130
Toluene-d8 (Surr)	96		70 - 130

Lab Sample ID: LCSD 490-122985/4

Matrix: Water

Analysis Batch: 122985

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
1,2-Dichloroethane	50.0	51.65		ug/L		103	77 - 121	4	17	
Benzene	50.0	44.94		ug/L		90	80 - 121	6	17	
Diisopropyl ether	50.0	44.99		ug/L		90	61 - 142	3	50	
Ethyl tert-butyl ether	50.0	45.50		ug/L		91	63 - 135	2	19	
Ethylbenzene	50.0	48.67		ug/L		97	80 - 130	6	15	
Methyl tert-butyl ether	50.0	48.19		ug/L		96	72 - 133	1	16	
Tert-amyl methyl ether	50.0	43.02		ug/L		86	63 - 135	2	15	
tert-Butyl alcohol (TBA)	500	402.9		ug/L		81	54 - 150	1	32	
Toluene	50.0	46.09		ug/L		92	80 - 126	9	15	
Xylenes, Total	100	97.49		ug/L		97	80 - 132	5	15	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	105		70 - 130
4-Bromofluorobenzene (Surr)	93		70 - 130
Dibromofluoromethane (Surr)	105		70 - 130
Toluene-d8 (Surr)	94		70 - 130

Lab Sample ID: 490-40292-C-2 MS

Matrix: Water

Analysis Batch: 122985

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec.	
				Result	Qualifier				Limits	RPD
1,2-Dichloroethane	ND		50.0	56.38		ug/L		113	64 - 136	
Benzene	ND		50.0	52.59		ug/L		105	75 - 133	
Diisopropyl ether	ND		50.0	49.96		ug/L		100	10 - 200	
Ethyl tert-butyl ether	ND		50.0	49.29		ug/L		99	60 - 138	
Ethylbenzene	ND		50.0	56.19		ug/L		112	79 - 139	
Methyl tert-butyl ether	290		50.0	351.9	E 4	ug/L		123	66 - 141	
Tert-amyl methyl ether	ND		50.0	46.42		ug/L		93	61 - 138	
tert-Butyl alcohol (TBA)	4090		500	4774	E 4	ug/L		136	50 - 183	
Toluene	ND		50.0	53.25		ug/L		107	75 - 136	
Xylenes, Total	ND		100	111.3		ug/L		111	74 - 141	

Surrogate	MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	108		70 - 130
4-Bromofluorobenzene (Surr)	91		70 - 130
Dibromofluoromethane (Surr)	109		70 - 130

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 490-40292-C-2 MS

Matrix: Water

Analysis Batch: 122985

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	95		70 - 130

Lab Sample ID: 490-40292-D-2 MSD

Matrix: Water

Analysis Batch: 122985

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec.		RPD	Limit
				Result	Qualifier				Limits	RPD		
1,2-Dichloroethane	ND		50.0	53.33		ug/L		107	64 - 136	6	17	
Benzene	ND		50.0	51.59		ug/L		103	75 - 133	2	17	
Diisopropyl ether	ND		50.0	48.76		ug/L		98	10 - 200	2	50	
Ethyl tert-butyl ether	ND		50.0	47.81		ug/L		96	60 - 138	3	19	
Ethylbenzene	ND		50.0	55.98		ug/L		112	79 - 139	0	15	
Methyl tert-butyl ether	290		50.0	338.2	E 4	ug/L		96	66 - 141	4	16	
Tert-amyl methyl ether	ND		50.0	44.80		ug/L		90	61 - 138	4	15	
tert-Butyl alcohol (TBA)	4090		500	4684	E 4	ug/L		118	50 - 183	2	32	
Toluene	ND		50.0	53.20		ug/L		106	75 - 136	0	15	
Xylenes, Total	ND		100	110.1		ug/L		110	74 - 141	1	15	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	103		70 - 130
4-Bromofluorobenzene (Surr)	93		70 - 130
Dibromofluoromethane (Surr)	106		70 - 130
Toluene-d8 (Surr)	95		70 - 130

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 490-122267/8

Matrix: Water

Analysis Batch: 122267

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C6-C12	ND		100		ug/L			11/15/13 12:49	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene	88		50 - 150		11/15/13 12:49	1

Lab Sample ID: LCS 490-122267/5

Matrix: Water

Analysis Batch: 122267

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	RPD
C6-C12	1000	1071		ug/L		107	39 - 143	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene	123		50 - 150

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 490-122267/27
Matrix: Water
Analysis Batch: 122267

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12	1000	1024		ug/L		102	39 - 143	4	18
Surrogate		%Recovery	Qualifier						Limits
a,a,a-Trifluorotoluene		129							50 - 150

Method: 8011 - EDB and DBCP in Water by Microextraction

Lab Sample ID: MB 580-149445/1-A
Matrix: Water
Analysis Batch: 149446

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 149445

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0100		ug/L		11/18/13 10:36	11/18/13 12:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	121		70 - 130				11/18/13 10:36	11/18/13 12:44	1

Lab Sample ID: LCS 580-149445/2-A
Matrix: Water
Analysis Batch: 149446

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 149445

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide	0.0573	0.06394		ug/L		112	70 - 130
Surrogate		%Recovery	Qualifier				Limits
1,2-Dibromopropane		118					70 - 130

Lab Sample ID: LCSD 580-149445/3-A
Matrix: Water
Analysis Batch: 149446

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 149445

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene Dibromide	0.0573	0.06222		ug/L		109	70 - 130	3	20
Surrogate		%Recovery	Qualifier				Limits		
1,2-Dibromopropane		120					70 - 130		

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

Lab Sample ID: MB 490-122375/1-A
Matrix: Water
Analysis Batch: 122561

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 122375

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		100		ug/L		11/15/13 14:57	11/17/13 03:45	1
C24-C40	ND		100		ug/L		11/15/13 14:57	11/17/13 03:45	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 490-122375/1-A
Matrix: Water
Analysis Batch: 122561

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 122375

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	65		50 - 150	11/15/13 14:57	11/17/13 03:45	1

Lab Sample ID: LCS 490-122375/2-A
Matrix: Water
Analysis Batch: 122561

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 122375

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C24	1000	703.5		ug/L		70	51 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	78		50 - 150

Lab Sample ID: 490-40187-8 DU
Matrix: Ground Water
Analysis Batch: 122561

Client Sample ID: GW-062027-111113-RM-MW-8
Prep Type: Total/NA
Prep Batch: 122375

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
C10-C24	ND		ND		ug/L		26	41
C24-C40	ND		ND		ug/L		NC	41

Surrogate	DU %Recovery	DU Qualifier	Limits
<i>o</i> -Terphenyl	12	X	50 - 150

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Lab Sample ID: MB 490-121841/1-A
Matrix: Water
Analysis Batch: 122379

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 121841

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		100		ug/L		11/14/13 09:13	11/15/13 17:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	68		50 - 150	11/14/13 09:13	11/15/13 17:06	1

Lab Sample ID: MB 490-121841/1-A
Matrix: Water
Analysis Batch: 122561

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 121841

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C24-C40	ND		100		ug/L		11/14/13 09:13	11/16/13 15:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	76		50 - 150	11/14/13 09:13	11/16/13 15:12	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 490-121565/2-A
Matrix: Water
Analysis Batch: 121830

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 121565

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.100	0.1026		mg/L		103	80 - 120

Lab Sample ID: LCSD 490-121565/3-A
Matrix: Water
Analysis Batch: 121830

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 121565

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	0.100	0.1063		mg/L		106	80 - 120	4	20

Lab Sample ID: 490-39890-I-1-B MS
Matrix: Water
Analysis Batch: 121830

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 121565

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		0.100	0.1043		mg/L		104	75 - 125

Lab Sample ID: 490-39890-I-1-C MSD
Matrix: Water
Analysis Batch: 121830

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 121565

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND		0.100	0.1026		mg/L		103	75 - 125	2	20

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
SDG: SAP / 062027

GC/MS VOA

Analysis Batch: 122865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-40187-1	GW-062027-111113-RM-MW-1	Total/NA	Ground Water	8260B	
490-40187-2	GW-062027-111113-RM-MW-2	Total/NA	Ground Water	8260B	
490-40187-2 MS	GW-062027-111113-RM-MW-2	Total/NA	Ground Water	8260B	
490-40187-2 MSD	GW-062027-111113-RM-MW-2	Total/NA	Ground Water	8260B	
490-40187-3	GW-062027-111113-RM-MW-3	Total/NA	Ground Water	8260B	
490-40187-5	GW-062027-111113-RM-MW-5	Total/NA	Ground Water	8260B	
490-40187-6	GW-062027-111113-RM-MW-6	Total/NA	Ground Water	8260B	
490-40187-7	GW-062027-111113-RM-MW-7	Total/NA	Ground Water	8260B	
490-40187-8	GW-062027-111113-RM-MW-8	Total/NA	Ground Water	8260B	
LCS 490-122865/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 490-122865/4	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 490-122865/7	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 122985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-40187-4	GW-062027-111113-RM-MW-4	Total/NA	Ground Water	8260B	
490-40292-C-2 MS	Matrix Spike	Total/NA	Water	8260B	
490-40292-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
LCS 490-122985/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 490-122985/4	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 490-122985/7	Method Blank	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 122267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-40187-1	GW-062027-111113-RM-MW-1	Total/NA	Ground Water	NWTPH-Gx	
490-40187-2	GW-062027-111113-RM-MW-2	Total/NA	Ground Water	NWTPH-Gx	
490-40187-3	GW-062027-111113-RM-MW-3	Total/NA	Ground Water	NWTPH-Gx	
490-40187-4	GW-062027-111113-RM-MW-4	Total/NA	Ground Water	NWTPH-Gx	
490-40187-5	GW-062027-111113-RM-MW-5	Total/NA	Ground Water	NWTPH-Gx	
490-40187-6	GW-062027-111113-RM-MW-6	Total/NA	Ground Water	NWTPH-Gx	
490-40187-7	GW-062027-111113-RM-MW-7	Total/NA	Ground Water	NWTPH-Gx	
490-40187-8	GW-062027-111113-RM-MW-8	Total/NA	Ground Water	NWTPH-Gx	
LCS 490-122267/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 490-122267/27	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
MB 490-122267/8	Method Blank	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 121841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-40187-1	GW-062027-111113-RM-MW-1	Total/NA	Ground Water	3510C	
490-40187-1 DU	GW-062027-111113-RM-MW-1	Total/NA	Ground Water	3510C	
490-40187-6	GW-062027-111113-RM-MW-6	Total/NA	Ground Water	3510C	
490-40187-7	GW-062027-111113-RM-MW-7	Total/NA	Ground Water	3510C	
490-40187-8	GW-062027-111113-RM-MW-8	Total/NA	Ground Water	3510C	
LCS 490-121841/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 490-121841/1-A	Method Blank	Total/NA	Water	3510C	

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

GC Semi VOA (Continued)

Prep Batch: 122375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-40187-1	GW-062027-111113-RM-MW-1	Total/NA	Ground Water	3510C	
490-40187-2	GW-062027-111113-RM-MW-2	Total/NA	Ground Water	3510C	
490-40187-3	GW-062027-111113-RM-MW-3	Total/NA	Ground Water	3510C	
490-40187-4	GW-062027-111113-RM-MW-4	Total/NA	Ground Water	3510C	
490-40187-5	GW-062027-111113-RM-MW-5	Total/NA	Ground Water	3510C	
490-40187-6	GW-062027-111113-RM-MW-6	Total/NA	Ground Water	3510C	
490-40187-7	GW-062027-111113-RM-MW-7	Total/NA	Ground Water	3510C	
490-40187-8	GW-062027-111113-RM-MW-8	Total/NA	Ground Water	3510C	
490-40187-8 DU	GW-062027-111113-RM-MW-8	Total/NA	Ground Water	3510C	
LCS 490-122375/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 490-122375/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 122379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-40187-1	GW-062027-111113-RM-MW-1	Total/NA	Ground Water	NWTPH-Dx	121841
490-40187-1 DU	GW-062027-111113-RM-MW-1	Total/NA	Ground Water	NWTPH-Dx	121841
490-40187-6	GW-062027-111113-RM-MW-6	Total/NA	Ground Water	NWTPH-Dx	121841
490-40187-7	GW-062027-111113-RM-MW-7	Total/NA	Ground Water	NWTPH-Dx	121841
490-40187-8	GW-062027-111113-RM-MW-8	Total/NA	Ground Water	NWTPH-Dx	121841
LCS 490-121841/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	121841
MB 490-121841/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	121841

Analysis Batch: 122561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-40187-1	GW-062027-111113-RM-MW-1	Total/NA	Ground Water	NWTPH-Dx	121841
490-40187-1	GW-062027-111113-RM-MW-1	Total/NA	Ground Water	NWTPH-Dx	122375
490-40187-1 DU	GW-062027-111113-RM-MW-1	Total/NA	Ground Water	NWTPH-Dx	121841
490-40187-2	GW-062027-111113-RM-MW-2	Total/NA	Ground Water	NWTPH-Dx	122375
490-40187-3	GW-062027-111113-RM-MW-3	Total/NA	Ground Water	NWTPH-Dx	122375
490-40187-4	GW-062027-111113-RM-MW-4	Total/NA	Ground Water	NWTPH-Dx	122375
490-40187-5	GW-062027-111113-RM-MW-5	Total/NA	Ground Water	NWTPH-Dx	122375
490-40187-6	GW-062027-111113-RM-MW-6	Total/NA	Ground Water	NWTPH-Dx	121841
490-40187-6	GW-062027-111113-RM-MW-6	Total/NA	Ground Water	NWTPH-Dx	122375
490-40187-7	GW-062027-111113-RM-MW-7	Total/NA	Ground Water	NWTPH-Dx	122375
490-40187-8	GW-062027-111113-RM-MW-8	Total/NA	Ground Water	NWTPH-Dx	122375
490-40187-8 DU	GW-062027-111113-RM-MW-8	Total/NA	Ground Water	NWTPH-Dx	122375
LCS 490-122375/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	122375
MB 490-121841/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	121841
MB 490-122375/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	122375

Analysis Batch: 122839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 490-121841/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	121841

Analysis Batch: 124425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-40187-7	GW-062027-111113-RM-MW-7	Total/NA	Ground Water	NWTPH-Dx	121841
490-40187-8	GW-062027-111113-RM-MW-8	Total/NA	Ground Water	NWTPH-Dx	121841

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

GC Semi VOA (Continued)

Analysis Batch: 127307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-40187-2	GW-062027-111113-RM-MW-2	Total/NA	Ground Water	NWTPH-Dx	122375
490-40187-3	GW-062027-111113-RM-MW-3	Total/NA	Ground Water	NWTPH-Dx	122375
490-40187-4	GW-062027-111113-RM-MW-4	Total/NA	Ground Water	NWTPH-Dx	122375
490-40187-5	GW-062027-111113-RM-MW-5	Total/NA	Ground Water	NWTPH-Dx	122375

Prep Batch: 149445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-40187-1	GW-062027-111113-RM-MW-1	Total/NA	Ground Water	8011	
490-40187-2	GW-062027-111113-RM-MW-2	Total/NA	Ground Water	8011	
490-40187-3	GW-062027-111113-RM-MW-3	Total/NA	Ground Water	8011	
490-40187-4	GW-062027-111113-RM-MW-4	Total/NA	Ground Water	8011	
490-40187-5	GW-062027-111113-RM-MW-5	Total/NA	Ground Water	8011	
490-40187-6	GW-062027-111113-RM-MW-6	Total/NA	Ground Water	8011	
490-40187-7	GW-062027-111113-RM-MW-7	Total/NA	Ground Water	8011	
490-40187-8	GW-062027-111113-RM-MW-8	Total/NA	Ground Water	8011	
LCS 580-149445/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 580-149445/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
MB 580-149445/1-A	Method Blank	Total/NA	Water	8011	

Analysis Batch: 149446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-40187-1	GW-062027-111113-RM-MW-1	Total/NA	Ground Water	8011	149445
490-40187-2	GW-062027-111113-RM-MW-2	Total/NA	Ground Water	8011	149445
490-40187-3	GW-062027-111113-RM-MW-3	Total/NA	Ground Water	8011	149445
490-40187-4	GW-062027-111113-RM-MW-4	Total/NA	Ground Water	8011	149445
490-40187-5	GW-062027-111113-RM-MW-5	Total/NA	Ground Water	8011	149445
490-40187-6	GW-062027-111113-RM-MW-6	Total/NA	Ground Water	8011	149445
490-40187-7	GW-062027-111113-RM-MW-7	Total/NA	Ground Water	8011	149445
490-40187-8	GW-062027-111113-RM-MW-8	Total/NA	Ground Water	8011	149445
LCS 580-149445/2-A	Lab Control Sample	Total/NA	Water	8011	149445
LCSD 580-149445/3-A	Lab Control Sample Dup	Total/NA	Water	8011	149445
MB 580-149445/1-A	Method Blank	Total/NA	Water	8011	149445

Metals

Prep Batch: 121565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-39890-I-1-B MS	Matrix Spike	Total/NA	Water	3010A	
490-39890-I-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	
490-40187-1	GW-062027-111113-RM-MW-1	Total/NA	Ground Water	3010A	
490-40187-2	GW-062027-111113-RM-MW-2	Total/NA	Ground Water	3010A	
490-40187-3	GW-062027-111113-RM-MW-3	Total/NA	Ground Water	3010A	
490-40187-4	GW-062027-111113-RM-MW-4	Total/NA	Ground Water	3010A	
490-40187-5	GW-062027-111113-RM-MW-5	Total/NA	Ground Water	3010A	
490-40187-6	GW-062027-111113-RM-MW-6	Total/NA	Ground Water	3010A	
490-40187-7	GW-062027-111113-RM-MW-7	Total/NA	Ground Water	3010A	
490-40187-8	GW-062027-111113-RM-MW-8	Total/NA	Ground Water	3010A	
LCS 490-121565/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 490-121565/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
MB 490-121565/1-A	Method Blank	Total/NA	Water	3010A	

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
SDG: SAP / 062027

Metals (Continued)

Analysis Batch: 121830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-39890-I-1-B MS	Matrix Spike	Total/NA	Water	6020	121565
490-39890-I-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	6020	121565
490-40187-1	GW-062027-111113-RM-MW-1	Total/NA	Ground Water	6020	121565
490-40187-2	GW-062027-111113-RM-MW-2	Total/NA	Ground Water	6020	121565
490-40187-3	GW-062027-111113-RM-MW-3	Total/NA	Ground Water	6020	121565
490-40187-5	GW-062027-111113-RM-MW-5	Total/NA	Ground Water	6020	121565
490-40187-6	GW-062027-111113-RM-MW-6	Total/NA	Ground Water	6020	121565
490-40187-7	GW-062027-111113-RM-MW-7	Total/NA	Ground Water	6020	121565
490-40187-8	GW-062027-111113-RM-MW-8	Total/NA	Ground Water	6020	121565
LCS 490-121565/2-A	Lab Control Sample	Total/NA	Water	6020	121565
LCSD 490-121565/3-A	Lab Control Sample Dup	Total/NA	Water	6020	121565
MB 490-121565/1-A	Method Blank	Total/NA	Water	6020	121565

Analysis Batch: 122090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-40187-4	GW-062027-111113-RM-MW-4	Total/NA	Ground Water	6020	121565

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Client Sample ID: GW-062027-111113-RM-MW-1

Lab Sample ID: 490-40187-1

Date Collected: 11/11/13 10:24

Matrix: Ground Water

Date Received: 11/12/13 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	122865	11/19/13 05:19	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		5	5 mL	5 mL	122267	11/15/13 22:05	KML	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			122379	11/15/13 20:30	JML	TAL NSH
Total/NA	Prep	3510C			1000 mL	1 mL	121841	11/14/13 09:13	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			122561	11/16/13 18:36	GMH	TAL NSH
Total/NA	Prep	3510C			950 mL	1 mL	122375	11/15/13 14:57	MAH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			122561	11/17/13 04:17	GMH	TAL NSH
Total/NA	Prep	8011			35 mL	2 mL	149445	11/18/13 10:36	SGH	TAL SEA
Total/NA	Analysis	8011		1			149446	11/18/13 15:43	SGH	TAL SEA
Total/NA	Prep	3010A			50 mL	50 mL	121565	11/13/13 11:01	NLI	TAL NSH
Total/NA	Analysis	6020		1			121830	11/13/13 18:46	BWW	TAL NSH

Client Sample ID: GW-062027-111113-RM-MW-2

Lab Sample ID: 490-40187-2

Date Collected: 11/11/13 09:39

Matrix: Ground Water

Date Received: 11/12/13 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	122865	11/19/13 05:47	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	122267	11/15/13 20:01	KML	TAL NSH
Total/NA	Prep	3510C			1050 mL	1 mL	122375	11/15/13 14:57	MAH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			122561	11/17/13 04:32	GMH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			127307	12/07/13 21:36	GMH	TAL NSH
Total/NA	Prep	8011			35 mL	2 mL	149445	11/18/13 10:36	SGH	TAL SEA
Total/NA	Analysis	8011		1			149446	11/18/13 16:09	SGH	TAL SEA
Total/NA	Prep	3010A			50 mL	50 mL	121565	11/13/13 11:01	NLI	TAL NSH
Total/NA	Analysis	6020		1			121830	11/13/13 19:00	BWW	TAL NSH

Client Sample ID: GW-062027-111113-RM-MW-3

Lab Sample ID: 490-40187-3

Date Collected: 11/11/13 11:10

Matrix: Ground Water

Date Received: 11/12/13 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	122865	11/19/13 06:16	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	122267	11/15/13 20:32	KML	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	122375	11/15/13 14:57	MAH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			122561	11/17/13 04:48	GMH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			127307	12/07/13 21:52	GMH	TAL NSH
Total/NA	Prep	8011			35 mL	2 mL	149445	11/18/13 10:36	SGH	TAL SEA
Total/NA	Analysis	8011		1			149446	11/18/13 16:34	SGH	TAL SEA
Total/NA	Prep	3010A			50 mL	50 mL	121565	11/13/13 11:01	NLI	TAL NSH
Total/NA	Analysis	6020		1			121830	11/13/13 19:05	BWW	TAL NSH

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Client Sample ID: GW-062027-111113-RM-MW-4

Lab Sample ID: 490-40187-4

Date Collected: 11/11/13 11:51

Matrix: Ground Water

Date Received: 11/12/13 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	10 mL	10 mL	122985	11/19/13 20:18	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		10	5 mL	5 mL	122267	11/15/13 23:37	KML	TAL NSH
Total/NA	Prep	3510C			900 mL	1 mL	122375	11/15/13 14:57	MAH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			122561	11/17/13 05:04	GMH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			127307	12/07/13 22:07	GMH	TAL NSH
Total/NA	Prep	8011			35 mL	2 mL	149445	11/18/13 10:36	SGH	TAL SEA
Total/NA	Analysis	8011		1			149446	11/18/13 17:51	SGH	TAL SEA
Total/NA	Prep	3010A			50 mL	50 mL	121565	11/13/13 11:01	NLI	TAL NSH
Total/NA	Analysis	6020		1			122090	11/14/13 16:36	BWW	TAL NSH

Client Sample ID: GW-062027-111113-RM-MW-5

Lab Sample ID: 490-40187-5

Date Collected: 11/11/13 12:29

Matrix: Ground Water

Date Received: 11/12/13 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	122865	11/19/13 07:11	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	122267	11/15/13 21:03	KML	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			122561	11/17/13 05:19	GMH	TAL NSH
Total/NA	Prep	3510C			950 mL	1 mL	122375	11/15/13 14:57	MAH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			127307	12/07/13 22:23	GMH	TAL NSH
Total/NA	Prep	8011			35 mL	2 mL	149445	11/18/13 10:36	SGH	TAL SEA
Total/NA	Analysis	8011		1			149446	11/18/13 18:17	SGH	TAL SEA
Total/NA	Prep	3010A			50 mL	50 mL	121565	11/13/13 11:01	NLI	TAL NSH
Total/NA	Analysis	6020		1			121830	11/13/13 19:15	BWW	TAL NSH

Client Sample ID: GW-062027-111113-RM-MW-6

Lab Sample ID: 490-40187-6

Date Collected: 11/11/13 13:06

Matrix: Ground Water

Date Received: 11/12/13 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	122865	11/19/13 07:39	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		5	5 mL	5 mL	122267	11/15/13 23:06	KML	TAL NSH
Total/NA	Prep	3510C			1050 mL	1 mL	121841	11/14/13 09:13	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			122379	11/15/13 22:04	JML	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			122561	11/16/13 20:10	GMH	TAL NSH
Total/NA	Prep	3510C			900 mL	1 mL	122375	11/15/13 14:57	MAH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			122561	11/17/13 05:35	GMH	TAL NSH
Total/NA	Prep	8011			35 mL	2 mL	149445	11/18/13 10:36	SGH	TAL SEA
Total/NA	Analysis	8011		1			149446	11/18/13 18:42	SGH	TAL SEA
Total/NA	Prep	3010A			50 mL	50 mL	121565	11/13/13 11:01	NLI	TAL NSH
Total/NA	Analysis	6020		1			121830	11/13/13 19:19	BWW	TAL NSH

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
 SDG: SAP / 062027

Client Sample ID: GW-062027-111113-RM-MW-7

Lab Sample ID: 490-40187-7

Date Collected: 11/11/13 13:39

Matrix: Ground Water

Date Received: 11/12/13 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	122865	11/19/13 08:07	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	122267	11/15/13 21:34	KML	TAL NSH
Total/NA	Prep	3510C			1000 mL	1 mL	121841	11/14/13 09:13	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			122379	11/15/13 22:51	JML	TAL NSH
Total/NA	Prep	3510C			900 mL	1 mL	122375	11/15/13 14:57	MAH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			122561	11/17/13 05:51	GMH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			124425	11/25/13 14:43	KKH	TAL NSH
Total/NA	Prep	8011			35 mL	2 mL	149445	11/18/13 10:36	SGH	TAL SEA
Total/NA	Analysis	8011		1			149446	11/18/13 19:08	SGH	TAL SEA
Total/NA	Prep	3010A			50 mL	50 mL	121565	11/13/13 11:01	NLI	TAL NSH
Total/NA	Analysis	6020		1			121830	11/13/13 19:24	BWW	TAL NSH

Client Sample ID: GW-062027-111113-RM-MW-8

Lab Sample ID: 490-40187-8

Date Collected: 11/11/13 14:19

Matrix: Ground Water

Date Received: 11/12/13 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	122865	11/19/13 08:35	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		5	5 mL	5 mL	122267	11/15/13 22:36	KML	TAL NSH
Total/NA	Prep	3510C			1000 mL	1 mL	121841	11/14/13 09:13	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			122379	11/15/13 23:06	JML	TAL NSH
Total/NA	Prep	3510C			1040 mL	1 mL	122375	11/15/13 14:57	MAH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			122561	11/17/13 06:07	GMH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			124425	11/25/13 14:59	KKH	TAL NSH
Total/NA	Prep	8011			35 mL	2 mL	149445	11/18/13 10:36	SGH	TAL SEA
Total/NA	Analysis	8011		1			149446	11/18/13 19:33	SGH	TAL SEA
Total/NA	Prep	3010A			50 mL	50 mL	121565	11/13/13 11:01	NLI	TAL NSH
Total/NA	Analysis	6020		1			121830	11/13/13 19:29	BWW	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
SDG: SAP / 062027

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	TAL NSH
8011	EDB and DBCP in Water by Microextraction	EPA	TAL SEA
NWTPH-Dx	Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup	NWTPH	TAL NSH
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL NSH
6020	Metals (ICP/MS)	SW846	TAL NSH

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

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

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-40187-1
SDG: SAP / 062027

Laboratory: TestAmerica Nashville

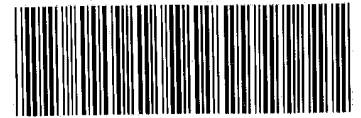
The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C789	07-19-14

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-04-14
California	NELAP	9	01115CA	01-31-14
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-14
USDA	Federal		P330-11-00222	05-20-14
Washington	State Program	10	C553	02-17-14



Cooler Received/Opened On : 11/12/2013 @ 0830

Tracking # 1207 (last 4 digits, FedEx)

Courier: Fed-ex IR Gun : 97460373

1. Temperature of rep. sample or temp blank when opened: 0.8 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) W

7. Were custody seals on containers: YES NO and Intact YES NO NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? CH YES...NO...NA

12. Did all container labels and tags agree with custody papers? 11-12-13 YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # 4

I certify that I unloaded the cooler and answered questions 7-14 (initial) W

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) W

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) CH

I certify that I attached a label with the unique LIMS number to each container (initial) CH

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO # 11-12-13

1 liter for MW-5 had no cracked 1st.

COOLER RECEIPT FORM

Cooler Received/Opened On 11/12/2013 @ 8:30

1. Tracking # 1229 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 18290455

2. Temperature of rep. sample or temp blank when opened: 2.0 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO (NA)

4. Were custody seals on outside of cooler? (YES)...NO...NA

If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly? YES (NO)...NA

6. Were custody papers inside cooler? (YES)...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) AJH

7. Were custody seals on containers: YES (NO) and Intact YES...NO (NA)

Were these signed and dated correctly? YES...NO (NA)

8. Packing mat'l used? (Bubblewrap) Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (ice) Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)...NO...NA

12. Did all container labels and tags agree with custody papers? (YES)...NO...NA

13a. Were VOA vials received? YES (NO)...NA

b. Was there any observable headspace present in any VOA vial? YES...NO (NA)

14. Was there a Trip Blank in this cooler? YES (NO)...NA If multiple coolers, sequence # 1

I certify that I unloaded the cooler and answered questions 7-14 (initial) CH

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO (NA)

b. Did the bottle labels indicate that the correct preservatives were used (YES)...NO...NA

16. Was residual chlorine present? YES...NO (NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) A

17. Were custody papers properly filled out (ink, signed, etc)? (YES)...NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)...NO...NA

19. Were correct containers used for the analysis requested? (YES)...NO...NA

20. Was sufficient amount of sample sent in each container? (YES)...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) CH

I certify that I attached a label with the unique LIMS number to each container (initial) A

21. Were there Non-Conformance issues at login? YES (NO) Was a NCM generated? YES (NO)..#

Not signed or dated

COOLER RECEIPT FORM

TAN 40187

Cooler Received/Opened On: 11/12/2013 @0830

1. Tracking # 1218 (last 4 digits, FedEx)

Courier: Fed-Ex IR Gun ID: 14740456

2. Temperature of rep. sample or temp blank when opened: 4.5 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) EF

7. Were custody seals on containers: YES NO and Intact YES...NO NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) Ch

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) Ch

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) Ch

I certify that I attached a label with the unique LIMS number to each container (initial) Ch

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO..# _____

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 490-40187-1
SDG Number: SAP / 062027

Login Number: 40187

List Number: 1

Creator: Huckaba, Jimmy

List Source: TestAmerica Nashville

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 490-40187-1
SDG Number: SAP / 062027

Login Number: 40187

List Number: 1

Creator: Blankinship, Tom X

List Source: TestAmerica Seattle

List Creation: 11/15/13 07:46 AM

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.7°C by IR
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-49164-1
TestAmerica Sample Delivery Group: SAP# / 062027
Client Project/Site: 200 Railroad Ave S, Ellensburg, WA

For:
Conestoga-Rovers & Associates, Inc.
20818 44th Ave W
Suite 190
Lynnwood, Washington 98036

Attn: Brian Peters



Authorized for release by:
4/7/2014 3:47:14 PM

Ryan Fitzwater, Senior Project Manager
(615)726-0177
ryan.fitzwater@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
SDG: SAP# / 062027

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-49164-1	GW-062027-032014-SS-MW-1	Ground Water	03/20/14 10:15	03/24/14 08:30
490-49164-2	GW-062027-032014-SS-MW-2	Ground Water	03/20/14 11:15	03/24/14 08:30
490-49164-3	GW-062027-032014-SS-MW-3	Ground Water	03/20/14 11:50	03/24/14 08:30
490-49164-4	GW-062027-032014-SS-MW-4	Ground Water	03/20/14 12:45	03/24/14 08:30
490-49164-5	GW-062027-032014-SS-MW-5	Ground Water	03/20/14 13:25	03/24/14 08:30
490-49164-6	GW-062027-032014-SS-MW-6	Ground Water	03/20/14 14:10	03/24/14 08:30
490-49164-7	GW-062027-032014-SS-MW-7	Ground Water	03/20/14 14:45	03/24/14 08:30
490-49164-8	GW-062027-032014-SS-MW-8	Ground Water	03/20/14 15:35	03/24/14 08:30



Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
SDG: SAP# / 062027

Job ID: 490-49164-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-49164-1

Comments

No additional comments.

Receipt

The samples were received on 3/24/2014 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.3° C, 1.7° C, 1.8° C, 2.2° C and 2.3° C.

GC/MS VOA

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with batch 150472.

Method(s) 8260B: The matrix spike and matrix spike duplicate (MS/MSD) for batch 150946 were unable to be analyzed due to an autosampler malfunction. Refer to laboratory control sample and duplicate (LCS/LCSD) for accuracy and precision.

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) 8011: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with batch 150411. (LCS 490-150411/4-A)

Method(s) 8011: Surrogate recovery for the following sample(s) was outside the upper control limit: (LCS 490-150411/4-A), (MB 490-150411/3-A), GW-062027-032014-SS-MW-1 (490-49164-1), GW-062027-032014-SS-MW-2 (490-49164-2), GW-062027-032014-SS-MW-3 (490-49164-3). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8011: The following sample(s) required a dilution due to the nature of the sample matrix: GW-062027-032014-SS-MW-8 (490-49164-8). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information. Elevated reporting limits also provided. GW-062027-032014-SS-MW-8 (490-49164-8)

Method(s) 8011: The continuing calibration verification (CCV) associated with batch 150297 recovered above the upper control limit for 12DBCP and EDB. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCV 490-150297/37), GW-062027-032014-SS-MW-8 (490-49164-8).

Method(s) 8011: The continuing calibration verification (CCV) associated with batch 150297 recovered above the upper control limit for 12DBCP. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCV 490-150297/33), GW-062027-032014-SS-MW-4 (490-49164-4), GW-062027-032014-SS-MW-5 (490-49164-5), GW-062027-032014-SS-MW-6 (490-49164-6), GW-062027-032014-SS-MW-7 (490-49164-7), GW-062027-032014-SS-MW-8 (490-49164-8).

Method(s) 8011: The continuing calibration verification (CCV) associated with batch 150297 recovered above the upper control limit for Ethylene Dibromide. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCV 490-150297/21), (LCS 490-150411/4-A), (MB 490-150411/3-A), GW-062027-032014-SS-MW-1 (490-49164-1), GW-062027-032014-SS-MW-2 (490-49164-2), GW-062027-032014-SS-MW-3 (490-49164-3).

Method(s) 8011: Surrogate recovery for the following sample(s) was outside the upper control limit: GW-062027-032014-SS-MW-4 (490-49164-4), GW-062027-032014-SS-MW-6 (490-49164-6). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

VOA Prep

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
SDG: SAP# / 062027

Job ID: 490-49164-1 (Continued)

Laboratory: TestAmerica Nashville (Continued)

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 490-49164-2

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-49164-2

Comments

No additional comments.

Receipt

The samples were received on 3/24/2014 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.3° C, 1.7° C, 1.8° C, 2.2° C and 2.3° C.

GC VOA

Method(s) NWTPH-Gx: The following sample(s) was diluted due to the nature of the sample matrix: GW-062027-032014-SS-MW-4 (490-49164-4)490-49164-E-4. Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) NWTPH-Dx: The following sample(s) contained a hydrocarbon pattern which does not match a typical Total Petroleum Hydrocarbon (TPH) pattern used by the laboratory for quantitative purposes: (490-49164-1 DU), GW-062027-032014-SS-MW-1 (490-49164-1), GW-062027-032014-SS-MW-4 (490-49164-4), GW-062027-032014-SS-MW-6 (490-49164-6).

Method(s) NWTPH-Dx: The sample duplicate (DUP) precision for batch 150984 was outside control limits: (490-49164-1 DU). Sample matrix interference and/or non-homogeneity are suspected.

Method(s) NWTPH-Dx: Surrogate recovery for the following sample(s) was outside control limits: GW-062027-032014-SS-MW-4 (490-49164-4). Re-extraction and/or re-analysis was performed with concurring results. The original analysis has been reported.

No other analytical or quality issues were noted.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 490-49164-3

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-49164-3

Comments

No additional comments.

Receipt

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
SDG: SAP# / 062027

Job ID: 490-49164-3 (Continued)

Laboratory: TestAmerica Nashville (Continued)

The samples were received on 3/24/2014 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.3° C, 1.7° C, 1.8° C, 2.2° C and 2.3° C.

GC Semi VOA

Method(s) NWTPH-Dx: The following sample(s) contained a hydrocarbon pattern which does not match a typical Total Petroleum Hydrocarbon (TPH) pattern used by the laboratory for quantitative purposes: (490-49164-1 DU), GW-062027-032014-SS-MW-1 (490-49164-1), GW-062027-032014-SS-MW-4 (490-49164-4), GW-062027-032014-SS-MW-6 (490-49164-6).

Method(s) NWTPH-Dx: Surrogate recovery for the following sample(s) was outside control limits: GW-062027-032014-SS-MW-4 (490-49164-4). Re-extraction and/or re-analysis was performed with concurring results. The original analysis has been reported.

Method(s) NWTPH-Dx: The last preceding ccv, which was within acceptance limits, was analyzed less than 12 hours from the following ccv: (CCV 490-152214/149). The ccv analyzed between these two passing ccvs failed due to a bad injection resulting in no recovery.

No other analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
SDG: SAP# / 062027

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate is outside control limits
F3	Duplicate RPD exceeds the control limit
X	Surrogate is outside control limits
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-032014-SS-MW-1

Lab Sample ID: 490-49164-1

Date Collected: 03/20/14 10:15

Matrix: Ground Water

Date Received: 03/24/14 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			03/28/14 16:02	1
Benzene	ND		1.00		ug/L			03/28/14 16:02	1
Ethylbenzene	ND		1.00		ug/L			03/28/14 16:02	1
Toluene	ND		1.00		ug/L			03/28/14 16:02	1
Xylenes, Total	ND		3.00		ug/L			03/28/14 16:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 130		03/28/14 16:02	1
4-Bromofluorobenzene (Surr)	103		70 - 130		03/28/14 16:02	1
Dibromofluoromethane (Surr)	91		70 - 130		03/28/14 16:02	1
Toluene-d8 (Surr)	103		70 - 130		03/28/14 16:02	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			03/31/14 16:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	90		50 - 150		03/31/14 16:28	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0200		ug/L		03/26/14 12:15	03/26/14 17:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	159	p X	50 - 150	03/26/14 12:15	03/26/14 17:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	252		93.5		ug/L		03/28/14 09:02	03/29/14 13:41	1
C24-C40	94.1		93.5		ug/L		03/28/14 09:02	03/29/14 13:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	62		50 - 150	03/28/14 09:02	03/29/14 13:41	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	186		93.5		ug/L		03/28/14 09:02	03/29/14 17:18	1
C24-C40	ND		93.5		ug/L		03/28/14 09:02	03/29/14 17:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	60		50 - 150	03/28/14 09:02	03/29/14 17:18	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		03/26/14 11:46	04/02/14 03:30	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-032014-SS-MW-2

Lab Sample ID: 490-49164-2

Date Collected: 03/20/14 11:15

Matrix: Ground Water

Date Received: 03/24/14 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			03/27/14 15:22	1
Benzene	ND		1.00		ug/L			03/27/14 15:22	1
Ethylbenzene	ND		1.00		ug/L			03/27/14 15:22	1
Toluene	ND		1.00		ug/L			03/27/14 15:22	1
Xylenes, Total	ND		3.00		ug/L			03/27/14 15:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 130		03/27/14 15:22	1
4-Bromofluorobenzene (Surr)	112		70 - 130		03/27/14 15:22	1
Dibromofluoromethane (Surr)	98		70 - 130		03/27/14 15:22	1
Toluene-d8 (Surr)	103		70 - 130		03/27/14 15:22	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			03/31/14 16:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	90		50 - 150		03/31/14 16:58	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0199		ug/L		03/26/14 12:15	03/26/14 17:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	154	p X	50 - 150	03/26/14 12:15	03/26/14 17:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.5		ug/L		03/28/14 09:02	03/29/14 14:11	1
C24-C40	ND		93.5		ug/L		03/28/14 09:02	03/29/14 14:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	76		50 - 150	03/28/14 09:02	03/29/14 14:11	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.5		ug/L		03/28/14 09:02	03/29/14 17:49	1
C24-C40	ND		93.5		ug/L		03/28/14 09:02	03/29/14 17:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	89		50 - 150	03/28/14 09:02	03/29/14 17:49	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		03/26/14 11:46	04/02/14 03:35	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-032014-SS-MW-3

Lab Sample ID: 490-49164-3

Date Collected: 03/20/14 11:50

Matrix: Ground Water

Date Received: 03/24/14 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			03/27/14 15:49	1
Benzene	ND		1.00		ug/L			03/27/14 15:49	1
Ethylbenzene	ND		1.00		ug/L			03/27/14 15:49	1
Toluene	ND		1.00		ug/L			03/27/14 15:49	1
Xylenes, Total	ND		3.00		ug/L			03/27/14 15:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 130		03/27/14 15:49	1
4-Bromofluorobenzene (Surr)	111		70 - 130		03/27/14 15:49	1
Dibromofluoromethane (Surr)	98		70 - 130		03/27/14 15:49	1
Toluene-d8 (Surr)	102		70 - 130		03/27/14 15:49	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			03/31/14 17:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	93		50 - 150		03/31/14 17:29	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0201		ug/L		03/26/14 12:15	03/26/14 17:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	190	X	50 - 150	03/26/14 12:15	03/26/14 17:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.5		ug/L		03/28/14 09:02	03/29/14 14:27	1
C24-C40	ND		93.5		ug/L		03/28/14 09:02	03/29/14 14:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	65		50 - 150	03/28/14 09:02	03/29/14 14:27	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.5		ug/L		03/28/14 09:02	03/29/14 18:04	1
C24-C40	ND		93.5		ug/L		03/28/14 09:02	03/29/14 18:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	81		50 - 150	03/28/14 09:02	03/29/14 18:04	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		03/26/14 11:46	04/02/14 03:40	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-032014-SS-MW-4

Lab Sample ID: 490-49164-4

Date Collected: 03/20/14 12:45

Matrix: Ground Water

Date Received: 03/24/14 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			03/27/14 16:17	1
Benzene	ND		1.00		ug/L			03/27/14 16:17	1
Ethylbenzene	ND		1.00		ug/L			03/27/14 16:17	1
Toluene	ND		1.00		ug/L			03/27/14 16:17	1
Xylenes, Total	ND		3.00		ug/L			03/27/14 16:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 130		03/27/14 16:17	1
4-Bromofluorobenzene (Surr)	110		70 - 130		03/27/14 16:17	1
Dibromofluoromethane (Surr)	97		70 - 130		03/27/14 16:17	1
Toluene-d8 (Surr)	101		70 - 130		03/27/14 16:17	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		500		ug/L			03/31/14 18:00	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	90		50 - 150		03/31/14 18:00	5

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0201		ug/L		03/26/14 12:15	03/26/14 18:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	159	X	50 - 150	03/26/14 12:15	03/26/14 18:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	1000		93.5		ug/L		03/28/14 09:02	03/29/14 14:43	1
C24-C40	303		93.5		ug/L		03/28/14 09:02	03/29/14 14:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	36	X	50 - 150	03/28/14 09:02	03/29/14 14:43	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	819		93.5		ug/L		03/28/14 09:02	03/29/14 18:19	1
C24-C40	180		93.5		ug/L		03/28/14 09:02	03/29/14 18:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	43	X	50 - 150	03/28/14 09:02	03/29/14 18:19	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00316		0.00200		mg/L		03/26/14 11:46	04/02/14 03:45	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-032014-SS-MW-5

Lab Sample ID: 490-49164-5

Date Collected: 03/20/14 13:25

Matrix: Ground Water

Date Received: 03/24/14 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			03/27/14 16:43	1
Benzene	ND		1.00		ug/L			03/27/14 16:43	1
Ethylbenzene	ND		1.00		ug/L			03/27/14 16:43	1
Toluene	ND		1.00		ug/L			03/27/14 16:43	1
Xylenes, Total	ND		3.00		ug/L			03/27/14 16:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 130		03/27/14 16:43	1
4-Bromofluorobenzene (Surr)	110		70 - 130		03/27/14 16:43	1
Dibromofluoromethane (Surr)	98		70 - 130		03/27/14 16:43	1
Toluene-d8 (Surr)	102		70 - 130		03/27/14 16:43	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			03/31/14 18:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	93		50 - 150		03/31/14 18:31	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0205		ug/L		03/26/14 12:15	03/26/14 19:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	144		50 - 150	03/26/14 12:15	03/26/14 19:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.5		ug/L		03/28/14 09:02	03/29/14 14:58	1
C24-C40	ND		93.5		ug/L		03/28/14 09:02	03/29/14 14:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	71		50 - 150	03/28/14 09:02	03/29/14 14:58	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.5		ug/L		03/28/14 09:02	03/29/14 18:35	1
C24-C40	ND		93.5		ug/L		03/28/14 09:02	03/29/14 18:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	89		50 - 150	03/28/14 09:02	03/29/14 18:35	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		03/26/14 11:46	04/02/14 03:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-032014-SS-MW-6

Lab Sample ID: 490-49164-6

Date Collected: 03/20/14 14:10

Matrix: Ground Water

Date Received: 03/24/14 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			03/27/14 17:11	1
Benzene	ND		1.00		ug/L			03/27/14 17:11	1
Ethylbenzene	ND		1.00		ug/L			03/27/14 17:11	1
Toluene	ND		1.00		ug/L			03/27/14 17:11	1
Xylenes, Total	ND		3.00		ug/L			03/27/14 17:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 130		03/27/14 17:11	1
4-Bromofluorobenzene (Surr)	111		70 - 130		03/27/14 17:11	1
Dibromofluoromethane (Surr)	98		70 - 130		03/27/14 17:11	1
Toluene-d8 (Surr)	103		70 - 130		03/27/14 17:11	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			03/31/14 19:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	92		50 - 150		03/31/14 19:01	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0199		ug/L		03/26/14 12:15	03/26/14 19:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	189	X	50 - 150	03/26/14 12:15	03/26/14 19:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	594		93.5		ug/L		03/28/14 09:02	03/29/14 15:14	1
C24-C40	139		93.5		ug/L		03/28/14 09:02	03/29/14 15:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	55		50 - 150	03/28/14 09:02	03/29/14 15:14	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	514		93.5		ug/L		03/28/14 09:02	03/29/14 18:50	1
C24-C40	120		93.5		ug/L		03/28/14 09:02	03/29/14 18:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	61		50 - 150	03/28/14 09:02	03/29/14 18:50	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		03/26/14 11:46	04/02/14 04:05	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-032014-SS-MW-7

Lab Sample ID: 490-49164-7

Date Collected: 03/20/14 14:45

Matrix: Ground Water

Date Received: 03/24/14 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			03/27/14 17:38	1
Benzene	ND		1.00		ug/L			03/27/14 17:38	1
Ethylbenzene	ND		1.00		ug/L			03/27/14 17:38	1
Toluene	ND		1.00		ug/L			03/27/14 17:38	1
Xylenes, Total	ND		3.00		ug/L			03/27/14 17:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 130		03/27/14 17:38	1
4-Bromofluorobenzene (Surr)	110		70 - 130		03/27/14 17:38	1
Dibromofluoromethane (Surr)	96		70 - 130		03/27/14 17:38	1
Toluene-d8 (Surr)	101		70 - 130		03/27/14 17:38	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			03/31/14 19:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	95		50 - 150		03/31/14 19:32	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0204		ug/L		03/26/14 12:15	03/26/14 19:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	142		50 - 150	03/26/14 12:15	03/26/14 19:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.5		ug/L		03/28/14 09:02	03/29/14 15:29	1
C24-C40	ND		93.5		ug/L		03/28/14 09:02	03/29/14 15:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	56		50 - 150	03/28/14 09:02	03/29/14 15:29	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.5		ug/L		03/28/14 09:02	03/29/14 19:05	1
C24-C40	ND		93.5		ug/L		03/28/14 09:02	03/29/14 19:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	57		50 - 150	03/28/14 09:02	03/29/14 19:05	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		03/26/14 11:46	04/02/14 04:10	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-032014-SS-MW-8

Lab Sample ID: 490-49164-8

Date Collected: 03/20/14 15:35

Matrix: Ground Water

Date Received: 03/24/14 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			03/27/14 18:05	1
Benzene	ND		1.00		ug/L			03/27/14 18:05	1
Ethylbenzene	ND		1.00		ug/L			03/27/14 18:05	1
Toluene	ND		1.00		ug/L			03/27/14 18:05	1
Xylenes, Total	ND		3.00		ug/L			03/27/14 18:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 130		03/27/14 18:05	1
4-Bromofluorobenzene (Surr)	110		70 - 130		03/27/14 18:05	1
Dibromofluoromethane (Surr)	98		70 - 130		03/27/14 18:05	1
Toluene-d8 (Surr)	101		70 - 130		03/27/14 18:05	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			03/31/14 20:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	93		50 - 150		03/31/14 20:03	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.203		ug/L		03/26/14 12:15	03/26/14 22:13	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	0	X	50 - 150	03/26/14 12:15	03/26/14 22:13	10
1,3-Dichlorobenzene	0	X	50 - 150	03/26/14 12:15	03/27/14 08:59	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.5		ug/L		03/28/14 09:02	03/29/14 15:45	1
C24-C40	ND		93.5		ug/L		03/28/14 09:02	03/29/14 15:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	54		50 - 150	03/28/14 09:02	03/29/14 15:45	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.5		ug/L		03/28/14 09:02	03/29/14 19:21	1
C24-C40	ND		93.5		ug/L		03/28/14 09:02	03/29/14 19:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	55		50 - 150	03/28/14 09:02	03/29/14 19:21	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		03/26/14 11:46	04/02/14 04:15	1

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 490-150472/7

Matrix: Water

Analysis Batch: 150472

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			03/27/14 09:58	1
Benzene	ND		1.00		ug/L			03/27/14 09:58	1
Ethylbenzene	ND		1.00		ug/L			03/27/14 09:58	1
Toluene	ND		1.00		ug/L			03/27/14 09:58	1
Xylenes, Total	ND		3.00		ug/L			03/27/14 09:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 130		03/27/14 09:58	1
4-Bromofluorobenzene (Surr)	108		70 - 130		03/27/14 09:58	1
Dibromofluoromethane (Surr)	98		70 - 130		03/27/14 09:58	1
Toluene-d8 (Surr)	101		70 - 130		03/27/14 09:58	1

Lab Sample ID: LCS 490-150472/3

Matrix: Water

Analysis Batch: 150472

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	50.0	53.49		ug/L		107	77 - 121
Benzene	50.0	52.57		ug/L		105	80 - 121
Ethylbenzene	50.0	55.45		ug/L		111	80 - 130
Toluene	50.0	50.43		ug/L		101	80 - 126
Xylenes, Total	100	114.5		ug/L		115	80 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	112		70 - 130
Dibromofluoromethane (Surr)	101		70 - 130
Toluene-d8 (Surr)	98		70 - 130

Lab Sample ID: LCSD 490-150472/4

Matrix: Water

Analysis Batch: 150472

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane	50.0	54.32		ug/L		109	77 - 121	2	17
Benzene	50.0	53.15		ug/L		106	80 - 121	1	17
Ethylbenzene	50.0	56.51		ug/L		113	80 - 130	2	15
Toluene	50.0	51.68		ug/L		103	80 - 126	2	15
Xylenes, Total	100	117.5		ug/L		117	80 - 132	3	15

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 130
4-Bromofluorobenzene (Surr)	111		70 - 130
Dibromofluoromethane (Surr)	101		70 - 130
Toluene-d8 (Surr)	99		70 - 130

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 490-150946/7

Matrix: Water

Analysis Batch: 150946

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			03/28/14 15:36	1
Benzene	ND		1.00		ug/L			03/28/14 15:36	1
Ethylbenzene	ND		1.00		ug/L			03/28/14 15:36	1
Toluene	ND		1.00		ug/L			03/28/14 15:36	1
Xylenes, Total	ND		3.00		ug/L			03/28/14 15:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 130		03/28/14 15:36	1
4-Bromofluorobenzene (Surr)	104		70 - 130		03/28/14 15:36	1
Dibromofluoromethane (Surr)	91		70 - 130		03/28/14 15:36	1
Toluene-d8 (Surr)	103		70 - 130		03/28/14 15:36	1

Lab Sample ID: LCS 490-150946/3

Matrix: Water

Analysis Batch: 150946

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	50.0	44.90		ug/L		90	77 - 121
Benzene	50.0	55.12		ug/L		110	80 - 121
Ethylbenzene	50.0	54.52		ug/L		109	80 - 130
Toluene	50.0	55.29		ug/L		111	80 - 126
Xylenes, Total	100	111.3		ug/L		111	80 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	81		70 - 130
4-Bromofluorobenzene (Surr)	106		70 - 130
Dibromofluoromethane (Surr)	86		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: LCSD 490-150946/4

Matrix: Water

Analysis Batch: 150946

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane	50.0	45.73		ug/L		91	77 - 121	2	17
Benzene	50.0	55.17		ug/L		110	80 - 121	0	17
Ethylbenzene	50.0	54.79		ug/L		110	80 - 130	1	15
Toluene	50.0	55.25		ug/L		111	80 - 126	0	15
Xylenes, Total	100	111.6		ug/L		112	80 - 132	0	15

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	80		70 - 130
4-Bromofluorobenzene (Surr)	103		70 - 130
Dibromofluoromethane (Surr)	85		70 - 130
Toluene-d8 (Surr)	104		70 - 130

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 490-151447/7
Matrix: Water
Analysis Batch: 151447

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			03/31/14 09:17	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	93		50 - 150					03/31/14 09:17	1

Lab Sample ID: LCS 490-151447/5
Matrix: Water
Analysis Batch: 151447

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C12	1000	1008		ug/L		101	39 - 143
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
a,a,a-Trifluorotoluene	82		50 - 150				

Lab Sample ID: LCSD 490-151447/6
Matrix: Water
Analysis Batch: 151447

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12	1000	975.6		ug/L		98	39 - 143	3	18
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
a,a,a-Trifluorotoluene	81		50 - 150						

Lab Sample ID: 490-49475-E-1 DU
Matrix: Water
Analysis Batch: 151447

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
C6-C12	ND		ND		ug/L		NC	18
Surrogate	DU %Recovery	DU Qualifier	Limits					
a,a,a-Trifluorotoluene	91		50 - 150					

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 490-150411/3-A
Matrix: Water
Analysis Batch: 150297

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 150411

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0200		ug/L		03/26/14 11:15	03/26/14 12:38	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	170	X	50 - 150				03/26/14 11:15	03/26/14 12:38	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC) (Continued)

Lab Sample ID: LCS 490-150411/4-A

Matrix: Water

Analysis Batch: 150297

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 150411

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide	0.286	0.3641		ug/L		127	70 - 130
Surrogate		LCS %Recovery	LCS Qualifier				Limits
1,3-Dichlorobenzene		175	X				50 - 150

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

Lab Sample ID: MB 490-150984/1-A

Matrix: Water

Analysis Batch: 151229

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 150984

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		100		ug/L		03/28/14 09:02	03/29/14 13:10	1
C24-C40	ND		100		ug/L		03/28/14 09:02	03/29/14 13:10	1
Surrogate		MB %Recovery	MB Qualifier				Prepared	Analyzed	Dil Fac
o-Terphenyl		64					03/28/14 09:02	03/29/14 13:10	1

Lab Sample ID: LCS 490-150984/2-A

Matrix: Water

Analysis Batch: 151229

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 150984

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C24	1000	763.0		ug/L		76	51 - 132
Surrogate		LCS %Recovery	LCS Qualifier				Limits
o-Terphenyl		72					50 - 150

Lab Sample ID: 490-49164-1 DU

Matrix: Ground Water

Analysis Batch: 151229

Client Sample ID: GW-062027-032014-SS-MW-1

Prep Type: Total/NA

Prep Batch: 150984

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
C10-C24	252		276.5		ug/L		9	41
C24-C40	94.1		ND		ug/L		3	41
Surrogate		DU %Recovery	DU Qualifier					Limits
o-Terphenyl		72						50 - 150

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Lab Sample ID: MB 490-150984/1-A
Matrix: Water
Analysis Batch: 151297

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 150984

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		100		ug/L		03/28/14 09:02	03/29/14 16:46	1
C24-C40	ND		100		ug/L		03/28/14 09:02	03/29/14 16:46	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	64		50 - 150				03/28/14 09:02	03/29/14 16:46	1

Lab Sample ID: LCS 490-150984/2-A
Matrix: Water
Analysis Batch: 151297

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 150984

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
C10-C24	1000	816.0		ug/L		82	51 - 132
Surrogate	%Recovery	LCS Qualifier	Limits				
<i>o</i> -Terphenyl	75		50 - 150				

Lab Sample ID: 490-49164-1 DU
Matrix: Ground Water
Analysis Batch: 151297

Client Sample ID: GW-062027-032014-SS-MW-1
Prep Type: Total/NA
Prep Batch: 150984

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
C10-C24	186		305.2	F3	ug/L		49	41
C24-C40	ND		96.27		ug/L		20	41
Surrogate	%Recovery	DU Qualifier	Limits					
<i>o</i> -Terphenyl	82		50 - 150					

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 490-150395/1-A
Matrix: Water
Analysis Batch: 152007

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 150395

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		03/26/14 11:46	04/02/14 03:05	1

Lab Sample ID: LCS 490-150395/2-A
Matrix: Water
Analysis Batch: 152007

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 150395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	0.100	0.1051		mg/L		105	80 - 120

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 490-48963-G-1-B MS
Matrix: Water
Analysis Batch: 152007

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 150395

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		0.100	0.1021		mg/L		102	75 - 125

Lab Sample ID: 490-48963-G-1-C MSD
Matrix: Water
Analysis Batch: 152007

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 150395

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND		0.100	0.1037		mg/L		104	75 - 125	2	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

GC/MS VOA

Analysis Batch: 150472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-49164-2	GW-062027-032014-SS-MW-2	Total/NA	Ground Water	8260B	
490-49164-3	GW-062027-032014-SS-MW-3	Total/NA	Ground Water	8260B	
490-49164-4	GW-062027-032014-SS-MW-4	Total/NA	Ground Water	8260B	
490-49164-5	GW-062027-032014-SS-MW-5	Total/NA	Ground Water	8260B	
490-49164-6	GW-062027-032014-SS-MW-6	Total/NA	Ground Water	8260B	
490-49164-7	GW-062027-032014-SS-MW-7	Total/NA	Ground Water	8260B	
490-49164-8	GW-062027-032014-SS-MW-8	Total/NA	Ground Water	8260B	
LCS 490-150472/3	Lab Control Sample	Total/NA	Water	8260B	
LCS 490-150472/4	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 490-150472/7	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 150946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-49164-1	GW-062027-032014-SS-MW-1	Total/NA	Ground Water	8260B	
LCS 490-150946/3	Lab Control Sample	Total/NA	Water	8260B	
LCS 490-150946/4	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 490-150946/7	Method Blank	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 151447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-49164-1	GW-062027-032014-SS-MW-1	Total/NA	Ground Water	NWTPH-Gx	
490-49164-2	GW-062027-032014-SS-MW-2	Total/NA	Ground Water	NWTPH-Gx	
490-49164-3	GW-062027-032014-SS-MW-3	Total/NA	Ground Water	NWTPH-Gx	
490-49164-4	GW-062027-032014-SS-MW-4	Total/NA	Ground Water	NWTPH-Gx	
490-49164-5	GW-062027-032014-SS-MW-5	Total/NA	Ground Water	NWTPH-Gx	
490-49164-6	GW-062027-032014-SS-MW-6	Total/NA	Ground Water	NWTPH-Gx	
490-49164-7	GW-062027-032014-SS-MW-7	Total/NA	Ground Water	NWTPH-Gx	
490-49164-8	GW-062027-032014-SS-MW-8	Total/NA	Ground Water	NWTPH-Gx	
490-49475-E-1 DU	Duplicate	Total/NA	Water	NWTPH-Gx	
LCS 490-151447/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCS 490-151447/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
MB 490-151447/7	Method Blank	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Analysis Batch: 150297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-49164-1	GW-062027-032014-SS-MW-1	Total/NA	Ground Water	8011	150411
490-49164-2	GW-062027-032014-SS-MW-2	Total/NA	Ground Water	8011	150411
490-49164-3	GW-062027-032014-SS-MW-3	Total/NA	Ground Water	8011	150411
490-49164-4	GW-062027-032014-SS-MW-4	Total/NA	Ground Water	8011	150411
490-49164-5	GW-062027-032014-SS-MW-5	Total/NA	Ground Water	8011	150411
490-49164-6	GW-062027-032014-SS-MW-6	Total/NA	Ground Water	8011	150411
490-49164-7	GW-062027-032014-SS-MW-7	Total/NA	Ground Water	8011	150411
490-49164-8	GW-062027-032014-SS-MW-8	Total/NA	Ground Water	8011	150411
490-49164-8	GW-062027-032014-SS-MW-8	Total/NA	Ground Water	8011	150411
LCS 490-150411/4-A	Lab Control Sample	Total/NA	Water	8011	150411
MB 490-150411/3-A	Method Blank	Total/NA	Water	8011	150411

TestAmerica Nashville

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

GC Semi VOA (Continued)

Prep Batch: 150411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-49164-1	GW-062027-032014-SS-MW-1	Total/NA	Ground Water	8011	
490-49164-2	GW-062027-032014-SS-MW-2	Total/NA	Ground Water	8011	
490-49164-3	GW-062027-032014-SS-MW-3	Total/NA	Ground Water	8011	
490-49164-4	GW-062027-032014-SS-MW-4	Total/NA	Ground Water	8011	
490-49164-5	GW-062027-032014-SS-MW-5	Total/NA	Ground Water	8011	
490-49164-6	GW-062027-032014-SS-MW-6	Total/NA	Ground Water	8011	
490-49164-7	GW-062027-032014-SS-MW-7	Total/NA	Ground Water	8011	
490-49164-8	GW-062027-032014-SS-MW-8	Total/NA	Ground Water	8011	
LCS 490-150411/4-A	Lab Control Sample	Total/NA	Water	8011	
MB 490-150411/3-A	Method Blank	Total/NA	Water	8011	

Prep Batch: 150984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-49164-1	GW-062027-032014-SS-MW-1	Total/NA	Ground Water	3510C	
490-49164-1 DU	GW-062027-032014-SS-MW-1	Total/NA	Ground Water	3510C	
490-49164-2	GW-062027-032014-SS-MW-2	Total/NA	Ground Water	3510C	
490-49164-3	GW-062027-032014-SS-MW-3	Total/NA	Ground Water	3510C	
490-49164-4	GW-062027-032014-SS-MW-4	Total/NA	Ground Water	3510C	
490-49164-5	GW-062027-032014-SS-MW-5	Total/NA	Ground Water	3510C	
490-49164-6	GW-062027-032014-SS-MW-6	Total/NA	Ground Water	3510C	
490-49164-7	GW-062027-032014-SS-MW-7	Total/NA	Ground Water	3510C	
490-49164-8	GW-062027-032014-SS-MW-8	Total/NA	Ground Water	3510C	
LCS 490-150984/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 490-150984/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 151229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-49164-1	GW-062027-032014-SS-MW-1	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-1 DU	GW-062027-032014-SS-MW-1	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-2	GW-062027-032014-SS-MW-2	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-3	GW-062027-032014-SS-MW-3	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-4	GW-062027-032014-SS-MW-4	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-5	GW-062027-032014-SS-MW-5	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-6	GW-062027-032014-SS-MW-6	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-7	GW-062027-032014-SS-MW-7	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-8	GW-062027-032014-SS-MW-8	Total/NA	Ground Water	NWTPH-Dx	150984
LCS 490-150984/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	150984
MB 490-150984/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	150984

Analysis Batch: 151297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-49164-1	GW-062027-032014-SS-MW-1	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-1 DU	GW-062027-032014-SS-MW-1	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-2	GW-062027-032014-SS-MW-2	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-3	GW-062027-032014-SS-MW-3	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-4	GW-062027-032014-SS-MW-4	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-5	GW-062027-032014-SS-MW-5	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-6	GW-062027-032014-SS-MW-6	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-7	GW-062027-032014-SS-MW-7	Total/NA	Ground Water	NWTPH-Dx	150984
490-49164-8	GW-062027-032014-SS-MW-8	Total/NA	Ground Water	NWTPH-Dx	150984
LCS 490-150984/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	150984

TestAmerica Nashville

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
SDG: SAP# / 062027

GC Semi VOA (Continued)

Analysis Batch: 151297 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-150984/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	150984

Metals

Prep Batch: 150395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-48963-G-1-B MS	Matrix Spike	Total/NA	Water	3010A	
490-48963-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	
490-49164-1	GW-062027-032014-SS-MW-1	Total/NA	Ground Water	3010A	
490-49164-2	GW-062027-032014-SS-MW-2	Total/NA	Ground Water	3010A	
490-49164-3	GW-062027-032014-SS-MW-3	Total/NA	Ground Water	3010A	
490-49164-4	GW-062027-032014-SS-MW-4	Total/NA	Ground Water	3010A	
490-49164-5	GW-062027-032014-SS-MW-5	Total/NA	Ground Water	3010A	
490-49164-6	GW-062027-032014-SS-MW-6	Total/NA	Ground Water	3010A	
490-49164-7	GW-062027-032014-SS-MW-7	Total/NA	Ground Water	3010A	
490-49164-8	GW-062027-032014-SS-MW-8	Total/NA	Ground Water	3010A	
LCS 490-150395/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 490-150395/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 152007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-48963-G-1-B MS	Matrix Spike	Total/NA	Water	6020A	150395
490-48963-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	6020A	150395
490-49164-1	GW-062027-032014-SS-MW-1	Total/NA	Ground Water	6020A	150395
490-49164-2	GW-062027-032014-SS-MW-2	Total/NA	Ground Water	6020A	150395
490-49164-3	GW-062027-032014-SS-MW-3	Total/NA	Ground Water	6020A	150395
490-49164-4	GW-062027-032014-SS-MW-4	Total/NA	Ground Water	6020A	150395
490-49164-5	GW-062027-032014-SS-MW-5	Total/NA	Ground Water	6020A	150395
490-49164-6	GW-062027-032014-SS-MW-6	Total/NA	Ground Water	6020A	150395
490-49164-7	GW-062027-032014-SS-MW-7	Total/NA	Ground Water	6020A	150395
490-49164-8	GW-062027-032014-SS-MW-8	Total/NA	Ground Water	6020A	150395
LCS 490-150395/2-A	Lab Control Sample	Total/NA	Water	6020A	150395
MB 490-150395/1-A	Method Blank	Total/NA	Water	6020A	150395

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-032014-SS-MW-1

Lab Sample ID: 490-49164-1

Date Collected: 03/20/14 10:15

Matrix: Ground Water

Date Received: 03/24/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	150946	03/28/14 16:02	BJM	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	151447	03/31/14 16:28	GWM	TAL NSH
Total/NA	Prep	8011			35 mL	2 mL	150411	03/26/14 12:15	SCS	TAL NSH
Total/NA	Analysis	8011		1	35 mL	2 mL	150297	03/26/14 17:19	SCS	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151229	03/29/14 13:41	GMH	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151297	03/29/14 17:18	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	150395	03/26/14 11:46	JBD	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	152007	04/02/14 03:30	BWW	TAL NSH

Client Sample ID: GW-062027-032014-SS-MW-2

Lab Sample ID: 490-49164-2

Date Collected: 03/20/14 11:15

Matrix: Ground Water

Date Received: 03/24/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	150472	03/27/14 15:22		TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	151447	03/31/14 16:58	GWM	TAL NSH
Total/NA	Prep	8011			35.1 mL	2 mL	150411	03/26/14 12:15	SCS	TAL NSH
Total/NA	Analysis	8011		1	35.1 mL	2 mL	150297	03/26/14 17:36	SCS	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151229	03/29/14 14:11	GMH	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151297	03/29/14 17:49	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	150395	03/26/14 11:46	JBD	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	152007	04/02/14 03:35	BWW	TAL NSH

Client Sample ID: GW-062027-032014-SS-MW-3

Lab Sample ID: 490-49164-3

Date Collected: 03/20/14 11:50

Matrix: Ground Water

Date Received: 03/24/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	150472	03/27/14 15:49		TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	151447	03/31/14 17:29	GWM	TAL NSH
Total/NA	Prep	8011			34.9 mL	2 mL	150411	03/26/14 12:15	SCS	TAL NSH
Total/NA	Analysis	8011		1	34.9 mL	2 mL	150297	03/26/14 17:53	SCS	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151229	03/29/14 14:27	GMH	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151297	03/29/14 18:04	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	150395	03/26/14 11:46	JBD	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	152007	04/02/14 03:40	BWW	TAL NSH

TestAmerica Nashville

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-032014-SS-MW-4

Lab Sample ID: 490-49164-4

Date Collected: 03/20/14 12:45

Matrix: Ground Water

Date Received: 03/24/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	150472	03/27/14 16:17		TAL NSH
Total/NA	Analysis	NWTPH-Gx		5	5 mL	5 mL	151447	03/31/14 18:00	GWM	TAL NSH
Total/NA	Prep	8011			34.8 mL	2 mL	150411	03/26/14 12:15	SCS	TAL NSH
Total/NA	Analysis	8011		1	34.8 mL	2 mL	150297	03/26/14 18:45	SCS	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151229	03/29/14 14:43	GMH	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151297	03/29/14 18:19	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	150395	03/26/14 11:46	JBD	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	152007	04/02/14 03:45	BWW	TAL NSH

Client Sample ID: GW-062027-032014-SS-MW-5

Lab Sample ID: 490-49164-5

Date Collected: 03/20/14 13:25

Matrix: Ground Water

Date Received: 03/24/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	150472	03/27/14 16:43		TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	151447	03/31/14 18:31	GWM	TAL NSH
Total/NA	Prep	8011			34.2 mL	2 mL	150411	03/26/14 12:15	SCS	TAL NSH
Total/NA	Analysis	8011		1	34.2 mL	2 mL	150297	03/26/14 19:02	SCS	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151229	03/29/14 14:58	GMH	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151297	03/29/14 18:35	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	150395	03/26/14 11:46	JBD	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	152007	04/02/14 03:50	BWW	TAL NSH

Client Sample ID: GW-062027-032014-SS-MW-6

Lab Sample ID: 490-49164-6

Date Collected: 03/20/14 14:10

Matrix: Ground Water

Date Received: 03/24/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	150472	03/27/14 17:11		TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	151447	03/31/14 19:01	GWM	TAL NSH
Total/NA	Prep	8011			35.2 mL	2 mL	150411	03/26/14 12:15	SCS	TAL NSH
Total/NA	Analysis	8011		1	35.2 mL	2 mL	150297	03/26/14 19:19	SCS	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151229	03/29/14 15:14	GMH	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151297	03/29/14 18:50	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	150395	03/26/14 11:46	JBD	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	152007	04/02/14 04:05	BWW	TAL NSH

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-032014-SS-MW-7

Lab Sample ID: 490-49164-7

Date Collected: 03/20/14 14:45

Matrix: Ground Water

Date Received: 03/24/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	150472	03/27/14 17:38		TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	151447	03/31/14 19:32	GWM	TAL NSH
Total/NA	Prep	8011			34.3 mL	2 mL	150411	03/26/14 12:15	SCS	TAL NSH
Total/NA	Analysis	8011		1	34.3 mL	2 mL	150297	03/26/14 19:37	SCS	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151229	03/29/14 15:29	GMH	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151297	03/29/14 19:05	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	150395	03/26/14 11:46	JBD	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	152007	04/02/14 04:10	BWW	TAL NSH

Client Sample ID: GW-062027-032014-SS-MW-8

Lab Sample ID: 490-49164-8

Date Collected: 03/20/14 15:35

Matrix: Ground Water

Date Received: 03/24/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	150472	03/27/14 18:05		TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	151447	03/31/14 20:03	GWM	TAL NSH
Total/NA	Prep	8011			34.4 mL	2 mL	150411	03/26/14 12:15	SCS	TAL NSH
Total/NA	Analysis	8011		10	34.4 mL	2 mL	150297	03/26/14 22:13	SCS	TAL NSH
Total/NA	Prep	8011			34.4 mL	2 mL	150411	03/26/14 12:15	SCS	TAL NSH
Total/NA	Analysis	8011		50	34.4 mL	2 mL	150297	03/27/14 08:59	SCS	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151229	03/29/14 15:45	GMH	TAL NSH
Total/NA	Prep	3510C			1070 mL	1 mL	150984	03/28/14 09:02	CLH	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1070 mL	1 mL	151297	03/29/14 19:21	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	150395	03/26/14 11:46	JBD	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	152007	04/02/14 04:15	BWW	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
SDG: SAP# / 062027

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	TAL NSH
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	TAL NSH
NWTPH-Dx	Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup	NWTPH	TAL NSH
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL NSH
6020A	Metals (ICP/MS)	SW846	TAL NSH

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

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

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S, Ellensburg, WA

TestAmerica Job ID: 490-49164-1
SDG: SAP# / 062027

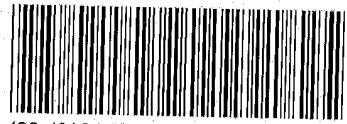
Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C789	07-19-14

- 1
- 2
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- 12
- 13

COOLER RECEIPT FORM



490-49154 Chain of Custody

Cooler Received/Opened On 3/24/2014 @ 0830

1. Tracking # 7101 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID Raynger

2. Temperature of rep. sample or temp blank when opened: 1.7 Degrees Celsius

3. If item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO... NA

4. Were custody seals on outside of cooler? YES...NO...NA
If yes, how many and where: 1 front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) DS

7. Were custody seals on containers: YES NO and Intact YES...NO... NA
Were these signed and dated correctly? YES...NO... NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES... NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO... NA

14. Was there a Trip Blank in this cooler? YES...NO... NA If multiple coolers, sequence # NA

I certify that I unloaded the cooler and answered questions 7-14 (initial) DS

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO.. NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO... NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) DS

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) DS

I certify that I attached a label with the unique LIMS number to each container (initial) DS

21. Were there Non-Conformance issues at login? YES... NO Was a NCM generated? YES... NO..#



COOLER RECEIPT FORM

Cooler Received/Opened On 3/22/2014 @ 0820

1. Tracking # 7042 (last 4 digits, FedEx)

Courier: Fedex IR Gun ID 17960358

2. Temperature of rep. sample or temp blank when opened: 1.8 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO (NA)

4. Were custody seals on outside of cooler? (YES)...NO...NA

If yes, how many and where: 1 front

5. Were the seals intact, signed, and dated correctly? (YES)...NO...NA

6. Were custody papers inside cooler? (YES)...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) EVA

7. Were custody seals on containers: YES (NO) and Intact YES...NO...(NA)

Were these signed and dated correctly? YES...NO...(NA)

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)...NO...NA

12. Did all container labels and tags agree with custody papers? (YES)...NO...NA

13a. Were VOA vials received? YES...(NO)...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...(NA)

14. Was there a Trip Blank in this cooler? YES...NO...(NA) If multiple coolers, sequence # NA

I certify that I unloaded the cooler and answered questions 7-14 (initial) B

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...(NA)

b. Did the bottle labels indicate that the correct preservatives were used (YES)...NO...NA

16. Was residual chlorine present? YES...NO...(NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) V7

17. Were custody papers properly filled out (ink, signed, etc)? (YES)...NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)...NO...NA

19. Were correct containers used for the analysis requested? (YES)...NO...NA

20. Was sufficient amount of sample sent in each container? (YES)...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) M

I certify that I attached a label with the unique LIMS number to each container (initial) D

21. Were there Non-Conformance issues at login? YES...(NO) Was a NCM generated? YES...(NO)...#

COOLER RECEIPT FORM

Loc: 490
49164

Cooler Received/Opened On 3/24/2014 @ 0830

1. Tracking # 7064 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID Raynger

2. Temperature of rep. sample or temp blank when opened: 2-2 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA *ms 3/24/14*

4. Were custody seals on outside of cooler? (front) YES...NO...NA

If yes, how many and where: _____

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) D

7. Were custody seals on containers: YES NO and intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None *Lites*

9. Cooling process: (ice) Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # NA

I certify that I unloaded the cooler and answered questions 7-14 (initial) D

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) D

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) D

I certify that I attached a label with the unique LIMS number to each container (initial) D

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# _____

COOLER RECEIPT FORM

Loc: 490
49164

Cooler Received/Opened On 3/24/2014 @ 0830

1. Tracking # 7097 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID Raynger

2. Temperature of rep. sample or temp blank when opened: 1.3 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO... NA

4. Were custody seals on outside of cooler? YES...NO...NA
If yes, how many and where: (1 front)

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial)

7. Were custody seals on containers: YES NO and Intact YES...NO... NA
Were these signed and dated correctly? YES...NO... NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES... NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES... NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # NA

I certify that I unloaded the cooler and answered questions 7-14 (initial)

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO... NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO... NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial)

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial)

I certify that I attached a label with the unique LIMS number to each container (initial)

21. Were there Non-Conformance issues at login? YES... NO Was a NCM generated? YES... NO...#

L-ites/plustes

*2 L-ites
new-4
new-5* *1 each*

COOLER RECEIPT FORM

Loc: 490
49164

Cooler Received/Opened On 3/24/2014 @ 0830

1. Tracking # 7086 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID Raynger

2. Temperature of rep. sample or temp blank when opened: 2.3 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? 1 front YES...NO...NA

If yes, how many and where: _____

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) M

7. Were custody seals on containers: YES NO and intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # 123

I certify that I unloaded the cooler and answered questions 7-14 (initial) D

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) V

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) M

I certify that I attached a label with the unique LIMS number to each container (initial) A

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# _____

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 490-49164-1

SDG Number: SAP# / 062027

Login Number: 49164

List Number: 1

Creator: Buckingham, Paul

List Source: TestAmerica Nashville

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-53894-1
TestAmerica Sample Delivery Group: SAP# / 062027
Client Project/Site: 200 Railroad Ave S - Ellensburg

For:
Conestoga-Rovers & Associates, Inc.
20818 44th Ave W
Suite 190
Lynnwood, Washington 98036

Attn: Brian Peters

Roxanne L Connor

Authorized for release by:
6/11/2014 5:44:38 PM

Roxanne Connor, Senior Project Manager
(615)301-5761
roxanne.connor@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
SDG: SAP# / 062027

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-53894-1	GW-062027-052214-LB-MW-1	Ground Water	05/22/14 10:02	05/24/14 08:20
490-53894-2	GW-062027-052214-LB-MW-2	Ground Water	05/22/14 10:44	05/24/14 08:20
490-53894-3	GW-062027-052214-LB-MW-3	Ground Water	05/22/14 11:23	05/24/14 08:20
490-53894-4	GW-062027-052214-LB-MW-4	Ground Water	05/22/14 12:04	05/24/14 08:20
490-53894-5	GW-062027-052214-LB-MW-5	Ground Water	05/22/14 12:40	05/24/14 08:20
490-53894-6	GW-062027-052214-LB-MW-6	Ground Water	05/22/14 13:20	05/24/14 08:20
490-53894-7	GW-062027-052214-LB-MW-7	Ground Water	05/22/14 14:00	05/24/14 08:20
490-53894-8	GW-062027-052214-LB-MW-8	Ground Water	05/22/14 14:36	05/24/14 08:20



Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
SDG: SAP# / 062027

Job ID: 490-53894-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-53894-1

Comments

No additional comments.

Receipt

The samples were received on 5/24/2014 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 1.7° C, 2.6° C, 3.9° C and 4.9° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

Method(s) 8011: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with batch 165151.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 490-53894-2

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-53894-2

GC VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

Method(s) NWTPH-Dx: The laboratory control sample (LCS) for batch 167171 recovered outside control limits for the following analytes: C10-C28. The associated sample(s) were re-prepared and/or re-analyzed outside holding time with concurring results. The original data is commented and reported.

Method(s) NWTPH-Dx: The following sample(s) contained a hydrocarbon pattern which does not match a typical Total Petroleum Hydrocarbon (TPH) pattern used by the laboratory for quantitative purposes: GW-062027-052214-LB-MW-6 (490-53894-6).

Method(s) NWTPH-Dx: There was insufficient contamination present to perform a pattern match for the following sample(s): GW-062027-052214-LB-MW-1 (490-53894-1).

Method(s) NWTPH-Dx: The following sample(s) contained an unidentified mixture of hydrocarbons: GW-062027-052214-LB-MW-6 (490-53894-6). No match was identified in the laboratory's reference library.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method(s) 6020A: The following sample(s) was diluted due to the nature of the sample matrix (low internal standard recoveries): (490-53894-1 MS), (490-53894-1 MSD), GW-062027-052214-LB-MW-1 (490-53894-1), GW-062027-052214-LB-MW-2 (490-53894-2), GW-062027-052214-LB-MW-3 (490-53894-3), GW-062027-052214-LB-MW-4 (490-53894-4), GW-062027-052214-LB-MW-5 (490-53894-5), GW-062027-052214-LB-MW-6 (490-53894-6), GW-062027-052214-LB-MW-7 (490-53894-7), GW-062027-052214-LB-MW-8 (490-53894-8). Elevated reporting limits (RLs) are provided.

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
SDG: SAP# / 062027

Job ID: 490-53894-2 (Continued)

Laboratory: TestAmerica Nashville (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3510C: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with batch 168003.

Method(s) 3510C: The following sample(s) formed emulsions during the extraction procedure: (490-53894-1 DU), GW-062027-052214-LB-MW-1 (490-53894-1), GW-062027-052214-LB-MW-4 (490-53894-4), GW-062027-052214-LB-MW-8 (490-53894-8). The emulsions were broken up using centrifugation.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
SDG: SAP# / 062027

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-052214-LB-MW-1

Lab Sample ID: 490-53894-1

Date Collected: 05/22/14 10:02

Matrix: Ground Water

Date Received: 05/24/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			06/02/14 20:37	1
Benzene	ND		1.00		ug/L			06/02/14 20:37	1
Ethylbenzene	ND		1.00		ug/L			06/02/14 20:37	1
Toluene	ND		1.00		ug/L			06/02/14 20:37	1
Xylenes, Total	ND		2.00		ug/L			06/02/14 20:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 130		06/02/14 20:37	1
4-Bromofluorobenzene (Surr)	95		70 - 130		06/02/14 20:37	1
Dibromofluoromethane (Surr)	107		70 - 130		06/02/14 20:37	1
Toluene-d8 (Surr)	95		70 - 130		06/02/14 20:37	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			05/29/14 23:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	88		50 - 150		05/29/14 23:45	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0201		ug/L		05/27/14 16:19	05/28/14 03:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	109		50 - 150	05/27/14 16:19	05/28/14 03:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	95.5	*	93.9		ug/L		06/05/14 14:35	06/07/14 19:59	1
C24-C40	ND		93.9		ug/L		06/05/14 14:35	06/07/14 19:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	82		50 - 150	06/05/14 14:35	06/07/14 19:59	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND	*	93.9		ug/L		06/05/14 14:35	06/08/14 12:36	1
C24-C40	ND		93.9		ug/L		06/05/14 14:35	06/08/14 12:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	72		50 - 150	06/05/14 14:35	06/08/14 12:36	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0100		mg/L		06/06/14 15:19	06/10/14 15:37	5

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-052214-LB-MW-2

Lab Sample ID: 490-53894-2

Date Collected: 05/22/14 10:44

Matrix: Ground Water

Date Received: 05/24/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			06/02/14 20:08	1
Benzene	ND		1.00		ug/L			06/02/14 20:08	1
Ethylbenzene	ND		1.00		ug/L			06/02/14 20:08	1
Toluene	ND		1.00		ug/L			06/02/14 20:08	1
Xylenes, Total	ND		2.00		ug/L			06/02/14 20:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 130		06/02/14 20:08	1
4-Bromofluorobenzene (Surr)	96		70 - 130		06/02/14 20:08	1
Dibromofluoromethane (Surr)	105		70 - 130		06/02/14 20:08	1
Toluene-d8 (Surr)	95		70 - 130		06/02/14 20:08	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			05/30/14 00:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	80		50 - 150		05/30/14 00:44	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0203		ug/L		05/27/14 16:19	05/28/14 04:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	93		50 - 150	05/27/14 16:19	05/28/14 04:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND	*	93.9		ug/L		06/05/14 14:35	06/07/14 20:30	1
C24-C40	ND		93.9		ug/L		06/05/14 14:35	06/07/14 20:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	81		50 - 150	06/05/14 14:35	06/07/14 20:30	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND	*	93.9		ug/L		06/05/14 14:35	06/08/14 13:06	1
C24-C40	ND		93.9		ug/L		06/05/14 14:35	06/08/14 13:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	83		50 - 150	06/05/14 14:35	06/08/14 13:06	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0100		mg/L		06/06/14 15:19	06/10/14 15:52	5

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-052214-LB-MW-3

Lab Sample ID: 490-53894-3

Date Collected: 05/22/14 11:23

Matrix: Ground Water

Date Received: 05/24/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			06/02/14 21:05	1
Benzene	ND		1.00		ug/L			06/02/14 21:05	1
Ethylbenzene	ND		1.00		ug/L			06/02/14 21:05	1
Toluene	ND		1.00		ug/L			06/02/14 21:05	1
Xylenes, Total	ND		2.00		ug/L			06/02/14 21:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 130		06/02/14 21:05	1
4-Bromofluorobenzene (Surr)	93		70 - 130		06/02/14 21:05	1
Dibromofluoromethane (Surr)	108		70 - 130		06/02/14 21:05	1
Toluene-d8 (Surr)	95		70 - 130		06/02/14 21:05	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			05/30/14 01:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	84		50 - 150		05/30/14 01:13	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0202		ug/L		05/27/14 16:19	05/28/14 04:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	125		50 - 150	05/27/14 16:19	05/28/14 04:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND	*	93.9		ug/L		06/05/14 14:35	06/07/14 20:45	1
C24-C40	ND		93.9		ug/L		06/05/14 14:35	06/07/14 20:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	83		50 - 150	06/05/14 14:35	06/07/14 20:45	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND	*	93.9		ug/L		06/05/14 14:35	06/08/14 13:22	1
C24-C40	ND		93.9		ug/L		06/05/14 14:35	06/08/14 13:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	84		50 - 150	06/05/14 14:35	06/08/14 13:22	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0100		mg/L		06/06/14 15:19	06/10/14 15:57	5

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-052214-LB-MW-4

Lab Sample ID: 490-53894-4

Date Collected: 05/22/14 12:04

Matrix: Ground Water

Date Received: 05/24/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			06/02/14 21:34	1
Benzene	ND		1.00		ug/L			06/02/14 21:34	1
Ethylbenzene	ND		1.00		ug/L			06/02/14 21:34	1
Toluene	ND		1.00		ug/L			06/02/14 21:34	1
Xylenes, Total	ND		2.00		ug/L			06/02/14 21:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 130		06/02/14 21:34	1
4-Bromofluorobenzene (Surr)	91		70 - 130		06/02/14 21:34	1
Dibromofluoromethane (Surr)	108		70 - 130		06/02/14 21:34	1
Toluene-d8 (Surr)	96		70 - 130		06/02/14 21:34	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			05/30/14 01:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	82		50 - 150		05/30/14 01:43	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0203		ug/L		05/27/14 16:19	05/28/14 04:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	108		50 - 150	05/27/14 16:19	05/28/14 04:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND	*	94.8		ug/L		06/05/14 14:35	06/07/14 21:01	1
C24-C40	ND		94.8		ug/L		06/05/14 14:35	06/07/14 21:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	71		50 - 150	06/05/14 14:35	06/07/14 21:01	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND	*	94.8		ug/L		06/05/14 14:35	06/08/14 13:37	1
C24-C40	ND		94.8		ug/L		06/05/14 14:35	06/08/14 13:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	71		50 - 150	06/05/14 14:35	06/08/14 13:37	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0100		mg/L		06/06/14 15:19	06/10/14 16:02	5

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
SDG: SAP# / 062027

Client Sample ID: GW-062027-052214-LB-MW-5

Lab Sample ID: 490-53894-5

Date Collected: 05/22/14 12:40

Matrix: Ground Water

Date Received: 05/24/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			06/02/14 22:03	1
Benzene	ND		1.00		ug/L			06/02/14 22:03	1
Ethylbenzene	ND		1.00		ug/L			06/02/14 22:03	1
Toluene	ND		1.00		ug/L			06/02/14 22:03	1
Xylenes, Total	ND		2.00		ug/L			06/02/14 22:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 130		06/02/14 22:03	1
4-Bromofluorobenzene (Surr)	93		70 - 130		06/02/14 22:03	1
Dibromofluoromethane (Surr)	105		70 - 130		06/02/14 22:03	1
Toluene-d8 (Surr)	94		70 - 130		06/02/14 22:03	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			05/30/14 02:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	85		50 - 150		05/30/14 02:13	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0203		ug/L		05/27/14 16:19	05/28/14 04:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	87		50 - 150	05/27/14 16:19	05/28/14 04:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND	*	93.9		ug/L		06/05/14 14:35	06/07/14 21:16	1
C24-C40	ND		93.9		ug/L		06/05/14 14:35	06/07/14 21:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	89		50 - 150	06/05/14 14:35	06/07/14 21:16	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND	*	93.9		ug/L		06/05/14 14:35	06/08/14 13:52	1
C24-C40	ND		93.9		ug/L		06/05/14 14:35	06/08/14 13:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	93		50 - 150	06/05/14 14:35	06/08/14 13:52	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0100		mg/L		06/06/14 15:19	06/10/14 16:07	5

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-052214-LB-MW-6

Lab Sample ID: 490-53894-6

Date Collected: 05/22/14 13:20

Matrix: Ground Water

Date Received: 05/24/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			06/02/14 22:31	1
Benzene	ND		1.00		ug/L			06/02/14 22:31	1
Ethylbenzene	ND		1.00		ug/L			06/02/14 22:31	1
Toluene	ND		1.00		ug/L			06/02/14 22:31	1
Xylenes, Total	ND		2.00		ug/L			06/02/14 22:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 130		06/02/14 22:31	1
4-Bromofluorobenzene (Surr)	95		70 - 130		06/02/14 22:31	1
Dibromofluoromethane (Surr)	108		70 - 130		06/02/14 22:31	1
Toluene-d8 (Surr)	95		70 - 130		06/02/14 22:31	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			05/30/14 02:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	83		50 - 150		05/30/14 02:42	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0202		ug/L		05/27/14 16:19	05/28/14 05:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	90		50 - 150	05/27/14 16:19	05/28/14 05:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	432	*	93.9		ug/L		06/05/14 14:35	06/07/14 21:32	1
C24-C40	ND		93.9		ug/L		06/05/14 14:35	06/07/14 21:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	76		50 - 150	06/05/14 14:35	06/07/14 21:32	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	383	*	93.9		ug/L		06/05/14 14:35	06/08/14 14:08	1
C24-C40	ND		93.9		ug/L		06/05/14 14:35	06/08/14 14:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	83		50 - 150	06/05/14 14:35	06/08/14 14:08	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0100		mg/L		06/06/14 15:19	06/10/14 16:22	5

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-052214-LB-MW-7

Lab Sample ID: 490-53894-7

Date Collected: 05/22/14 14:00

Matrix: Ground Water

Date Received: 05/24/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			06/02/14 23:00	1
Benzene	ND		1.00		ug/L			06/02/14 23:00	1
Ethylbenzene	ND		1.00		ug/L			06/02/14 23:00	1
Toluene	ND		1.00		ug/L			06/02/14 23:00	1
Xylenes, Total	ND		2.00		ug/L			06/02/14 23:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 130		06/02/14 23:00	1
4-Bromofluorobenzene (Surr)	94		70 - 130		06/02/14 23:00	1
Dibromofluoromethane (Surr)	107		70 - 130		06/02/14 23:00	1
Toluene-d8 (Surr)	95		70 - 130		06/02/14 23:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			05/30/14 03:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	87		50 - 150		05/30/14 03:12	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0200		ug/L		05/27/14 16:19	05/28/14 05:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	90		50 - 150	05/27/14 16:19	05/28/14 05:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND	*	93.9		ug/L		06/05/14 14:35	06/07/14 21:47	1
C24-C40	ND		93.9		ug/L		06/05/14 14:35	06/07/14 21:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	79		50 - 150	06/05/14 14:35	06/07/14 21:47	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND	*	93.9		ug/L		06/05/14 14:35	06/08/14 14:23	1
C24-C40	ND		93.9		ug/L		06/05/14 14:35	06/08/14 14:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	82		50 - 150	06/05/14 14:35	06/08/14 14:23	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0100		mg/L		06/06/14 15:19	06/10/14 16:27	5

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-052214-LB-MW-8

Lab Sample ID: 490-53894-8

Date Collected: 05/22/14 14:36

Matrix: Ground Water

Date Received: 05/24/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			06/02/14 23:29	1
Benzene	ND		1.00		ug/L			06/02/14 23:29	1
Ethylbenzene	ND		1.00		ug/L			06/02/14 23:29	1
Toluene	ND		1.00		ug/L			06/02/14 23:29	1
Xylenes, Total	ND		2.00		ug/L			06/02/14 23:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 130		06/02/14 23:29	1
4-Bromofluorobenzene (Surr)	93		70 - 130		06/02/14 23:29	1
Dibromofluoromethane (Surr)	107		70 - 130		06/02/14 23:29	1
Toluene-d8 (Surr)	94		70 - 130		06/02/14 23:29	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			05/30/14 03:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	82		50 - 150		05/30/14 03:41	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0201		ug/L		05/27/14 16:19	05/28/14 05:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	121		50 - 150	05/27/14 16:19	05/28/14 05:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND	*	93.9		ug/L		06/05/14 14:35	06/07/14 22:03	1
C24-C40	ND		93.9		ug/L		06/05/14 14:35	06/07/14 22:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	79		50 - 150	06/05/14 14:35	06/07/14 22:03	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND	*	93.9		ug/L		06/05/14 14:35	06/08/14 14:38	1
C24-C40	ND		93.9		ug/L		06/05/14 14:35	06/08/14 14:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	78		50 - 150	06/05/14 14:35	06/08/14 14:38	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0100		mg/L		06/06/14 15:19	06/10/14 16:32	5

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
SDG: SAP# / 062027

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 490-166358/7

Matrix: Water

Analysis Batch: 166358

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.00		ug/L			06/02/14 18:41	1
Benzene	ND		1.00		ug/L			06/02/14 18:41	1
Ethylbenzene	ND		1.00		ug/L			06/02/14 18:41	1
Toluene	ND		1.00		ug/L			06/02/14 18:41	1
Xylenes, Total	ND		2.00		ug/L			06/02/14 18:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 130		06/02/14 18:41	1
4-Bromofluorobenzene (Surr)	96		70 - 130		06/02/14 18:41	1
Dibromofluoromethane (Surr)	104		70 - 130		06/02/14 18:41	1
Toluene-d8 (Surr)	94		70 - 130		06/02/14 18:41	1

Lab Sample ID: LCS 490-166358/3

Matrix: Water

Analysis Batch: 166358

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	50.0	51.59		ug/L		103	77 - 121
Benzene	50.0	50.61		ug/L		101	80 - 121
Ethylbenzene	50.0	47.15		ug/L		94	80 - 130
Toluene	50.0	44.85		ug/L		90	80 - 126
Xylenes, Total	100	96.58		ug/L		97	80 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	104		70 - 130
Toluene-d8 (Surr)	95		70 - 130

Lab Sample ID: LCSD 490-166358/4

Matrix: Water

Analysis Batch: 166358

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane	50.0	52.21		ug/L		104	77 - 121	1	17
Benzene	50.0	51.89		ug/L		104	80 - 121	2	17
Ethylbenzene	50.0	48.23		ug/L		96	80 - 130	2	15
Toluene	50.0	46.39		ug/L		93	80 - 126	3	15
Xylenes, Total	100	99.64		ug/L		100	80 - 132	3	15

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	103		70 - 130
Toluene-d8 (Surr)	94		70 - 130

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
SDG: SAP# / 062027

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 490-53894-2 MS

Matrix: Ground Water

Analysis Batch: 166358

Client Sample ID: GW-062027-052214-LB-MW-2

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
1,2-Dichloroethane	ND		50.0	55.62		ug/L		111	64 - 136
Benzene	ND		50.0	59.39		ug/L		119	75 - 133
Ethylbenzene	ND		50.0	54.83		ug/L		110	79 - 139
Toluene	ND		50.0	52.27		ug/L		105	75 - 136
Xylenes, Total	ND		100	111.2		ug/L		111	74 - 141

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	96		70 - 130
Dibromofluoromethane (Surr)	102		70 - 130
Toluene-d8 (Surr)	94		70 - 130

Lab Sample ID: 490-53894-2 MSD

Matrix: Ground Water

Analysis Batch: 166358

Client Sample ID: GW-062027-052214-LB-MW-2

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
1,2-Dichloroethane	ND		50.0	54.38		ug/L		109	64 - 136	2	17
Benzene	ND		50.0	58.08		ug/L		116	75 - 133	2	17
Ethylbenzene	ND		50.0	53.54		ug/L		107	79 - 139	2	15
Toluene	ND		50.0	50.93		ug/L		102	75 - 136	3	15
Xylenes, Total	ND		100	108.1		ug/L		108	74 - 141	3	15

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	103		70 - 130
Toluene-d8 (Surr)	94		70 - 130

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 490-165578/6

Matrix: Water

Analysis Batch: 165578

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C6-C12	ND		100		ug/L			05/29/14 13:53	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene	83		50 - 150		05/29/14 13:53	1

Lab Sample ID: LCS 490-165578/3

Matrix: Water

Analysis Batch: 165578

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
C6-C12	1000	919.3		ug/L		92	39 - 143

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 490-165578/3
Matrix: Water
Analysis Batch: 165578

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
a,a,a-Trifluorotoluene	118		50 - 150

Lab Sample ID: 490-53894-1 DU
Matrix: Ground Water
Analysis Batch: 165578

Client Sample ID: GW-062027-052214-LB-MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD
								Limit
C6-C12	ND		ND		ug/L		NC	18

	DU	DU	
Surrogate	%Recovery	Qualifier	Limits
a,a,a-Trifluorotoluene	83		50 - 150

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 490-165140/2-A
Matrix: Water
Analysis Batch: 165151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 165140

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0200		ug/L		05/27/14 16:19	05/28/14 01:58	1

	MB	MB		Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			
1,3-Dichlorobenzene	113		50 - 150	05/27/14 16:19	05/28/14 01:58	1

Lab Sample ID: LCS 490-165140/3-A
Matrix: Water
Analysis Batch: 165151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 165140

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,3-Dichlorobenzene	92		50 - 150

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

Lab Sample ID: MB 490-167171/1-A
Matrix: Water
Analysis Batch: 167776

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 167171

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		100		ug/L		06/05/14 14:35	06/07/14 19:28	1
C24-C40	ND		100		ug/L		06/05/14 14:35	06/07/14 19:28	1

	MB	MB		Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			
o-Terphenyl	88		50 - 150	06/05/14 14:35	06/07/14 19:28	1

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 490-167171/2-A
Matrix: Water
Analysis Batch: 167776

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 167171

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C24	1000	429.8	*	ug/L		43	51 - 132
		LCS	LCS				
Surrogate	%Recovery	Qualifier	Limits				
<i>o</i> -Terphenyl	71		50 - 150				

Lab Sample ID: 490-53894-1 DU
Matrix: Ground Water
Analysis Batch: 167776

Client Sample ID: GW-062027-052214-LB-MW-1
Prep Type: Total/NA
Prep Batch: 167171

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
C10-C24	95.5	*	ND	*	ug/L		23	41
C24-C40	ND		ND		ug/L		NC	41
		DU	DU					
Surrogate	%Recovery	Qualifier	Limits					
<i>o</i> -Terphenyl	77		50 - 150					

Lab Sample ID: 490-53894-1 DU
Matrix: Ground Water
Analysis Batch: 167811

Client Sample ID: GW-062027-052214-LB-MW-1
Prep Type: Total/NA
Prep Batch: 167171

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
C10-C24	ND	*	ND	*	ug/L		23	41
C24-C40	ND		ND		ug/L		NC	41
		DU	DU					
Surrogate	%Recovery	Qualifier	Limits					
<i>o</i> -Terphenyl	68		50 - 150					

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Lab Sample ID: MB 490-167171/12-A
Matrix: Water
Analysis Batch: 167811

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 167171

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		100		ug/L		06/07/14 15:56	06/08/14 12:05	1
C24-C40	ND		100		ug/L		06/07/14 15:56	06/08/14 12:05	1
		MB	MB						
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>o</i> -Terphenyl	81		50 - 150	06/07/14 15:56	06/08/14 12:05	1			

Lab Sample ID: LCS 490-167171/13-A
Matrix: Water
Analysis Batch: 167811

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 167171

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C24	1000	441.5	*	ug/L		44	51 - 132

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup (Continued)

Lab Sample ID: LCS 490-167171/13-A
 Matrix: Water
 Analysis Batch: 167811

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 167171

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	67		50 - 150

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 490-167518/1-A
 Matrix: Water
 Analysis Batch: 168582

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 167518

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		06/06/14 15:19	06/10/14 15:22	1

Lab Sample ID: LCS 490-167518/2-A
 Matrix: Water
 Analysis Batch: 168582

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 167518

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.100	0.1047		mg/L		105	80 - 120

Lab Sample ID: LCSD 490-167518/3-A
 Matrix: Water
 Analysis Batch: 168582

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 167518

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	0.100	0.1046		mg/L		105	80 - 120	0	20

Lab Sample ID: 490-53894-1 MS
 Matrix: Ground Water
 Analysis Batch: 168582

Client Sample ID: GW-062027-052214-LB-MW-1
 Prep Type: Total/NA
 Prep Batch: 167518

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		0.100	0.1041		mg/L		103	75 - 125

Lab Sample ID: 490-53894-1 MSD
 Matrix: Ground Water
 Analysis Batch: 168582

Client Sample ID: GW-062027-052214-LB-MW-1
 Prep Type: Total/NA
 Prep Batch: 167518

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND		0.100	0.1057		mg/L		104	75 - 125	2	20

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

GC/MS VOA

Analysis Batch: 166358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-53894-1	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	8260B	
490-53894-2	GW-062027-052214-LB-MW-2	Total/NA	Ground Water	8260B	
490-53894-2 MS	GW-062027-052214-LB-MW-2	Total/NA	Ground Water	8260B	
490-53894-2 MSD	GW-062027-052214-LB-MW-2	Total/NA	Ground Water	8260B	
490-53894-3	GW-062027-052214-LB-MW-3	Total/NA	Ground Water	8260B	
490-53894-4	GW-062027-052214-LB-MW-4	Total/NA	Ground Water	8260B	
490-53894-5	GW-062027-052214-LB-MW-5	Total/NA	Ground Water	8260B	
490-53894-6	GW-062027-052214-LB-MW-6	Total/NA	Ground Water	8260B	
490-53894-7	GW-062027-052214-LB-MW-7	Total/NA	Ground Water	8260B	
490-53894-8	GW-062027-052214-LB-MW-8	Total/NA	Ground Water	8260B	
LCS 490-166358/3	Lab Control Sample	Total/NA	Water	8260B	
LCS 490-166358/4	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 490-166358/7	Method Blank	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 165578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-53894-1	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	NWTPH-Gx	
490-53894-1 DU	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	NWTPH-Gx	
490-53894-2	GW-062027-052214-LB-MW-2	Total/NA	Ground Water	NWTPH-Gx	
490-53894-3	GW-062027-052214-LB-MW-3	Total/NA	Ground Water	NWTPH-Gx	
490-53894-4	GW-062027-052214-LB-MW-4	Total/NA	Ground Water	NWTPH-Gx	
490-53894-5	GW-062027-052214-LB-MW-5	Total/NA	Ground Water	NWTPH-Gx	
490-53894-6	GW-062027-052214-LB-MW-6	Total/NA	Ground Water	NWTPH-Gx	
490-53894-7	GW-062027-052214-LB-MW-7	Total/NA	Ground Water	NWTPH-Gx	
490-53894-8	GW-062027-052214-LB-MW-8	Total/NA	Ground Water	NWTPH-Gx	
LCS 490-165578/3	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
MB 490-165578/6	Method Blank	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 165140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-53894-1	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	8011	
490-53894-2	GW-062027-052214-LB-MW-2	Total/NA	Ground Water	8011	
490-53894-3	GW-062027-052214-LB-MW-3	Total/NA	Ground Water	8011	
490-53894-4	GW-062027-052214-LB-MW-4	Total/NA	Ground Water	8011	
490-53894-5	GW-062027-052214-LB-MW-5	Total/NA	Ground Water	8011	
490-53894-6	GW-062027-052214-LB-MW-6	Total/NA	Ground Water	8011	
490-53894-7	GW-062027-052214-LB-MW-7	Total/NA	Ground Water	8011	
490-53894-8	GW-062027-052214-LB-MW-8	Total/NA	Ground Water	8011	
LCS 490-165140/3-A	Lab Control Sample	Total/NA	Water	8011	
MB 490-165140/2-A	Method Blank	Total/NA	Water	8011	

Analysis Batch: 165151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-53894-1	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	8011	165140
490-53894-2	GW-062027-052214-LB-MW-2	Total/NA	Ground Water	8011	165140
490-53894-3	GW-062027-052214-LB-MW-3	Total/NA	Ground Water	8011	165140

TestAmerica Nashville

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

GC Semi VOA (Continued)

Analysis Batch: 165151 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-53894-4	GW-062027-052214-LB-MW-4	Total/NA	Ground Water	8011	165140
490-53894-5	GW-062027-052214-LB-MW-5	Total/NA	Ground Water	8011	165140
490-53894-6	GW-062027-052214-LB-MW-6	Total/NA	Ground Water	8011	165140
490-53894-7	GW-062027-052214-LB-MW-7	Total/NA	Ground Water	8011	165140
490-53894-8	GW-062027-052214-LB-MW-8	Total/NA	Ground Water	8011	165140
LCS 490-165140/3-A	Lab Control Sample	Total/NA	Water	8011	165140
MB 490-165140/2-A	Method Blank	Total/NA	Water	8011	165140

Prep Batch: 167171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-53894-1	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	3510C	
490-53894-1 DU	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	3510C	
490-53894-2	GW-062027-052214-LB-MW-2	Total/NA	Ground Water	3510C	
490-53894-3	GW-062027-052214-LB-MW-3	Total/NA	Ground Water	3510C	
490-53894-4	GW-062027-052214-LB-MW-4	Total/NA	Ground Water	3510C	
490-53894-5	GW-062027-052214-LB-MW-5	Total/NA	Ground Water	3510C	
490-53894-6	GW-062027-052214-LB-MW-6	Total/NA	Ground Water	3510C	
490-53894-7	GW-062027-052214-LB-MW-7	Total/NA	Ground Water	3510C	
490-53894-8	GW-062027-052214-LB-MW-8	Total/NA	Ground Water	3510C	
LCS 490-167171/13-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 490-167171/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 490-167171/12-A	Method Blank	Total/NA	Water	3510C	
MB 490-167171/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 167776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-53894-1	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-1 DU	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-2	GW-062027-052214-LB-MW-2	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-3	GW-062027-052214-LB-MW-3	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-4	GW-062027-052214-LB-MW-4	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-5	GW-062027-052214-LB-MW-5	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-6	GW-062027-052214-LB-MW-6	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-7	GW-062027-052214-LB-MW-7	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-8	GW-062027-052214-LB-MW-8	Total/NA	Ground Water	NWTPH-Dx	167171
LCS 490-167171/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	167171
MB 490-167171/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	167171

Analysis Batch: 167811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-53894-1	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-1 DU	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-2	GW-062027-052214-LB-MW-2	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-3	GW-062027-052214-LB-MW-3	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-4	GW-062027-052214-LB-MW-4	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-5	GW-062027-052214-LB-MW-5	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-6	GW-062027-052214-LB-MW-6	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-7	GW-062027-052214-LB-MW-7	Total/NA	Ground Water	NWTPH-Dx	167171
490-53894-8	GW-062027-052214-LB-MW-8	Total/NA	Ground Water	NWTPH-Dx	167171
LCS 490-167171/13-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	167171
MB 490-167171/12-A	Method Blank	Total/NA	Water	NWTPH-Dx	167171

TestAmerica Nashville

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

Metals

Prep Batch: 167518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-53894-1	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	3010A	
490-53894-1 MS	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	3010A	
490-53894-1 MSD	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	3010A	
490-53894-2	GW-062027-052214-LB-MW-2	Total/NA	Ground Water	3010A	
490-53894-3	GW-062027-052214-LB-MW-3	Total/NA	Ground Water	3010A	
490-53894-4	GW-062027-052214-LB-MW-4	Total/NA	Ground Water	3010A	
490-53894-5	GW-062027-052214-LB-MW-5	Total/NA	Ground Water	3010A	
490-53894-6	GW-062027-052214-LB-MW-6	Total/NA	Ground Water	3010A	
490-53894-7	GW-062027-052214-LB-MW-7	Total/NA	Ground Water	3010A	
490-53894-8	GW-062027-052214-LB-MW-8	Total/NA	Ground Water	3010A	
LCS 490-167518/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 490-167518/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
MB 490-167518/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 168582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-53894-1	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	6020A	167518
490-53894-1 MS	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	6020A	167518
490-53894-1 MSD	GW-062027-052214-LB-MW-1	Total/NA	Ground Water	6020A	167518
490-53894-2	GW-062027-052214-LB-MW-2	Total/NA	Ground Water	6020A	167518
490-53894-3	GW-062027-052214-LB-MW-3	Total/NA	Ground Water	6020A	167518
490-53894-4	GW-062027-052214-LB-MW-4	Total/NA	Ground Water	6020A	167518
490-53894-5	GW-062027-052214-LB-MW-5	Total/NA	Ground Water	6020A	167518
490-53894-6	GW-062027-052214-LB-MW-6	Total/NA	Ground Water	6020A	167518
490-53894-7	GW-062027-052214-LB-MW-7	Total/NA	Ground Water	6020A	167518
490-53894-8	GW-062027-052214-LB-MW-8	Total/NA	Ground Water	6020A	167518
LCS 490-167518/2-A	Lab Control Sample	Total/NA	Water	6020A	167518
LCSD 490-167518/3-A	Lab Control Sample Dup	Total/NA	Water	6020A	167518
MB 490-167518/1-A	Method Blank	Total/NA	Water	6020A	167518

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-052214-LB-MW-1

Lab Sample ID: 490-53894-1

Date Collected: 05/22/14 10:02

Matrix: Ground Water

Date Received: 05/24/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	166358	06/02/14 20:37	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	165578	05/29/14 23:45	AMC	TAL NSH
Total/NA	Prep	8011			34.8 mL	2 mL	165140	05/27/14 16:19	MWT	TAL NSH
Total/NA	Analysis	8011		1	34.8 mL	2 mL	165151	05/28/14 03:43	MWT	TAL NSH
Total/NA	Prep	3510C			1065 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1 mL	167776	06/07/14 19:59	GMH	TAL NSH
Total/NA	Prep	3510C			1065 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1 mL	167811	06/08/14 12:36	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	167518	06/06/14 15:19	JBD	TAL NSH
Total/NA	Analysis	6020A		5	50 mL	50 mL	168582	06/10/14 15:37	BWW	TAL NSH

Client Sample ID: GW-062027-052214-LB-MW-2

Lab Sample ID: 490-53894-2

Date Collected: 05/22/14 10:44

Matrix: Ground Water

Date Received: 05/24/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	166358	06/02/14 20:08	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	165578	05/30/14 00:44	AMC	TAL NSH
Total/NA	Prep	8011			34.4 mL	2 mL	165140	05/27/14 16:19	MWT	TAL NSH
Total/NA	Analysis	8011		1	34.4 mL	2 mL	165151	05/28/14 04:01	MWT	TAL NSH
Total/NA	Prep	3510C			1065 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1 mL	167776	06/07/14 20:30	GMH	TAL NSH
Total/NA	Prep	3510C			1065 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1 mL	167811	06/08/14 13:06	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	167518	06/06/14 15:19	JBD	TAL NSH
Total/NA	Analysis	6020A		5	50 mL	50 mL	168582	06/10/14 15:52	BWW	TAL NSH

Client Sample ID: GW-062027-052214-LB-MW-3

Lab Sample ID: 490-53894-3

Date Collected: 05/22/14 11:23

Matrix: Ground Water

Date Received: 05/24/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	166358	06/02/14 21:05	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	165578	05/30/14 01:13	AMC	TAL NSH
Total/NA	Prep	8011			34.7 mL	2 mL	165140	05/27/14 16:19	MWT	TAL NSH
Total/NA	Analysis	8011		1	34.7 mL	2 mL	165151	05/28/14 04:18	MWT	TAL NSH
Total/NA	Prep	3510C			1065 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1 mL	167776	06/07/14 20:45	GMH	TAL NSH
Total/NA	Prep	3510C			1065 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1 mL	167811	06/08/14 13:22	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	167518	06/06/14 15:19	JBD	TAL NSH
Total/NA	Analysis	6020A		5	50 mL	50 mL	168582	06/10/14 15:57	BWW	TAL NSH

TestAmerica Nashville

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-052214-LB-MW-4

Lab Sample ID: 490-53894-4

Date Collected: 05/22/14 12:04

Matrix: Ground Water

Date Received: 05/24/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	166358	06/02/14 21:34	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	165578	05/30/14 01:43	AMC	TAL NSH
Total/NA	Prep	8011			34.4 mL	2 mL	165140	05/27/14 16:19	MWT	TAL NSH
Total/NA	Analysis	8011		1	34.4 mL	2 mL	165151	05/28/14 04:36	MWT	TAL NSH
Total/NA	Prep	3510C			1055 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1055 mL	1 mL	167776	06/07/14 21:01	GMH	TAL NSH
Total/NA	Prep	3510C			1055 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1055 mL	1 mL	167811	06/08/14 13:37	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	167518	06/06/14 15:19	JBD	TAL NSH
Total/NA	Analysis	6020A		5	50 mL	50 mL	168582	06/10/14 16:02	BWW	TAL NSH

Client Sample ID: GW-062027-052214-LB-MW-5

Lab Sample ID: 490-53894-5

Date Collected: 05/22/14 12:40

Matrix: Ground Water

Date Received: 05/24/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	166358	06/02/14 22:03	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	165578	05/30/14 02:13	AMC	TAL NSH
Total/NA	Prep	8011			34.5 mL	2 mL	165140	05/27/14 16:19	MWT	TAL NSH
Total/NA	Analysis	8011		1	34.5 mL	2 mL	165151	05/28/14 04:54	MWT	TAL NSH
Total/NA	Prep	3510C			1065 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1 mL	167776	06/07/14 21:16	GMH	TAL NSH
Total/NA	Prep	3510C			1065 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1 mL	167811	06/08/14 13:52	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	167518	06/06/14 15:19	JBD	TAL NSH
Total/NA	Analysis	6020A		5	50 mL	50 mL	168582	06/10/14 16:07	BWW	TAL NSH

Client Sample ID: GW-062027-052214-LB-MW-6

Lab Sample ID: 490-53894-6

Date Collected: 05/22/14 13:20

Matrix: Ground Water

Date Received: 05/24/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	166358	06/02/14 22:31	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	165578	05/30/14 02:42	AMC	TAL NSH
Total/NA	Prep	8011			34.6 mL	2 mL	165140	05/27/14 16:19	MWT	TAL NSH
Total/NA	Analysis	8011		1	34.6 mL	2 mL	165151	05/28/14 05:11	MWT	TAL NSH
Total/NA	Prep	3510C			1065 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1 mL	167776	06/07/14 21:32	GMH	TAL NSH
Total/NA	Prep	3510C			1065 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1 mL	167811	06/08/14 14:08	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	167518	06/06/14 15:19	JBD	TAL NSH
Total/NA	Analysis	6020A		5	50 mL	50 mL	168582	06/10/14 16:22	BWW	TAL NSH

TestAmerica Nashville

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
 SDG: SAP# / 062027

Client Sample ID: GW-062027-052214-LB-MW-7

Lab Sample ID: 490-53894-7

Date Collected: 05/22/14 14:00

Matrix: Ground Water

Date Received: 05/24/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	166358	06/02/14 23:00	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	165578	05/30/14 03:12	AMC	TAL NSH
Total/NA	Prep	8011			35 mL	2 mL	165140	05/27/14 16:19	MWT	TAL NSH
Total/NA	Analysis	8011		1	35 mL	2 mL	165151	05/28/14 05:28	MWT	TAL NSH
Total/NA	Prep	3510C			1065 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1 mL	167776	06/07/14 21:47	GMH	TAL NSH
Total/NA	Prep	3510C			1065 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1 mL	167811	06/08/14 14:23	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	167518	06/06/14 15:19	JBD	TAL NSH
Total/NA	Analysis	6020A		5	50 mL	50 mL	168582	06/10/14 16:27	BWW	TAL NSH

Client Sample ID: GW-062027-052214-LB-MW-8

Lab Sample ID: 490-53894-8

Date Collected: 05/22/14 14:36

Matrix: Ground Water

Date Received: 05/24/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	166358	06/02/14 23:29	EML	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	165578	05/30/14 03:41	AMC	TAL NSH
Total/NA	Prep	8011			34.8 mL	2 mL	165140	05/27/14 16:19	MWT	TAL NSH
Total/NA	Analysis	8011		1	34.8 mL	2 mL	165151	05/28/14 05:46	MWT	TAL NSH
Total/NA	Prep	3510C			1065 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1 mL	167776	06/07/14 22:03	GMH	TAL NSH
Total/NA	Prep	3510C			1065 mL	1 mL	167171	06/05/14 14:35	LSR	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1 mL	167811	06/08/14 14:38	GMH	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	167518	06/06/14 15:19	JBD	TAL NSH
Total/NA	Analysis	6020A		5	50 mL	50 mL	168582	06/10/14 16:32	BWW	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
SDG: SAP# / 062027

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	TAL NSH
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	TAL NSH
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL NSH
NWTPH-Dx	Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup	NWTPH	TAL NSH
6020A	Metals (ICP/MS)	SW846	TAL NSH

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

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

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg

TestAmerica Job ID: 490-53894-1
SDG: SAP# / 062027

Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C789	07-19-14

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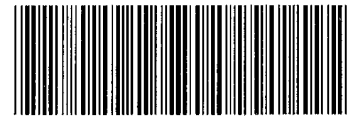
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COOLER RECEIPT FORM



490-53894 Chain of Custody

Cooler Received/Opened On 5/24/2014 @ 0820

1. Tracking # 7535 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 17610176

2. Temperature of rep. sample or temp blank when opened: 26 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) ADH

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) CH

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) CH

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) CH

I certify that I attached a label with the unique LIMS number to each container (initial) CH

21. Were there Non-Conformance issues at login? YES...NO... Was a NCM generated? YES...NO...# _____

COOLER RECEIPT FORM

Cooler Received/Opened On 5/24/2014 @ 0820

1. Tracking # 7544 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 17610176

2. Temperature of rep. sample or temp blank when opened: 4.9 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) AJH

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) AJH

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used? YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) AJH

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) AJH

I certify that I attached a label with the unique LIMS number to each container (initial) AJH

21. Were there Non-Conformance issues at login? YES...NO...# Was a NCM generated? YES...NO...#

COOLER RECEIPT FORM

TAN 538M

Cooler Received/Opened On 5/24/2014 @ 0820

1. Tracking # 7524 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 94660220

2. Temperature of rep. sample or temp blank when opened: 3.9 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 11 Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) MDM

7. Were custody seals on containers: YES NO and Intact YES...NO... NA

Were these signed and dated correctly? YES...NO... NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES... NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO... NA

14. Was there a Trip Blank in this cooler? YES... NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) MDM

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO... NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO... NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) MDM

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) MDM

I certify that I attached a label with the unique LIMS number to each container (initial) MDM

21. Were there Non-Conformance issues at login? YES... NO Was a NCM generated? YES... NO...# _____

COOLER RECEIPT FORM

TAN 53894

Cooler Received/Opened On : 05/24/2014 @ 0820

1. Tracking # 7498 (last 4 digits, FedEx)

Courier: Fed-ex IR Gun: 96210146

2. Temperature of rep. sample or temp blank when opened: 17 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) h

7. Were custody seals on containers: YES NO and Intact YES NO NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES.. NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO.. NA

14. Was there a Trip Blank in this cooler? YES. NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) h

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO.. NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO.. NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) h

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) h

I certify that I attached a label with the unique LIMS number to each container (initial) h

21. Were there Non-Conformance issues at login? YES... NO Was a NCM generated? YES.. NO...# _____

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 490-53894-2

SDG Number: SAP# / 062027

Login Number: 53894

List Number: 1

Creator: Huckaba, Jimmy

List Source: TestAmerica Nashville

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-58741-1
TestAmerica Sample Delivery Group: 062027
Client Project/Site: 200 Railroad Ave S - Ellensburg, WA

For:
Conestoga-Rovers & Associates, Inc.
20818 44th Ave W
Suite 190
Lynnwood, Washington 98036

Attn: Brian Peters

Heather Baker

Authorized for release by:
8/21/2014 1:35:55 PM
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Designee for
Roxanne Connor, Senior Project Manager
(615)301-5761
roxanne.connor@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
SDG: 062027

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-58741-1	GW-062027-080514-JB-MW-1	Ground Water	08/05/14 07:30	08/06/14 08:20
490-58741-2	GW-062027-080514-JB-MW-2	Ground Water	08/05/14 08:10	08/06/14 08:20
490-58741-3	GW-062027-080514-JB-MW-3	Ground Water	08/05/14 08:40	08/06/14 08:20
490-58741-4	GW-062027-080514-JB-MW-4	Ground Water	08/05/14 09:20	08/06/14 08:20
490-58741-5	GW-062027-080514-JB-MW-5	Ground Water	08/05/14 09:53	08/06/14 08:20
490-58741-6	GW-062027-080514-JB-MW-6	Ground Water	08/05/14 10:27	08/06/14 08:20
490-58741-7	GW-062027-080514-JB-MW-7	Ground Water	08/05/14 11:03	08/06/14 08:20
490-58741-8	GW-062027-080514-JB-MW-8	Ground Water	08/05/14 11:35	08/06/14 08:20

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
SDG: 062027

Job ID: 490-58741-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-58741-1

Comments

No additional comments.

Receipt

The samples were received on 8/6/2014 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 1.8° C, 1.9° C, 3.1° C and 4.4° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 490-58741-2

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-58741-2

Comments

No additional comments.

Receipt

The samples were received on 8/6/2014 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 1.8° C, 1.9° C, 3.1° C and 4.4° C.

GC VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

Method(s) NWTPH-Dx: There was insufficient contamination present to perform a pattern match for the following sample(s): GW-062027-080514-JB-MW-1 (490-58741-1).

Method(s) NWTPH-Dx: The following sample(s) contained a hydrocarbon pattern which does not match a typical Total Petroleum Hydrocarbon (TPH) pattern used by the laboratory for quantitative purposes: GW-062027-080514-JB-MW-6 (490-58741-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/MS/MSD) associated with batch 184482.

Method(s) 3510C: The following sample(s) formed emulsions during the extraction procedure: GW-062027-080514-JB-MW-1 (490-58741-1), GW-062027-080514-JB-MW-4 (490-58741-4), GW-062027-080514-JB-MW-6 (490-58741-6), GW-062027-080514-JB-MW-8 (490-58741-8). The emulsions were broken up using centrifugation.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
SDG: 062027

Job ID: 490-58741-2 (Continued)

Laboratory: TestAmerica Nashville (Continued)

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
SDG: 062027

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Client Sample ID: GW-062027-080514-JB-MW-1

Lab Sample ID: 490-58741-1

Date Collected: 08/05/14 07:30

Matrix: Ground Water

Date Received: 08/06/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			08/07/14 00:19	1
1,2-Dibromoethane (EDB)	ND		1.00		ug/L			08/07/14 00:19	1
1,2-Dichloroethane	ND		1.00		ug/L			08/07/14 00:19	1
Diisopropyl ether	ND		2.00		ug/L			08/07/14 00:19	1
Ethylbenzene	ND		1.00		ug/L			08/07/14 00:19	1
Ethyl tert-butyl ether	ND		1.00		ug/L			08/07/14 00:19	1
Methyl tert-butyl ether	ND		1.00		ug/L			08/07/14 00:19	1
Tert-amyl methyl ether	ND		1.00		ug/L			08/07/14 00:19	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			08/07/14 00:19	1
Toluene	ND		1.00		ug/L			08/07/14 00:19	1
Xylenes, Total	ND		2.00		ug/L			08/07/14 00:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130		08/07/14 00:19	1
Dibromofluoromethane (Surr)	90		70 - 130		08/07/14 00:19	1
1,2-Dichloroethane-d4 (Surr)	93		70 - 130		08/07/14 00:19	1
Toluene-d8 (Surr)	101		70 - 130		08/07/14 00:19	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			08/07/14 22:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	125		50 - 150		08/07/14 22:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	129		93.9		ug/L		08/18/14 06:26	08/19/14 13:53	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/19/14 13:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	75		50 - 150	08/18/14 06:26	08/19/14 13:53	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	102		93.9		ug/L		08/18/14 06:26	08/20/14 01:53	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/20/14 01:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	73		50 - 150	08/18/14 06:26	08/20/14 01:53	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		08/11/14 13:45	08/13/14 17:20	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Client Sample ID: GW-062027-080514-JB-MW-2

Lab Sample ID: 490-58741-2

Date Collected: 08/05/14 08:10

Matrix: Ground Water

Date Received: 08/06/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			08/06/14 21:34	1
1,2-Dibromoethane (EDB)	ND		1.00		ug/L			08/06/14 21:34	1
1,2-Dichloroethane	ND		1.00		ug/L			08/06/14 21:34	1
Diisopropyl ether	ND		2.00		ug/L			08/06/14 21:34	1
Ethylbenzene	ND		1.00		ug/L			08/06/14 21:34	1
Ethyl tert-butyl ether	ND		1.00		ug/L			08/06/14 21:34	1
Methyl tert-butyl ether	ND		1.00		ug/L			08/06/14 21:34	1
Tert-amyl methyl ether	ND		1.00		ug/L			08/06/14 21:34	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			08/06/14 21:34	1
Toluene	ND		1.00		ug/L			08/06/14 21:34	1
Xylenes, Total	ND		2.00		ug/L			08/06/14 21:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130					08/06/14 21:34	1
Dibromofluoromethane (Surr)	97		70 - 130					08/06/14 21:34	1
1,2-Dichloroethane-d4 (Surr)	92		70 - 130					08/06/14 21:34	1
Toluene-d8 (Surr)	100		70 - 130					08/06/14 21:34	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			08/07/14 23:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	132		50 - 150					08/07/14 23:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.9		ug/L		08/18/14 06:26	08/19/14 14:08	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/19/14 14:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	96		50 - 150				08/18/14 06:26	08/19/14 14:08	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.9		ug/L		08/18/14 06:26	08/20/14 02:09	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/20/14 02:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	99		50 - 150				08/18/14 06:26	08/20/14 02:09	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		08/11/14 13:45	08/12/14 11:31	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Client Sample ID: GW-062027-080514-JB-MW-3

Lab Sample ID: 490-58741-3

Date Collected: 08/05/14 08:40

Matrix: Ground Water

Date Received: 08/06/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			08/07/14 00:45	1
1,2-Dibromoethane (EDB)	ND		1.00		ug/L			08/07/14 00:45	1
1,2-Dichloroethane	ND		1.00		ug/L			08/07/14 00:45	1
Diisopropyl ether	ND		2.00		ug/L			08/07/14 00:45	1
Ethylbenzene	ND		1.00		ug/L			08/07/14 00:45	1
Ethyl tert-butyl ether	ND		1.00		ug/L			08/07/14 00:45	1
Methyl tert-butyl ether	ND		1.00		ug/L			08/07/14 00:45	1
Tert-amyl methyl ether	ND		1.00		ug/L			08/07/14 00:45	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			08/07/14 00:45	1
Toluene	ND		1.00		ug/L			08/07/14 00:45	1
Xylenes, Total	ND		2.00		ug/L			08/07/14 00:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130		08/07/14 00:45	1
Dibromofluoromethane (Surr)	98		70 - 130		08/07/14 00:45	1
1,2-Dichloroethane-d4 (Surr)	93		70 - 130		08/07/14 00:45	1
Toluene-d8 (Surr)	100		70 - 130		08/07/14 00:45	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			08/07/14 23:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	126		50 - 150		08/07/14 23:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.9		ug/L		08/18/14 06:26	08/19/14 14:40	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/19/14 14:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	90		50 - 150	08/18/14 06:26	08/19/14 14:40	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.9		ug/L		08/18/14 06:26	08/20/14 03:11	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/20/14 03:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	89		50 - 150	08/18/14 06:26	08/20/14 03:11	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		08/11/14 13:45	08/12/14 12:22	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Client Sample ID: GW-062027-080514-JB-MW-4

Lab Sample ID: 490-58741-4

Date Collected: 08/05/14 09:20

Matrix: Ground Water

Date Received: 08/06/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			08/07/14 01:11	1
1,2-Dibromoethane (EDB)	ND		1.00		ug/L			08/07/14 01:11	1
1,2-Dichloroethane	ND		1.00		ug/L			08/07/14 01:11	1
Diisopropyl ether	ND		2.00		ug/L			08/07/14 01:11	1
Ethylbenzene	ND		1.00		ug/L			08/07/14 01:11	1
Ethyl tert-butyl ether	ND		1.00		ug/L			08/07/14 01:11	1
Methyl tert-butyl ether	ND		1.00		ug/L			08/07/14 01:11	1
Tert-amyl methyl ether	ND		1.00		ug/L			08/07/14 01:11	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			08/07/14 01:11	1
Toluene	ND		1.00		ug/L			08/07/14 01:11	1
Xylenes, Total	ND		2.00		ug/L			08/07/14 01:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130		08/07/14 01:11	1
Dibromofluoromethane (Surr)	98		70 - 130		08/07/14 01:11	1
1,2-Dichloroethane-d4 (Surr)	92		70 - 130		08/07/14 01:11	1
Toluene-d8 (Surr)	100		70 - 130		08/07/14 01:11	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			08/08/14 00:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	130		50 - 150		08/08/14 00:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.9		ug/L		08/18/14 06:26	08/19/14 14:55	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/19/14 14:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	74		50 - 150	08/18/14 06:26	08/19/14 14:55	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.9		ug/L		08/18/14 06:26	08/20/14 03:26	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/20/14 03:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	70		50 - 150	08/18/14 06:26	08/20/14 03:26	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		08/11/14 13:45	08/12/14 12:27	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Client Sample ID: GW-062027-080514-JB-MW-5

Lab Sample ID: 490-58741-5

Date Collected: 08/05/14 09:53

Matrix: Ground Water

Date Received: 08/06/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			08/07/14 01:36	1
1,2-Dibromoethane (EDB)	ND		1.00		ug/L			08/07/14 01:36	1
1,2-Dichloroethane	ND		1.00		ug/L			08/07/14 01:36	1
Diisopropyl ether	ND		2.00		ug/L			08/07/14 01:36	1
Ethylbenzene	ND		1.00		ug/L			08/07/14 01:36	1
Ethyl tert-butyl ether	ND		1.00		ug/L			08/07/14 01:36	1
Methyl tert-butyl ether	ND		1.00		ug/L			08/07/14 01:36	1
Tert-amyl methyl ether	ND		1.00		ug/L			08/07/14 01:36	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			08/07/14 01:36	1
Toluene	ND		1.00		ug/L			08/07/14 01:36	1
Xylenes, Total	ND		2.00		ug/L			08/07/14 01:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130					08/07/14 01:36	1
Dibromofluoromethane (Surr)	98		70 - 130					08/07/14 01:36	1
1,2-Dichloroethane-d4 (Surr)	92		70 - 130					08/07/14 01:36	1
Toluene-d8 (Surr)	100		70 - 130					08/07/14 01:36	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			08/08/14 00:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	124		50 - 150					08/08/14 00:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.9		ug/L		08/18/14 06:26	08/19/14 15:11	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/19/14 15:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	105		50 - 150				08/18/14 06:26	08/19/14 15:11	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.9		ug/L		08/18/14 06:26	08/20/14 03:42	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/20/14 03:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	113		50 - 150				08/18/14 06:26	08/20/14 03:42	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		08/11/14 13:45	08/12/14 12:32	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Client Sample ID: GW-062027-080514-JB-MW-6

Lab Sample ID: 490-58741-6

Date Collected: 08/05/14 10:27

Matrix: Ground Water

Date Received: 08/06/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			08/07/14 02:02	1
1,2-Dibromoethane (EDB)	ND		1.00		ug/L			08/07/14 02:02	1
1,2-Dichloroethane	ND		1.00		ug/L			08/07/14 02:02	1
Diisopropyl ether	ND		2.00		ug/L			08/07/14 02:02	1
Ethylbenzene	ND		1.00		ug/L			08/07/14 02:02	1
Ethyl tert-butyl ether	ND		1.00		ug/L			08/07/14 02:02	1
Methyl tert-butyl ether	ND		1.00		ug/L			08/07/14 02:02	1
Tert-amyl methyl ether	ND		1.00		ug/L			08/07/14 02:02	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			08/07/14 02:02	1
Toluene	ND		1.00		ug/L			08/07/14 02:02	1
Xylenes, Total	ND		2.00		ug/L			08/07/14 02:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130		08/07/14 02:02	1
Dibromofluoromethane (Surr)	98		70 - 130		08/07/14 02:02	1
1,2-Dichloroethane-d4 (Surr)	92		70 - 130		08/07/14 02:02	1
Toluene-d8 (Surr)	99		70 - 130		08/07/14 02:02	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			08/08/14 01:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	121		50 - 150		08/08/14 01:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	235		93.9		ug/L		08/18/14 06:26	08/19/14 15:26	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/19/14 15:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	73		50 - 150	08/18/14 06:26	08/19/14 15:26	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	205		93.9		ug/L		08/18/14 06:26	08/20/14 03:57	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/20/14 03:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	74		50 - 150	08/18/14 06:26	08/20/14 03:57	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		08/11/14 13:45	08/12/14 12:37	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Client Sample ID: GW-062027-080514-JB-MW-7

Lab Sample ID: 490-58741-7

Date Collected: 08/05/14 11:03

Matrix: Ground Water

Date Received: 08/06/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			08/07/14 02:28	1
1,2-Dibromoethane (EDB)	ND		1.00		ug/L			08/07/14 02:28	1
1,2-Dichloroethane	ND		1.00		ug/L			08/07/14 02:28	1
Diisopropyl ether	ND		2.00		ug/L			08/07/14 02:28	1
Ethylbenzene	ND		1.00		ug/L			08/07/14 02:28	1
Ethyl tert-butyl ether	ND		1.00		ug/L			08/07/14 02:28	1
Methyl tert-butyl ether	ND		1.00		ug/L			08/07/14 02:28	1
Tert-amyl methyl ether	ND		1.00		ug/L			08/07/14 02:28	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			08/07/14 02:28	1
Toluene	ND		1.00		ug/L			08/07/14 02:28	1
Xylenes, Total	ND		2.00		ug/L			08/07/14 02:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130					08/07/14 02:28	1
Dibromofluoromethane (Surr)	97		70 - 130					08/07/14 02:28	1
1,2-Dichloroethane-d4 (Surr)	94		70 - 130					08/07/14 02:28	1
Toluene-d8 (Surr)	100		70 - 130					08/07/14 02:28	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			08/08/14 01:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	126		50 - 150					08/08/14 01:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.9		ug/L		08/18/14 06:26	08/19/14 15:42	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/19/14 15:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	97		50 - 150				08/18/14 06:26	08/19/14 15:42	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.9		ug/L		08/18/14 06:26	08/20/14 04:13	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/20/14 04:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	99		50 - 150				08/18/14 06:26	08/20/14 04:13	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		08/11/14 13:45	08/12/14 12:42	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Client Sample ID: GW-062027-080514-JB-MW-8

Lab Sample ID: 490-58741-8

Date Collected: 08/05/14 11:35

Matrix: Ground Water

Date Received: 08/06/14 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			08/07/14 02:53	1
1,2-Dibromoethane (EDB)	ND		1.00		ug/L			08/07/14 02:53	1
1,2-Dichloroethane	ND		1.00		ug/L			08/07/14 02:53	1
Diisopropyl ether	ND		2.00		ug/L			08/07/14 02:53	1
Ethylbenzene	ND		1.00		ug/L			08/07/14 02:53	1
Ethyl tert-butyl ether	ND		1.00		ug/L			08/07/14 02:53	1
Methyl tert-butyl ether	ND		1.00		ug/L			08/07/14 02:53	1
Tert-amyl methyl ether	ND		1.00		ug/L			08/07/14 02:53	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			08/07/14 02:53	1
Toluene	ND		1.00		ug/L			08/07/14 02:53	1
Xylenes, Total	ND		2.00		ug/L			08/07/14 02:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130					08/07/14 02:53	1
Dibromofluoromethane (Surr)	97		70 - 130					08/07/14 02:53	1
1,2-Dichloroethane-d4 (Surr)	96		70 - 130					08/07/14 02:53	1
Toluene-d8 (Surr)	100		70 - 130					08/07/14 02:53	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			08/08/14 02:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	122		50 - 150					08/08/14 02:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.9		ug/L		08/18/14 06:26	08/19/14 15:58	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/19/14 15:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	89		50 - 150				08/18/14 06:26	08/19/14 15:58	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		93.9		ug/L		08/18/14 06:26	08/20/14 04:28	1
C24-C40	ND		93.9		ug/L		08/18/14 06:26	08/20/14 04:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	98		50 - 150				08/18/14 06:26	08/20/14 04:28	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		08/11/14 13:45	08/12/14 12:47	1

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 490-181983/8

Matrix: Water

Analysis Batch: 181983

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			08/06/14 20:18	1
1,2-Dibromoethane (EDB)	ND		1.00		ug/L			08/06/14 20:18	1
1,2-Dichloroethane	ND		1.00		ug/L			08/06/14 20:18	1
Diisopropyl ether	ND		2.00		ug/L			08/06/14 20:18	1
Ethylbenzene	ND		1.00		ug/L			08/06/14 20:18	1
Ethyl tert-butyl ether	ND		1.00		ug/L			08/06/14 20:18	1
Methyl tert-butyl ether	ND		1.00		ug/L			08/06/14 20:18	1
Tert-amyl methyl ether	ND		1.00		ug/L			08/06/14 20:18	1
tert-Butyl alcohol (TBA)	ND		10.0		ug/L			08/06/14 20:18	1
Toluene	ND		1.00		ug/L			08/06/14 20:18	1
Xylenes, Total	ND		2.00		ug/L			08/06/14 20:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130		08/06/14 20:18	1
Dibromofluoromethane (Surr)	100		70 - 130		08/06/14 20:18	1
1,2-Dichloroethane-d4 (Surr)	94		70 - 130		08/06/14 20:18	1
Toluene-d8 (Surr)	101		70 - 130		08/06/14 20:18	1

Lab Sample ID: LCS 490-181983/3

Matrix: Water

Analysis Batch: 181983

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	49.94		ug/L		100	80 - 121
1,2-Dibromoethane (EDB)	50.0	51.94		ug/L		104	80 - 129
1,2-Dichloroethane	50.0	47.38		ug/L		95	77 - 121
Diisopropyl ether	50.0	45.39		ug/L		91	61 - 142
Ethylbenzene	50.0	48.46		ug/L		97	80 - 130
Ethyl tert-butyl ether	50.0	48.53		ug/L		97	63 - 135
Methyl tert-butyl ether	50.0	47.32		ug/L		95	72 - 133
Tert-amyl methyl ether	50.0	49.39		ug/L		99	63 - 135
tert-Butyl alcohol (TBA)	500	500.4		ug/L		100	54 - 150
Toluene	50.0	48.70		ug/L		97	80 - 126
Xylenes, Total	100	99.54		ug/L		100	80 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
Dibromofluoromethane (Surr)	101		70 - 130
1,2-Dichloroethane-d4 (Surr)	94		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: LCSD 490-181983/4

Matrix: Water

Analysis Batch: 181983

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	48.74		ug/L		97	80 - 121	2	17

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 490-181983/4

Matrix: Water

Analysis Batch: 181983

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
1,2-Dibromoethane (EDB)	50.0	51.44		ug/L		103	80 - 129	1	15
1,2-Dichloroethane	50.0	46.77		ug/L		94	77 - 121	1	17
Diisopropyl ether	50.0	44.88		ug/L		90	61 - 142	1	50
Ethylbenzene	50.0	47.22		ug/L		94	80 - 130	3	15
Ethyl tert-butyl ether	50.0	47.91		ug/L		96	63 - 135	1	19
Methyl tert-butyl ether	50.0	47.08		ug/L		94	72 - 133	1	16
Tert-amyl methyl ether	50.0	47.49		ug/L		95	63 - 135	4	15
tert-Butyl alcohol (TBA)	500	488.0		ug/L		98	54 - 150	3	32
Toluene	50.0	47.60		ug/L		95	80 - 126	2	15
Xylenes, Total	100	97.64		ug/L		98	80 - 132	2	15

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	105		70 - 130
Dibromofluoromethane (Surr)	101		70 - 130
1,2-Dichloroethane-d4 (Surr)	93		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: 490-58741-2 MS

Matrix: Ground Water

Analysis Batch: 181983

Client Sample ID: GW-062027-080514-JB-MW-2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
										RPD	Limit
Benzene	ND		50.0	49.96		ug/L		100	75 - 133		
1,2-Dibromoethane (EDB)	ND		50.0	51.33		ug/L		103	75 - 137		
1,2-Dichloroethane	ND		50.0	47.82		ug/L		96	64 - 136		
Diisopropyl ether	ND		50.0	44.93		ug/L		90	10 - 200		
Ethylbenzene	ND		50.0	49.28		ug/L		99	79 - 139		
Ethyl tert-butyl ether	ND		50.0	48.39		ug/L		97	60 - 138		
Methyl tert-butyl ether	ND		50.0	48.12		ug/L		96	66 - 141		
Tert-amyl methyl ether	ND		50.0	49.77		ug/L		100	61 - 138		
tert-Butyl alcohol (TBA)	ND		500	465.1		ug/L		93	50 - 183		
Toluene	ND		50.0	49.22		ug/L		98	75 - 136		
Xylenes, Total	ND		100	101.5		ug/L		101	74 - 141		

Surrogate	MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	104		70 - 130
Dibromofluoromethane (Surr)	102		70 - 130
1,2-Dichloroethane-d4 (Surr)	95		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: 490-58741-2 MSD

Matrix: Ground Water

Analysis Batch: 181983

Client Sample ID: GW-062027-080514-JB-MW-2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
										RPD	Limit
Benzene	ND		50.0	53.05		ug/L		106	75 - 133	6	17
1,2-Dibromoethane (EDB)	ND		50.0	53.43		ug/L		107	75 - 137	4	15
1,2-Dichloroethane	ND		50.0	49.70		ug/L		99	64 - 136	4	17

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 490-58741-2 MSD
Matrix: Ground Water
Analysis Batch: 181983

Client Sample ID: GW-062027-080514-JB-MW-2
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Diisopropyl ether	ND		50.0	47.64		ug/L		95	10 - 200	6	50
Ethylbenzene	ND		50.0	52.37		ug/L		105	79 - 139	6	15
Ethyl tert-butyl ether	ND		50.0	50.33		ug/L		101	60 - 138	4	19
Methyl tert-butyl ether	ND		50.0	49.20		ug/L		98	66 - 141	2	16
Tert-amyl methyl ether	ND		50.0	50.94		ug/L		102	61 - 138	2	15
tert-Butyl alcohol (TBA)	ND		500	506.1		ug/L		101	50 - 183	8	32
Toluene	ND		50.0	52.05		ug/L		104	75 - 136	6	15
Xylenes, Total	ND		100	107.0		ug/L		107	74 - 141	5	15

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	105		70 - 130
Dibromofluoromethane (Surr)	101		70 - 130
1,2-Dichloroethane-d4 (Surr)	94		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 490-182008/21
Matrix: Water
Analysis Batch: 182008

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C6-C12	ND		100		ug/L			08/07/14 19:08	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene	133		50 - 150		08/07/14 19:08	1

Lab Sample ID: LCS 490-182008/19
Matrix: Water
Analysis Batch: 182008

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
							Result
C6-C12	1000	988.6		ug/L		99	39 - 143

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene	113		50 - 150

Lab Sample ID: LCSD 490-182008/20
Matrix: Water
Analysis Batch: 182008

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	Limit
							Result		
C6-C12	1000	983.3		ug/L		98	39 - 143	1	18

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene	112		50 - 150

TestAmerica Nashville

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 490-58719-E-8 DU
Matrix: Water
Analysis Batch: 182008

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
C6-C12	ND		ND		ug/L		NC	18
DU DU								
Surrogate	%Recovery	Qualifier	Limits					
a,a,a-Trifluorotoluene	130		50 - 150					

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

Lab Sample ID: MB 490-184482/1-A
Matrix: Water
Analysis Batch: 184863

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184482

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C10-C24	ND		100		ug/L		08/18/14 06:26	08/19/14 13:21	1
C24-C40	ND		100		ug/L		08/18/14 06:26	08/19/14 13:21	1
MB MB									
Surrogate	%Recovery	Qualifier	Limits		Prepared		Analyzed		Dil Fac
o-Terphenyl	86		50 - 150		08/18/14 06:26		08/19/14 13:21		1

Lab Sample ID: LCS 490-184482/2-A
Matrix: Water
Analysis Batch: 184863

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184482

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec. Limits	
		Result	Qualifier					
C10-C24	1000	786.4		ug/L		79	51 - 132	
LCS LCS								
Surrogate	%Recovery	Qualifier	Limits					
o-Terphenyl	96		50 - 150					

Lab Sample ID: 490-58741-2 DU
Matrix: Ground Water
Analysis Batch: 184863

Client Sample ID: GW-062027-080514-JB-MW-2
Prep Type: Total/NA
Prep Batch: 184482

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
C10-C24	ND		ND		ug/L		25	41
C24-C40	ND		ND		ug/L		NC	41
DU DU								
Surrogate	%Recovery	Qualifier	Limits					
o-Terphenyl	101		50 - 150					

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Lab Sample ID: MB 490-184482/1-A
Matrix: Water
Analysis Batch: 184991

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184482

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		100		ug/L		08/18/14 06:26	08/20/14 01:38	1
C24-C40	ND		100		ug/L		08/18/14 06:26	08/20/14 01:38	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	93		50 - 150				08/18/14 06:26	08/20/14 01:38	1

Lab Sample ID: LCS 490-184482/2-A
Matrix: Water
Analysis Batch: 184991

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184482

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C24	1000	764.3		ug/L		76	51 - 132
Surrogate	%Recovery	LCS Qualifier	Limits				
<i>o</i> -Terphenyl	99		50 - 150				

Lab Sample ID: 490-58741-2 DU
Matrix: Ground Water
Analysis Batch: 184991

Client Sample ID: GW-062027-080514-JB-MW-2
Prep Type: Total/NA
Prep Batch: 184482

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
C10-C24	ND		ND		ug/L		0.2	41
C24-C40	ND		ND		ug/L		NC	41
Surrogate	%Recovery	DU Qualifier	Limits					
<i>o</i> -Terphenyl	107		50 - 150					

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 490-182920/1-A
Matrix: Water
Analysis Batch: 183335

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 182920

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200		mg/L		08/11/14 13:45	08/12/14 11:20	1

Lab Sample ID: LCS 490-182920/2-A
Matrix: Water
Analysis Batch: 183335

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 182920

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.100	0.1052		mg/L		105	80 - 120

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 490-58741-2 MS

Matrix: Ground Water

Analysis Batch: 183335

Client Sample ID: GW-062027-080514-JB-MW-2

Prep Type: Total/NA

Prep Batch: 182920

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
Lead	ND		0.100	0.09667		mg/L		97	75 - 125	

Lab Sample ID: 490-58741-2 MSD

Matrix: Ground Water

Analysis Batch: 183335

Client Sample ID: GW-062027-080514-JB-MW-2

Prep Type: Total/NA

Prep Batch: 182920

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	RPD Limit
Lead	ND		0.100	0.1031		mg/L		103	75 - 125		6	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

GC/MS VOA

Analysis Batch: 181983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-58741-1	GW-062027-080514-JB-MW-1	Total/NA	Ground Water	8260B	
490-58741-2	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	8260B	
490-58741-2 MS	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	8260B	
490-58741-2 MSD	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	8260B	
490-58741-3	GW-062027-080514-JB-MW-3	Total/NA	Ground Water	8260B	
490-58741-4	GW-062027-080514-JB-MW-4	Total/NA	Ground Water	8260B	
490-58741-5	GW-062027-080514-JB-MW-5	Total/NA	Ground Water	8260B	
490-58741-6	GW-062027-080514-JB-MW-6	Total/NA	Ground Water	8260B	
490-58741-7	GW-062027-080514-JB-MW-7	Total/NA	Ground Water	8260B	
490-58741-8	GW-062027-080514-JB-MW-8	Total/NA	Ground Water	8260B	
LCS 490-181983/3	Lab Control Sample	Total/NA	Water	8260B	
LCS 490-181983/4	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 490-181983/8	Method Blank	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 182008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-58719-E-8 DU	Duplicate	Total/NA	Water	NWTPH-Gx	
490-58741-1	GW-062027-080514-JB-MW-1	Total/NA	Ground Water	NWTPH-Gx	
490-58741-2	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	NWTPH-Gx	
490-58741-3	GW-062027-080514-JB-MW-3	Total/NA	Ground Water	NWTPH-Gx	
490-58741-4	GW-062027-080514-JB-MW-4	Total/NA	Ground Water	NWTPH-Gx	
490-58741-5	GW-062027-080514-JB-MW-5	Total/NA	Ground Water	NWTPH-Gx	
490-58741-6	GW-062027-080514-JB-MW-6	Total/NA	Ground Water	NWTPH-Gx	
490-58741-7	GW-062027-080514-JB-MW-7	Total/NA	Ground Water	NWTPH-Gx	
490-58741-8	GW-062027-080514-JB-MW-8	Total/NA	Ground Water	NWTPH-Gx	
LCS 490-182008/19	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCS 490-182008/20	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
MB 490-182008/21	Method Blank	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 184482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-58741-1	GW-062027-080514-JB-MW-1	Total/NA	Ground Water	3510C	
490-58741-2	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	3510C	
490-58741-2 DU	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	3510C	
490-58741-3	GW-062027-080514-JB-MW-3	Total/NA	Ground Water	3510C	
490-58741-4	GW-062027-080514-JB-MW-4	Total/NA	Ground Water	3510C	
490-58741-5	GW-062027-080514-JB-MW-5	Total/NA	Ground Water	3510C	
490-58741-6	GW-062027-080514-JB-MW-6	Total/NA	Ground Water	3510C	
490-58741-7	GW-062027-080514-JB-MW-7	Total/NA	Ground Water	3510C	
490-58741-8	GW-062027-080514-JB-MW-8	Total/NA	Ground Water	3510C	
LCS 490-184482/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 490-184482/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 184863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-58741-1	GW-062027-080514-JB-MW-1	Total/NA	Ground Water	NWTPH-Dx	184482

TestAmerica Nashville

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

GC Semi VOA (Continued)

Analysis Batch: 184863 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-58741-2	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-2 DU	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-3	GW-062027-080514-JB-MW-3	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-4	GW-062027-080514-JB-MW-4	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-5	GW-062027-080514-JB-MW-5	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-6	GW-062027-080514-JB-MW-6	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-7	GW-062027-080514-JB-MW-7	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-8	GW-062027-080514-JB-MW-8	Total/NA	Ground Water	NWTPH-Dx	184482
LCS 490-184482/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	184482
MB 490-184482/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	184482

Analysis Batch: 184991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-58741-1	GW-062027-080514-JB-MW-1	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-2	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-2 DU	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-3	GW-062027-080514-JB-MW-3	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-4	GW-062027-080514-JB-MW-4	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-5	GW-062027-080514-JB-MW-5	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-6	GW-062027-080514-JB-MW-6	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-7	GW-062027-080514-JB-MW-7	Total/NA	Ground Water	NWTPH-Dx	184482
490-58741-8	GW-062027-080514-JB-MW-8	Total/NA	Ground Water	NWTPH-Dx	184482
LCS 490-184482/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	184482
MB 490-184482/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	184482

Metals

Prep Batch: 182920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-58741-1	GW-062027-080514-JB-MW-1	Total/NA	Ground Water	3010A	
490-58741-2	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	3010A	
490-58741-2 MS	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	3010A	
490-58741-2 MSD	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	3010A	
490-58741-3	GW-062027-080514-JB-MW-3	Total/NA	Ground Water	3010A	
490-58741-4	GW-062027-080514-JB-MW-4	Total/NA	Ground Water	3010A	
490-58741-5	GW-062027-080514-JB-MW-5	Total/NA	Ground Water	3010A	
490-58741-6	GW-062027-080514-JB-MW-6	Total/NA	Ground Water	3010A	
490-58741-7	GW-062027-080514-JB-MW-7	Total/NA	Ground Water	3010A	
490-58741-8	GW-062027-080514-JB-MW-8	Total/NA	Ground Water	3010A	
LCS 490-182920/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 490-182920/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 183335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-58741-2	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	6020A	182920
490-58741-2 MS	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	6020A	182920
490-58741-2 MSD	GW-062027-080514-JB-MW-2	Total/NA	Ground Water	6020A	182920
490-58741-3	GW-062027-080514-JB-MW-3	Total/NA	Ground Water	6020A	182920
490-58741-4	GW-062027-080514-JB-MW-4	Total/NA	Ground Water	6020A	182920
490-58741-5	GW-062027-080514-JB-MW-5	Total/NA	Ground Water	6020A	182920

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
SDG: 062027

Metals (Continued)

Analysis Batch: 183335 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-58741-6	GW-062027-080514-JB-MW-6	Total/NA	Ground Water	6020A	182920
490-58741-7	GW-062027-080514-JB-MW-7	Total/NA	Ground Water	6020A	182920
490-58741-8	GW-062027-080514-JB-MW-8	Total/NA	Ground Water	6020A	182920
LCS 490-182920/2-A	Lab Control Sample	Total/NA	Water	6020A	182920
MB 490-182920/1-A	Method Blank	Total/NA	Water	6020A	182920

Analysis Batch: 183647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-58741-1	GW-062027-080514-JB-MW-1	Total/NA	Ground Water	6020A	182920

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Client Sample ID: GW-062027-080514-JB-MW-1

Lab Sample ID: 490-58741-1

Date Collected: 08/05/14 07:30

Matrix: Ground Water

Date Received: 08/06/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	181983	08/07/14 00:19	BJM	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	182008	08/07/14 22:42	GWM	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184863	08/19/14 13:53	JPS	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184991	08/20/14 01:53	JPS	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	182920	08/11/14 13:45	AAS	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	183647	08/13/14 17:20	JBD	TAL NSH

Client Sample ID: GW-062027-080514-JB-MW-2

Lab Sample ID: 490-58741-2

Date Collected: 08/05/14 08:10

Matrix: Ground Water

Date Received: 08/06/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	181983	08/06/14 21:34	BJM	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	182008	08/07/14 23:13	GWM	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184863	08/19/14 14:08	JPS	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184991	08/20/14 02:09	JPS	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	182920	08/11/14 13:45	AAS	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	183335	08/12/14 11:31	JBD	TAL NSH

Client Sample ID: GW-062027-080514-JB-MW-3

Lab Sample ID: 490-58741-3

Date Collected: 08/05/14 08:40

Matrix: Ground Water

Date Received: 08/06/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	181983	08/07/14 00:45	BJM	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	182008	08/07/14 23:43	GWM	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184863	08/19/14 14:40	JPS	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184991	08/20/14 03:11	JPS	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	182920	08/11/14 13:45	AAS	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	183335	08/12/14 12:22	JBD	TAL NSH

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Client Sample ID: GW-062027-080514-JB-MW-4

Lab Sample ID: 490-58741-4

Date Collected: 08/05/14 09:20

Matrix: Ground Water

Date Received: 08/06/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	181983	08/07/14 01:11	BJM	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	182008	08/08/14 00:14	GWM	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184863	08/19/14 14:55	JPS	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184991	08/20/14 03:26	JPS	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	182920	08/11/14 13:45	AAS	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	183335	08/12/14 12:27	JBD	TAL NSH

Client Sample ID: GW-062027-080514-JB-MW-5

Lab Sample ID: 490-58741-5

Date Collected: 08/05/14 09:53

Matrix: Ground Water

Date Received: 08/06/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	181983	08/07/14 01:36	BJM	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	182008	08/08/14 00:45	GWM	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184863	08/19/14 15:11	JPS	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184991	08/20/14 03:42	JPS	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	182920	08/11/14 13:45	AAS	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	183335	08/12/14 12:32	JBD	TAL NSH

Client Sample ID: GW-062027-080514-JB-MW-6

Lab Sample ID: 490-58741-6

Date Collected: 08/05/14 10:27

Matrix: Ground Water

Date Received: 08/06/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	181983	08/07/14 02:02	BJM	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	182008	08/08/14 01:15	GWM	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184863	08/19/14 15:26	JPS	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184991	08/20/14 03:57	JPS	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	182920	08/11/14 13:45	AAS	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	183335	08/12/14 12:37	JBD	TAL NSH

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
 SDG: 062027

Client Sample ID: GW-062027-080514-JB-MW-7

Lab Sample ID: 490-58741-7

Date Collected: 08/05/14 11:03

Matrix: Ground Water

Date Received: 08/06/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	181983	08/07/14 02:28	BJM	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	182008	08/08/14 01:46	GWM	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184863	08/19/14 15:42	JPS	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184991	08/20/14 04:13	JPS	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	182920	08/11/14 13:45	AAS	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	183335	08/12/14 12:42	JBD	TAL NSH

Client Sample ID: GW-062027-080514-JB-MW-8

Lab Sample ID: 490-58741-8

Date Collected: 08/05/14 11:35

Matrix: Ground Water

Date Received: 08/06/14 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	181983	08/07/14 02:53	BJM	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	182008	08/08/14 02:16	GWM	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184863	08/19/14 15:58	JPS	TAL NSH
Total/NA	Prep	3510C			1065 mL	1.0 mL	184482	08/18/14 06:26	CLM	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	1065 mL	1.0 mL	184991	08/20/14 04:28	JPS	TAL NSH
Total/NA	Prep	3010A			50 mL	50 mL	182920	08/11/14 13:45	AAS	TAL NSH
Total/NA	Analysis	6020A		1	50 mL	50 mL	183335	08/12/14 12:47	JBD	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
SDG: 062027

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	TAL NSH
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL NSH
NWTPH-Dx	Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup	NWTPH	TAL NSH
6020A	Metals (ICP/MS)	SW846	TAL NSH

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

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

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 200 Railroad Ave S - Ellensburg, WA

TestAmerica Job ID: 490-58741-1
SDG: 062027

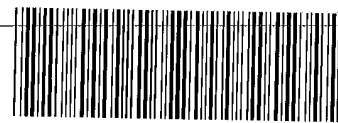
Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C789	07-19-15

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

COOLER RECEIPT FORM



490-58741 Chain of Custody

Cooler Received/Opened On 8/6/2014 @ 0820

1. Tracking # 0046 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 94660220

2. Temperature of rep. sample or temp blank when opened: 1.8 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) mn

7. Were custody seals on containers: YES NO and intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) CA

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) CA

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) CH

I certify that I attached a label with the unique LIMS number to each container (initial) CA

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# _____

COOLER RECEIPT FORM

Cooler Received/Opened On 8/6/2014 @ 0820

1. Tracking # 0057 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 94660220

2. Temperature of rep. sample or temp blank when opened: 1.9 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO... NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: (1) Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) WJW

7. Were custody seals on containers: YES NO and Intact YES...NO... NA

Were these signed and dated correctly? YES...NO... NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES... NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO... NA

14. Was there a Trip Blank in this cooler? YES... NO...NA If multiple coolers, sequence # 1

I certify that I unloaded the cooler and answered questions 7-14 (initial) WJW

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO... NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO... NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) WJW

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) WJW

I certify that I attached a label with the unique LIMS number to each container (initial) WJW

21. Were there Non-Conformance issues at login? YES... NO Was a NCM generated? YES... NO # 0

Liters
Only

COOLER RECEIPT FORM

TAN 5874

Cooler Received/Opened On 8/6/2014 @ 8:20

1. Tracking # 0002 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 17610176

2. Temperature of rep. sample or temp blank when opened: 3.1 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (Initial) AJH

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # 1

I certify that I unloaded the cooler and answered questions 7-14 (initial) AJH

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) AJH

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (Initial) AJH

I certify that I attached a label with the unique LIMS number to each container (initial) AJH

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...#

Lifers
only

COOLER RECEIPT FORM

TAN 58741

Cooler Received/Opened On 8/6/2014@ 0820

1. Tracking # 0035 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 12080142

2. Temperature of rep. sample or temp blank when opened: 4.4 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: one frame

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) DA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) JA

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) JA

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) JA

I certify that I attached a label with the unique LIMS number to each container (initial) JA

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# _____

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 490-58741-2

SDG Number: 062027

Login Number: 58741

List Number: 1

Creator: Huckaba, Jimmy

List Source: TestAmerica Nashville

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





July 8, 2015

Washington State Department of Ecology
1250 West Alder Street
Union Gap, Washington 98903-0009

Attn: Ms. Valerie Bound, Section Manager
Toxics Cleanup Program Central Region Office

Transmitted via email to: valerie.bound@ecy.wa.gov

**RE: APRIL 2015 GROUNDWATER SAMPLING AND ANALYSIS
SMITH KEM ELLENSBURG
200 SOUTH RAILROAD AVENUE
ELLENSBURG, WASHINGTON
PARCEL NO. 226833
FACILITY/SITE ID No. 12832256**

Dear Ms. Bound:

This letter is to provide the Washington State Department of Ecology (Ecology) with the results of the baseline groundwater sampling and analysis conducted at the property located at 200 South Railroad Avenue in Ellensburg, Washington (site). The McGregor Company (TMC) recently purchased the operating agricultural business and began leasing the structures and real property on the site, with an agreement for future purchase of the physical property/ground and structures at the site.

The groundwater sampling and analysis was conducted to document the current concentrations of hazardous substances of potential concern in site groundwater to establish a baseline concurrent with the start of TMC operations at the site, and to provide groundwater data for comparison with the data collected in 2013 and 2014. The hazardous substances of potential concern, which have been identified based on products handled, used, or stored during previous or current site (pre-TMC) operations are outlined below, and include those constituents that have been identified by Ecology as being present at concentrations above the applicable cleanup levels during previous sampling events at the site.

Ecology issued Notice of Potential Liability letters naming the pre-TMC owner/operator [Smith Kem Ellensburg, Inc. and Ad Gro, LLC (Andrew C. Erickson)] and the historical owner/operator (Shell Oil Products US) as Potentially Liable Persons (PLPs) for releases of petroleum hydrocarbons and pesticides (including lindane, chlordane, dieldrin, endosulfan II, and endrin aldehyde) to soil and/or groundwater at the site.

The hazardous substances of potential concern for the site include the constituents identified by Ecology, as noted above, and those constituents detected at concentrations above the laboratory reporting limits in previous groundwater grab or monitoring well samples collected in 2013 and 2014 at the site. These substances consist of:

- Gasoline-, diesel- and oil-range total petroleum hydrocarbons (TPH-G, -D, and -O)
- Benzene, toluene, and xylenes
- Organochlorine pesticides, including lindane, chlordane, dieldrin, endosulfan II, and endrin aldehyde.

Other hazardous substances of potential concern for the site, based on historical operations, that were not analyzed for in groundwater during previous sampling events include:

- Nitrate
- Ammonia
- Chlorinated herbicides, including dinoseb and 2,4-dichlorophenoxyacetic acid (2,4-D).

The data collected during the April 2015 sampling event indicate that TPH-D, organochlorine pesticides (chlordane, dieldrin, and toxaphene), a chlorinated herbicide (2,4-D), and nitrate are present in site groundwater at one or more sampling locations at concentrations greater than the screening levels, which are based on the Ecology Model Toxics Control Act (MTCA) Method A or B cleanup levels. TPH-D, TPH-O, organochlorine pesticides (lindane and chlordane), chlorinated herbicides (2,4-D, dinoseb, and dicamba), and nitrate are also present in groundwater at one or more other sampling locations at concentrations greater than laboratory reporting limits, but less than the screening levels.

In April 2015, five of eight monitoring wells (MW-1, MW-4, MW-6, MW-7, and MW-8) contained one or more of the hazardous substances of potential concern at concentrations greater than the laboratory reporting limits. In addition, ammonia was detected in the samples from all of the monitoring wells at concentrations greater than the laboratory reporting limit. There are no available screening criteria for ammonia in groundwater. The highest ammonia concentration was detected in the sample collected from MW-4 and is indicative of a release to groundwater.

The April 2015 groundwater data indicate that TPH, pesticide, herbicide, and nitrate contamination is present in groundwater at the site at concentrations above the screening levels, which are based on the Ecology MTCA Method A or B cleanup levels. The April 2015 groundwater data are consistent with the data collected in 2013 and 2014, and also indicate that chlorinated herbicides, nitrate, and ammonia should be added to the list of hazardous substances of potential concern for cleanup of the site.

* * * * *

Please contact me if you have any questions regarding this letter or the attached report, or if you need any additional information.

LANDAU ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "Timothy L. Syverson". The signature is fluid and cursive, with a large initial "T" and "S".

Timothy L. Syverson, L.G.
Senior Associate Geologist

CLB/TLS/ccy

ATTACHMENT

Letter Report: 2015 Baseline Groundwater Sampling Results

ATTACHMENT

**Letter Report:
2015 Baseline Groundwater Sampling Results**

June 23, 2015

The McGregor Company
401 Airport Road/P.O. Box 740
Colfax, Washington 99111

Attn: Mr. Clark Capwell

Transmitted via e-mail to: clark.capwell@mcgregor.com

**RE: 2015 BASELINE GROUNDWATER SAMPLING RESULTS
SMITH-KEM PROPERTY
200 SOUTH RAILROAD AVENUE
ELLENSBURG, WASHINGTON**

Dear Mr. Capwell:

This letter presents the results of the baseline groundwater sampling and analysis conducted at the Smith-Kem property located at the above-noted address in Ellensburg, Washington (site; Figure 1). The McGregor Company (TMC) recently purchased the operating agricultural services business and began leasing the structures and real property on the site, with an agreement for future purchase of the physical property/ground at the site. The groundwater sampling was conducted to document baseline groundwater conditions concurrent with the start of TMC operations at the site. Below is a description of the groundwater sampling activities, a summary of analytical results, and conclusions based on the data collected.

BACKGROUND

The groundwater sampling and analysis was conducted to document the current concentrations of hazardous substances of potential concern in site groundwater to establish a baseline concurrent with the start of TMC operations at the site. The hazardous substances of potential concern, which have been identified based on products handled, used, or stored during previous or current site (pre-TMC) operations are outlined below, and include those constituents that have been identified by the Washington State Department of Ecology (Ecology) as being present at concentrations above the applicable cleanup levels during previous sampling events at the site.

Ecology issued Notice of Potential Liability letters naming the pre-TMC owner/operator [Smith Kem Ellensburg, Inc. and Ad Gro, LLC (Andrew C. Erickson)] and the historical owner/operator (Shell Oil Products US) as Potentially Liable Persons (PLPs) for releases of petroleum hydrocarbons and pesticides

(including lindane, chlordane, dieldrin, endosulfan II, and endrin aldehyde) to soil and/or groundwater at the site.

The hazardous substances of potential concern for the site include the constituents identified by Ecology, as noted above, and those constituents detected at concentrations above the laboratory reporting limits in previous groundwater grab or monitoring well samples collected in 2013 and 2014 at the site. These substances consist of:

- Gasoline-, diesel- and oil-range total petroleum hydrocarbons (TPH-G, -D, and -O)
- Benzene, toluene, and xylenes
- Organochlorine pesticides, including lindane, chlordane, dieldrin, endosulfan II, and endrin aldehyde.

Other hazardous substances of potential concern for the site, based on historical operations, that were not analyzed for in groundwater during previous sampling events include:

- Nitrate
- Ammonia
- Chlorinated herbicides, including dinoseb and 2,4-dichlorophenoxyacetic acid (2,4,-D).

GROUNDWATER SAMPLING AND ANALYSIS

On April 15, 2015, Landau Associates conducted baseline groundwater sampling at the eight existing monitoring wells (MW-1 through MW-8) at the site (Figure 2). Groundwater was measured at depths between approximately 3 ft and 5 ft below ground surface prior to sample collection.

Low-flow sampling techniques with a peristaltic pump were used to collect the groundwater samples directly into laboratory-supplied containers. The groundwater samples were delivered to ALS Laboratory Group in Everett, Washington via courier on April 16, 2015 and analyzed for the following:

- TPH-G by Method NWTPH-Gx
- TPH-D and TPH-O by Method NWTPH-Dx (with acid silica gel cleanup)
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) by U.S. Environmental Protection Agency (EPA) Method 8021
- Organochlorine pesticides by EPA Method 8081
- Chlorinated herbicides by EPA Method 8151
- Nitrate by EP Method 300.0
- Ammonia-N by Method SM4500-NH3.

The attached Table 1 presents the groundwater analytical results including comparison of the data to screening levels based on the Washington State Model Toxics Control Act (MTCA) Method A cleanup levels when available. Preliminary MTCA Method B cleanup levels were used when MTCA Method A cleanup levels were not available. The MTCA Method A or B cleanup levels were used as screening levels

to evaluate the concentrations detected in the groundwater samples. The laboratory data package is provided as Attachment 1.

SUMMARY OF RESULTS

As shown in Table 1 and on Figure 3, one or more hazardous substances of potential concern were detected at concentrations greater than the screening levels in groundwater samples from five of the eight monitoring wells (MW-1, MW-4, MW-6, MW-7, and MW-8). As discussed below, ammonia was detected at concentrations above the laboratory reporting limit in samples from each of the wells. There are no available screening criteria for ammonia in groundwater. The sample analytical results are discussed below.

Total Petroleum Hydrocarbons (TPH-G, TPH-D, TPH-O, and BTEX)

Total petroleum hydrocarbons (TPH) and BTEX have been identified as hazardous substances of potential concern for the site and/or have been detected at the site at concentrations greater than laboratory reporting limits during previous sampling events. Analytical results for TPH and BTEX from the current round of groundwater sampling are as follows:

- TPH-G was not detected at concentrations greater than the laboratory reporting limits in the samples from any of the monitoring wells.
- TPH-D was detected at a concentration greater than the MTCA Method A cleanup level of 500 micrograms per liter ($\mu\text{g/L}$) in the sample from MW-4 (580 $\mu\text{g/L}$). At MW-6, TPH-D was detected at a concentration (150 $\mu\text{g/L}$) above the laboratory reporting limit, but less than the MTCA Method A cleanup level. TPH-D was not detected at concentrations greater than the laboratory reporting limits in the samples from the remaining six monitoring wells (MW-1, MW-2, MW-3, MW-5, MW-7, and MW-8).
- TPH-O was detected at a concentration greater than the laboratory reporting limit, but less than the MTCA Method A cleanup level (500 $\mu\text{g/L}$) at monitoring well MW-4 (250 $\mu\text{g/L}$). TPH-O was not detected at concentrations greater than the laboratory reporting limits in the samples from the remaining seven monitoring wells (MW-1, MW-2, MW-3, MW-5, MW-6, MW-7, and MW-8).
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were not detected at concentrations greater than the laboratory reporting limits in samples from any of the monitoring wells.

Organochlorine Pesticides

Organochlorine pesticides have been identified as hazardous substances of potential concern for the site, as discussed above, and have been detected at the site at concentrations greater than laboratory reporting limits during previous sampling events. The organochlorine pesticide results for the current round of groundwater sampling are as follows:

- G-BHC (Lindane) was detected in the samples from MW-1 (0.035 $\mu\text{g/L}$), MW-4 (0.17 $\mu\text{g/L}$), and MW-6 (0.022 $\mu\text{g/L}$) at concentrations greater than the laboratory reporting limit, but less

than the MTCA Method A cleanup level (0.2 µg/L). The concentration of Lindane that was detected in the sample from MW-4 (0.17 µg/L) is greater than the MTCA Method B cleanup level of 0.08 µg/L. Lindane was not detected at concentrations greater than the laboratory reporting limit in samples from the remaining five monitoring wells (MW-2, MW-3, MW-5, MW-7, and MW-8).

- Chlordane was detected in the sample from MW-4 at a concentration (0.28 µg/L) greater than the MTCA Method B cleanup level (0.25 µg/L). The concentrations of chlordane detected in the samples from MW-1 (0.089 µg/L), MW-6 (0.14 µg/L), MW-7 (0.021 µg/L), and MW-8 (0.012 µg/L) were greater than laboratory reporting limit, but less than the MTCA Method B cleanup level. Chlordane was not detected at concentrations greater than the laboratory reporting limit in samples from the remaining three monitoring wells (MW-2, MW-3, and MW-5).
- Dieldrin was detected in the samples from MW-1 (0.23 µg/L), MW-4 (2.0 µg/L), MW-6 (0.53 µg/L), MW-7 (0.17 µg/L), and MW-8 (0.031 µg/L) at concentrations greater than the MTCA Method B cleanup level (0.005 µg/L). Dieldrin was not detected at concentrations greater than the laboratory reporting limits in samples from the remaining three monitoring wells (MW-2, MW-3, and MW-5).
- Endosulfan II was not detected at concentrations greater than the laboratory reporting limits in samples from any of the monitoring wells.
- Endrin aldehyde was not detected at concentrations greater than the laboratory reporting limits in samples from any of the monitoring wells.
- Toxaphene was detected in the samples from MW-1 (2.4 µg/L), MW-4 (17 µg/L), MW-6 (9.9 µg/L), and MW-7 (1.0 µg/L) at concentrations greater than the MTCA Method B cleanup level (0.08 µg/L). Toxaphene was not detected at concentrations above the laboratory reporting limit in samples from the remaining four monitoring wells (MW-2, MW-3, MW-5, and MW-8).

Chlorinated Herbicides

Chlorinated herbicides are considered hazardous substances of potential concern for the site based on historical site operations, but have not been analyzed for during previous sampling events. The following herbicides were detected at concentrations greater than laboratory reporting limits in the groundwater samples from the current round of sampling:

- 2,4-D was detected in the sample collected from MW-4 at a concentration (260 µg/L) that is greater than the MTCA Method B cleanup level (160 µg/L). The 2,4-D concentration detected in the sample from MW-6 (2.1 µg/L) is greater than the laboratory reporting limit, but less than the MTCA Method B cleanup level. The 2,4-D concentrations were less than the laboratory reporting limit in samples from the remaining six monitoring wells (MW-1, MW-2, MW-3, MW-5, MW-7, and MW-8).
- Dinoseb was detected in the samples collected from MW-1 (estimated at 3.0 µg/L) and MW-6 (1.2 µg/L) at concentrations greater than laboratory reporting limit, but less than the MTCA Method B cleanup level (16 µg/L). The dinoseb concentrations were less than the laboratory reporting limit in the samples from the remaining six monitoring wells (MW-2, MW-3, MW-4, MW-5, MW-7, and MW-8).
- Dicamba was detected in the samples collected from MW-1 (estimated at 30 µg/L), MW-4 (160 µg/L), MW-6 (110 µg/L), MW-7 (0.40 µg/L), and MW-8 (1.0 µg/L) at concentrations

greater than the laboratory reporting limit, but less than the MTCA Method B cleanup level (480 µg/L). The detected concentrations of dicamba were less than the laboratory reporting limit in the samples from the remaining three monitoring wells (MW-2, MW-3, and MW-5).

Nitrate and Ammonia

Nitrate and ammonia are considered hazardous substances of potential concern for the site based on historical site operations, but have not been analyzed for during previous sampling at the site. Analytical results for nitrate and ammonia for the April 2015 round of sampling are as follows:

- Nitrate was detected in the samples from MW-1 [610 milligrams per liter (mg/L)], MW-4 (2,600 mg/L), MW-6 (960 mg/L), MW-7 (93 mg/L), and MW-8 (320 mg/L) at concentrations greater than the MTCA Method B cleanup level (10 mg/L). The nitrate concentrations detected in the samples collected from MW-2 (2.1 mg/L) and MW-5 (3.6 mg/L) were greater than the laboratory reporting limit, but less than the MTCA Method B cleanup level. The nitrate concentration was less than the laboratory reporting limit in the sample collected from MW-3.
- Ammonia was detected at concentrations greater than laboratory reporting limit in the samples from all of the monitoring wells with the detected concentrations ranging from 0.075 mg/L (MW-2) to 1,300 mg/L (MW-4). There is no screening level available for ammonia in groundwater.

CONCLUSIONS

The data collected during April 2015 sampling event indicate that TPH-D, organochlorine pesticides (chlordane, dieldrin, and toxaphene), a chlorinated herbicide (2,4-D), and nitrate are present in site groundwater at one or more locations at concentrations greater than the screening levels, which are based on the Ecology MTCA cleanup levels. TPH-D, TPH-O, organochlorine pesticides (lindane and chlordane), chlorinated herbicides (2,4-D, dinoseb, and dicamba), and nitrate are also present in groundwater at one or more other locations at concentrations greater than laboratory reporting limits, but less than the screening levels.

In April 2015, five of eight monitoring wells (MW-1, MW-4, MW-6, MW-7, and MW-8) contained one or more of the hazardous substances of potential concern at concentrations greater than the laboratory reporting limits. In addition, ammonia was detected in the samples from all of the monitoring wells at concentrations greater than the laboratory reporting limit. There are no available screening criteria for ammonia in groundwater. The highest ammonia concentration was detected in the sample collected from MW-4 and is indicative of a release to groundwater.

The April 2015 groundwater data document that TPH, pesticide, herbicide, and nitrate, contamination is present in groundwater at the site at concentrations above the screening levels, which are based on the Ecology MTCA cleanup levels. The April 2015 groundwater data are consistent with the data collected in 2013 and 2014 (Figure 3), and also indicate that chlorinated herbicides, nitrate, and ammonia should be added to the list of hazardous substances of potential concern for cleanup of the site.

* * * * *

We appreciate the opportunity to continue to assist TMC with this project. Please contact us if you have any questions regarding this letter, or need any additional information.

LANDAU ASSOCIATES, INC.



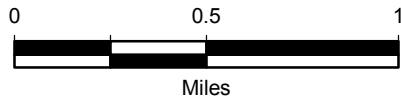
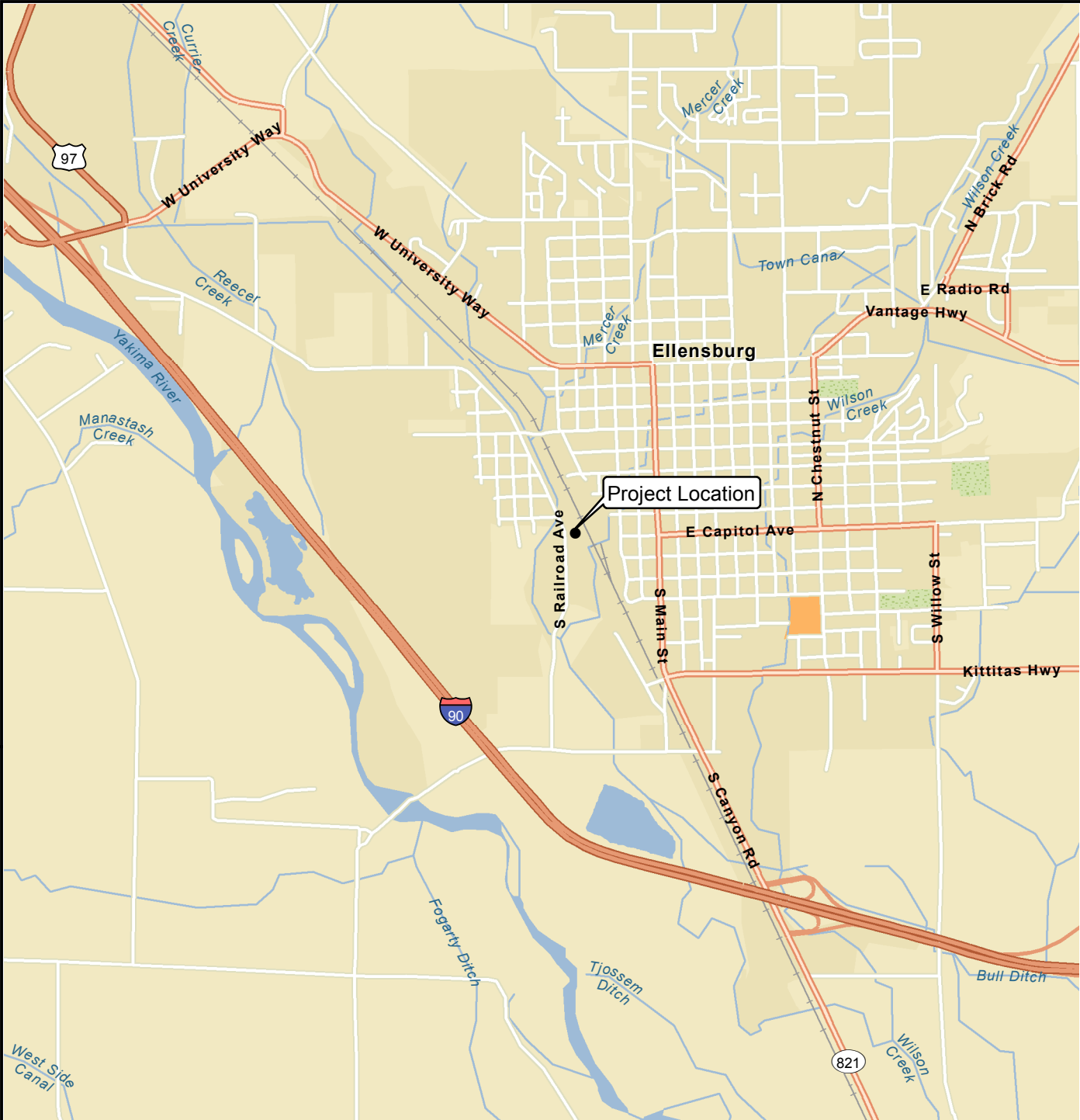
Timothy L. Syverson, L.G.
Senior Associate Geologist

CLB/TLS/ccy

ATTACHMENTS

- Figure 1: Vicinity Map
- Figure 2: Site Plan
- Figure 3: Analytes Detected at Concentrations Above Screening Levels
- Table 1: Groundwater Analytical Results
- Attachment 1: Laboratory Analytical Data

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Data Source: Esri 2012

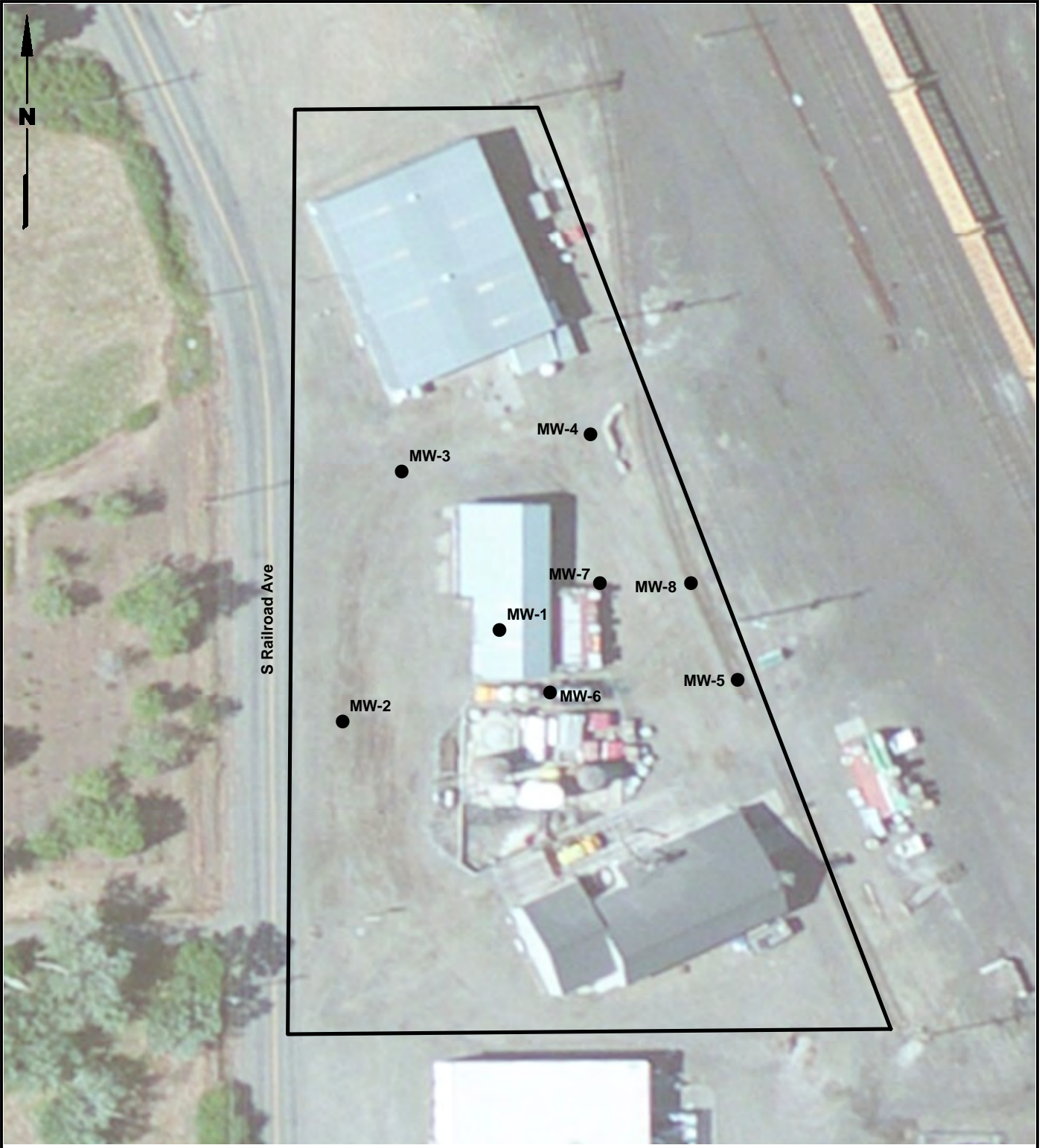


Smith-Kem Facility
 200 South Railroad Avenue
 Ellensburg, Washington

Vicinity Map

Figure
1

G:\Projects\1474\02\020\0201\Baseline GW Sampling\F02SitePlan.mxd 5/18/2015 NAD 1983 StatePlane Washington South FIPS 4602 Feet

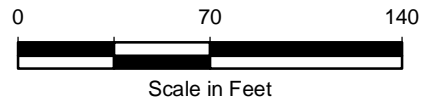


Legend

- Monitoring Wells
- Property Boundary

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.



Data Sources: Kittitas County GIS; Esri World Imagery.

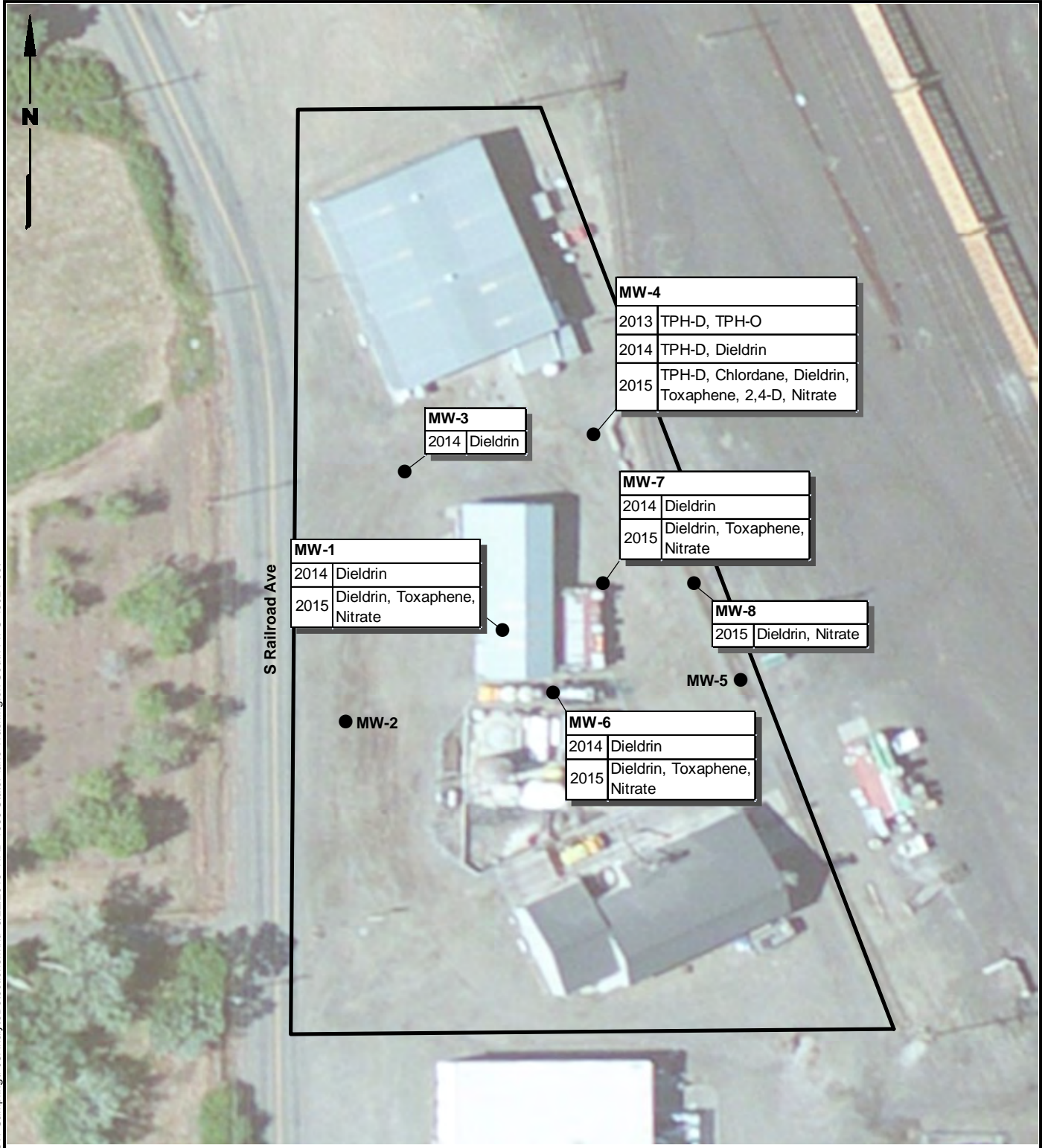


Smith-Kem Facility
 200 South Railroad Avenue
 Ellensburg, Washington

Site Plan

Figure
2

G:\Projects\1474\02\02020\021\Baseline GW_Sampling\F03\AnalyteDetections.mxd 5/22/2015 NAD 1983 StatePlane Washington South FIPS 4602 Feet



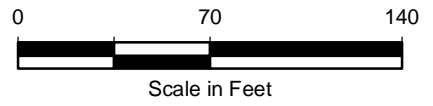
Legend

- Monitoring Wells
- Property Boundary

2015 - Dieldrin, Nitrate = Year of sampling and analyte(s) detected above the screening level(s).

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.



Data Sources: Kittitas County GIS; Esri World Imagery.



Smith-Kem Facility
200 South Railroad Avenue
Ellensburg, Washington

Analytes Detected at Concentrations Above Screening Levels

Figure
3

**TABLE 1
GROUNDWATER ANALYTICAL RESULTS
SMITH-KEM PROPERTY
ELLENSBURG, WASHINGTON**

	Screening Level (a)	MW-1-041515 EV15040087-05 04/15/2015	MW-2-041515 EV15040087-08 04/15/2015	MW-3-041515 EV15040087-07 04/15/2015	MW-4-041515 EV15040087-06 04/15/2015	MW-5-041515 EV15040087-02 04/15/2015	MW-6-041515 EV15040087-01 04/15/2015	MW-7-041515 EV15040087-04 04/15/2015	MW-8-041515 EV15040087-03 04/15/2015
TOTAL PETROLEUM HYDROCARBONS (µg/L)									
Method NWTPH-Gx									
Gasoline		50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Method NWTPH-DxSG									
Diesel	500	130 U	130 U	130 U	580	130 U	150	130 U	130 U
Motor Oil	500	250 U	250 U	250 U	250	250 U	250 U	250 U	250 U
BTEX (µg/L)									
EPA Method 8021									
Benzene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes		3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
PESTICIDES (µg/L)									
EPA Method 8081									
A-BHC		0.010 U	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
G-BHC (Lindane)	0.2	0.035	0.011 U	0.011 U	0.17	0.010 U	0.022	0.011 U	0.010 U
B-BHC		0.010 U	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
Heptachlor		0.17 U	0.011 U	0.011 U	0.062 U	0.010 U	0.058 U	0.011 U	0.014 U
D-BHC		0.010 U	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
Aldrin		0.010 U	0.011 U	0.011 U	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U
Heptachlor Epoxide		0.010 U	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
Chlordane	0.25	0.089	0.011 U	0.011 U	0.28	0.010 U	0.14	0.021	0.012
Endosulfan I		0.010 U	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
4,4'-DDE		0.010 U	0.011 U	0.011 U	0.033 U	0.010 U	0.010 U	0.011 U	0.010 U
Dieldrin	0.005	0.23	0.011 U	0.011 U	2.0	0.010 U	0.53	0.17	0.031
Endrin		0.013 U	0.011 U	0.011 U	0.13 U	0.010 U	0.026 U	0.011 U	0.010 U
4,4'-DDD		0.025 U	0.011 U	0.011 U	0.13 U	0.010 U	0.059 U	0.011 U	0.010 U
Endosulfan II		0.013 U	0.011 U	0.011 U	0.14 U	0.010 U	0.017 U	0.011 U	0.010 U
4,4'-DDT		0.020 U	0.011 U	0.011 U	0.20 U	0.010 U	0.071 U	0.011 U	0.010 U
Endrin Aldehyde		0.028 U	0.011 U	0.011 U	0.25 U	0.010 U	0.073 U	0.017 U	0.010 U
Endosulfan Sulfate		0.010 U	0.011 U	0.011 U	0.014 U	0.010 U	0.015 U	0.011 U	0.010 U
Methoxychlor		0.13 U	0.011 U	0.011 U	0.045 U	0.010 U	0.13 U	0.013 U	0.010 U
Hexachlorobenzene		0.010 U	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
Toxaphene	0.08	2.4	0.51 U	0.51 U	17	0.50 U	9.9	1.0	0.50 U

**TABLE 1
GROUNDWATER ANALYTICAL RESULTS
SMITH-KEM PROPERTY
ELLENSBURG, WASHINGTON**

	Screening Level (a)	MW-1-041515 EV15040087-05 04/15/2015	MW-2-041515 EV15040087-08 04/15/2015	MW-3-041515 EV15040087-07 04/15/2015	MW-4-041515 EV15040087-06 04/15/2015	MW-5-041515 EV15040087-02 04/15/2015	MW-6-041515 EV15040087-01 04/15/2015	MW-7-041515 EV15040087-04 04/15/2015	MW-8-041515 EV15040087-03 04/15/2015
HERBICIDES (µg/L)									
EPA Method 8151									
2,4,5-T		0.19 U	0.19 U	0.19 U	2.5 U	0.19 U	0.25 U	0.19 U	0.19 U
2,4,5-TP (Silvex)		1.7 U	0.19 U	0.19 U	790 U	0.19 U	0.19 U	0.21 U	0.19 U
2,4-D	160	7.6 U	0.38 U	0.38 U	260	0.38 U	2.1	0.38 U	0.38 U
2,4-DB		2.9 U	0.38 U	0.38 U	8.9 U	0.38 U	2.9 U	0.60 U	0.52 U
Dalapon		0.38 U	0.38 U	0.38 U	0.39 U	0.38 U	0.38 U	0.38 U	0.38 U
Dichloroprop		0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U
Dinoseb	16	3.0 J	0.19 U	0.19 U	2.3 U	0.19 U	1.2	0.19 U	0.19 U
MCPA		95 U	95 U	95 U	140 U	95 U	95 U	95 U	95 U
MCPP		95 U	95 U	95 U	97 U	95 U	95 U	95 U	95 U
Dicamba	480	30 J	0.19 U	0.19 U	160	0.19 U	110	0.40	1.0
GENERAL CHEMISTRY (mg/L)									
Nitrate (mg/L; EPA 300.0)	10	610	2.1	0.15 U	2,600	3.6	960	93	320
Ammonia-N (mg/L; SM4500-NH3)	NA	64	0.075	0.20	1,300	0.21	15	8.7	28

(a) Model Toxics Control Act (MTCA) Method A Cleanup Level used when available; otherwise, MTCA Method B Cleanup Level was applied to detected compounds only.

U = The compound was not detected at the reported concentration.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Bold = Detected compound.

Box = Exceedance of screening level.

NA = No screening level available.

Laboratory Analytical Data



May 7, 2015

Mr. Tim Syverson
Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

Dear Mr. Syverson,

On April 16th, 9 samples were received by our laboratory and assigned our laboratory project number EV15040087. The project was identified as your Smith-Kem / #1474002.020. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-01
CLIENT SAMPLE ID	MW-6-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 10:30:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	ug/L	04/16/2015	PAB
Benzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Toluene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Xylenes	EPA-8021	U	3.0	1	ug/L	04/16/2015	PAB
TPH-Diesel Range	NWTPH-DX w/ SGA	150	130	1	ug/L	04/16/2015	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	250	1	ug/L	04/16/2015	EBS
A-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
G-BHC	EPA-8081	0.022	0.010	1	ug/L	04/25/2015	CAS
B-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Heptachlor	EPA-8081	U	0.058	1	ug/L	04/25/2015	CAS
D-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Aldrin	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Heptachlor Epoxide	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Chlordane	EPA-8081	0.14	0.010	1	ug/L	04/25/2015	CAS
Endosulfan I	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
4,4'-DDE	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Dieldrin	EPA-8081	0.53	0.050	5	ug/L	04/25/2015	CAS
Endrin	EPA-8081	U	0.026	1	ug/L	04/25/2015	CAS
4,4'-DDD	EPA-8081	U	0.059	1	ug/L	04/25/2015	CAS
Endosulfan II	EPA-8081	U	0.017	1	ug/L	04/25/2015	CAS
4,4'-DDT	EPA-8081	U	0.071	1	ug/L	04/25/2015	CAS
Endrin Aldehyde	EPA-8081	U	0.073	1	ug/L	04/25/2015	CAS
Endosulfan Sulfate	EPA-8081	U	0.015	1	ug/L	04/25/2015	CAS
Methoxychlor	EPA-8081	U	0.13	1	ug/L	04/25/2015	CAS
Hexachlorobenzene	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Toxaphene	EPA-8081	9.9	2.5	5	ug/L	04/25/2015	CAS
Nitrate	EPA-300.0	960	15	100	MG/L	04/17/2015	GAP
2,4,5-T	EPA-8151	U	0.25	1	ug/L	05/01/2015	CAS
2,4,5-TP (Silvex)	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
2,4-D	EPA-8151	2.1	0.38	1	ug/L	05/01/2015	CAS
2,4-DB	EPA-8151	U	2.9	1	ug/L	05/01/2015	CAS
Dalapon	EPA-8151	U	0.38	1	ug/L	05/01/2015	CAS
Dichloroprop	EPA-8151	U	0.040	1	ug/L	05/01/2015	CAS
Dinoseb	EPA-8151	1.2	0.19	1	ug/L	05/01/2015	CAS
MCPA	EPA-8151	U	95	1	ug/L	05/01/2015	CAS
MCPP	EPA-8151	U	95	1	ug/L	05/01/2015	CAS
Dicamba	EPA-8151	110	9.5	50	ug/L	05/05/2015	CAS



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-01
CLIENT SAMPLE ID	MW-6-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 10:30:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Ammonia as N	SM 4500-NH3	15	0.25	5	MG/L	04/23/2015	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	76.8	04/16/2015	PAB
TFT	EPA-8021	97.4	04/16/2015	PAB
C25	NWTPH-DX w/ SGA	69.0	04/16/2015	EBS
TCMX	EPA-8081	84.0	04/25/2015	CAS
DCB	EPA-8081	44.0	04/25/2015	CAS
2,4-Dichlorophenylacetic Acid	EPA-8151	83.0	05/01/2015	CAS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains weathered diesel.



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-02
CLIENT SAMPLE ID	MW-5-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 11:15:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	ug/L	04/16/2015	PAB
Benzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Toluene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Xylenes	EPA-8021	U	3.0	1	ug/L	04/16/2015	PAB
TPH-Diesel Range	NWTPH-DX w/ SGA	U	130	1	ug/L	04/16/2015	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	250	1	ug/L	04/16/2015	EBS
A-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
G-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
B-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Heptachlor	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
D-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Aldrin	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Heptachlor Epoxide	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Chlordane	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Endosulfan I	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
4,4'-DDE	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Dieldrin	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Endrin	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
4,4'-DDD	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Endosulfan II	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
4,4'-DDT	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Endrin Aldehyde	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Endosulfan Sulfate	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Methoxychlor	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Hexachlorobenzene	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Toxaphene	EPA-8081	U	0.50	1	ug/L	04/25/2015	CAS
Nitrate	EPA-300.0	3.6	0.15	1	MG/L	04/17/2015	GAP
2,4,5-T	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
2,4,5-TP (Silvex)	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
2,4-D	EPA-8151	U	0.38	1	ug/L	05/01/2015	CAS
2,4-DB	EPA-8151	U	0.38	1	ug/L	05/01/2015	CAS
Dalapon	EPA-8151	U	0.38	1	ug/L	05/01/2015	CAS
Dicamba	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
Dichloroprop	EPA-8151	U	0.040	1	ug/L	05/01/2015	CAS
Dinoseb	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
MCPA	EPA-8151	U	95	1	ug/L	05/01/2015	CAS
MCPD	EPA-8151	U	95	1	ug/L	05/01/2015	CAS

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-02
CLIENT SAMPLE ID	MW-5-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 11:15:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Ammonia as N	SM 4500-NH3	0.21	0.050	1	MG/L	04/23/2015	CAS
SURROGATE	METHOD	%REC				ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	78.9				04/16/2015	PAB
TFT	EPA-8021	101				04/16/2015	PAB
C25	NWTPH-DX w/ SGA	94.6				04/16/2015	EBS
TCMX	EPA-8081	79.0				04/25/2015	CAS
DCB	EPA-8081	81.0				04/25/2015	CAS
2,4-Dichlorophenylacetic Acid	EPA-8151	28.0				05/01/2015	CAS

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-03
CLIENT SAMPLE ID	MW-8-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 11:50:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	ug/L	04/16/2015	PAB
Benzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Toluene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Xylenes	EPA-8021	U	3.0	1	ug/L	04/16/2015	PAB
TPH-Diesel Range	NWTPH-DX w/ SGA	U	130	1	ug/L	04/16/2015	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	250	1	ug/L	04/16/2015	EBS
A-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
G-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
B-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Heptachlor	EPA-8081	U	0.014	1	ug/L	04/25/2015	CAS
D-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Aldrin	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Heptachlor Epoxide	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Chlordane	EPA-8081	0.012	0.010	1	ug/L	04/25/2015	CAS
Endosulfan I	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
4,4'-DDE	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Dieldrin	EPA-8081	0.031	0.010	1	ug/L	04/25/2015	CAS
Endrin	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
4,4'-DDD	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Endosulfan II	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
4,4'-DDT	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Endrin Aldehyde	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Endosulfan Sulfate	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Methoxychlor	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Hexachlorobenzene	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Toxaphene	EPA-8081	U	0.50	1	ug/L	04/25/2015	CAS
Nitrate	EPA-300.0	320	15	100	MG/L	04/17/2015	GAP
2,4,5-T	EPA-8151	U	0.19	1	ug/L	05/05/2015	CAS
2,4,5-TP (Silvex)	EPA-8151	U	0.19	1	ug/L	05/05/2015	CAS
2,4-D	EPA-8151	U	0.38	1	ug/L	05/05/2015	CAS
2,4-DB	EPA-8151	U	0.52	1	ug/L	05/05/2015	CAS
Dalapon	EPA-8151	U	0.38	1	ug/L	05/05/2015	CAS
Dicamba	EPA-8151	1.0	0.19	1	ug/L	05/05/2015	CAS
Dichloroprop	EPA-8151	U	0.040	1	ug/L	05/05/2015	CAS
Dinoseb	EPA-8151	U	0.19	1	ug/L	05/05/2015	CAS
MCPA	EPA-8151	U	95	1	ug/L	05/05/2015	CAS
MCPP	EPA-8151	U	95	1	ug/L	05/05/2015	CAS



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-03
CLIENT SAMPLE ID	MW-8-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 11:50:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Ammonia as N	SM 4500-NH3	28	0.50	10	MG/L	04/23/2015	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	79.0	04/16/2015	PAB
TFT	EPA-8021	96.2	04/16/2015	PAB
C25	NWTPH-DX w/ SGA	97.0	04/16/2015	EBS
TCMX	EPA-8081	75.0	04/25/2015	CAS
DCB	EPA-8081	54.0	04/25/2015	CAS
2,4-Dichlorophenylacetic Acid	EPA-8151	65.0	05/05/2015	CAS

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-04
CLIENT SAMPLE ID	MW-7-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 12:40:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	ug/L	04/16/2015	PAB
Benzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Toluene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Xylenes	EPA-8021	U	3.0	1	ug/L	04/16/2015	PAB
TPH-Diesel Range	NWTPH-DX w/ SGA	U	130	1	ug/L	04/16/2015	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	250	1	ug/L	04/16/2015	EBS
A-BHC	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
G-BHC	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
B-BHC	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Heptachlor	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
D-BHC	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Aldrin	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Heptachlor Epoxide	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Chlordane	EPA-8081	0.021	0.011	1	ug/L	04/25/2015	CAS
Endosulfan I	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
4,4'-DDE	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Dieldrin	EPA-8081	0.17	0.011	1	ug/L	04/25/2015	CAS
Endrin	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
4,4'-DDD	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Endosulfan II	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
4,4'-DDT	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Endrin Aldehyde	EPA-8081	U	0.017	1	ug/L	04/25/2015	CAS
Endosulfan Sulfate	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Methoxychlor	EPA-8081	U	0.013	1	ug/L	04/25/2015	CAS
Hexachlorobenzene	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Toxaphene	EPA-8081	1.0	0.52	1	ug/L	04/25/2015	CAS
Nitrate	EPA-300.0	93	1.5	10	MG/L	04/17/2015	GAP
2,4,5-T	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
2,4,5-TP (Silvex)	EPA-8151	U	0.21	1	ug/L	05/01/2015	CAS
2,4-D	EPA-8151	U	0.38	1	ug/L	05/01/2015	CAS
2,4-DB	EPA-8151	U	0.60	1	ug/L	05/01/2015	CAS
Dalapon	EPA-8151	U	0.38	1	ug/L	05/01/2015	CAS
Dicamba	EPA-8151	0.40	0.19	1	ug/L	05/01/2015	CAS
Dichloroprop	EPA-8151	U	0.040	1	ug/L	05/01/2015	CAS
Dinoseb	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
MCPA	EPA-8151	U	95	1	ug/L	05/01/2015	CAS
MCPD	EPA-8151	U	95	1	ug/L	05/01/2015	CAS

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-04
CLIENT SAMPLE ID	MW-7-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 12:40:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Ammonia as N	SM 4500-NH3	8.7	0.25	5	MG/L	04/23/2015	CAS
SURROGATE	METHOD	%REC				ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	81.9				04/16/2015	PAB
TFT	EPA-8021	98.7				04/16/2015	PAB
C25	NWTPH-DX w/ SGA	88.3				04/16/2015	EBS
TCMX	EPA-8081	80.0				04/25/2015	CAS
DCB	EPA-8081	47.0				04/25/2015	CAS
2,4-Dichlorophenylacetic Acid	EPA-8151	53.0				05/01/2015	CAS

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-05
CLIENT SAMPLE ID	MW-1-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 1:10:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	ug/L	04/16/2015	PAB
Benzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Toluene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Xylenes	EPA-8021	U	3.0	1	ug/L	04/16/2015	PAB
TPH-Diesel Range	NWTPH-DX w/ SGA	U	130	1	ug/L	04/16/2015	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	250	1	ug/L	04/16/2015	EBS
A-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
G-BHC	EPA-8081	0.035	0.010	1	ug/L	04/25/2015	CAS
B-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Heptachlor	EPA-8081	U	0.17	1	ug/L	04/25/2015	CAS
D-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Aldrin	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Heptachlor Epoxide	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Chlordane	EPA-8081	0.089	0.010	1	ug/L	04/25/2015	CAS
Endosulfan I	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
4,4'-DDE	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Dieldrin	EPA-8081	0.23	0.010	1	ug/L	04/25/2015	CAS
Endrin	EPA-8081	U	0.013	1	ug/L	04/25/2015	CAS
4,4'-DDD	EPA-8081	U	0.025	1	ug/L	04/25/2015	CAS
Endosulfan II	EPA-8081	U	0.013	1	ug/L	04/25/2015	CAS
4,4'-DDT	EPA-8081	U	0.020	1	ug/L	04/25/2015	CAS
Endrin Aldehyde	EPA-8081	U	0.028	1	ug/L	04/25/2015	CAS
Endosulfan Sulfate	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Methoxychlor	EPA-8081	U	0.13	1	ug/L	04/25/2015	CAS
Hexachlorobenzene	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Toxaphene	EPA-8081	2.4	0.50	1	ug/L	04/25/2015	CAS
Nitrate	EPA-300.0	610	15	100	MG/L	04/17/2015	GAP
2,4,5-T	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
2,4,5-TP (Silvex)	EPA-8151	U	1.7	1	ug/L	05/01/2015	CAS
2,4-DB	EPA-8151	U	2.9	1	ug/L	05/01/2015	CAS
Dalapon	EPA-8151	U	0.38	1	ug/L	05/01/2015	CAS
Dichloroprop	EPA-8151	U	0.040	1	ug/L	05/01/2015	CAS
Dinoseb	EPA-8151	3.0	0.19	1	ug/L	05/01/2015	CAS
MCPA	EPA-8151	U	95	1	ug/L	05/01/2015	CAS
MCPP	EPA-8151	U	95	1	ug/L	05/01/2015	CAS
2,4-D	EPA-8151	U	7.6	20	ug/L	05/05/2015	CAS
Dicamba	EPA-8151	30	3.8	20	ug/L	05/05/2015	CAS



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-05
CLIENT SAMPLE ID	MW-1-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 1:10:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Ammonia as N	SM 4500-NH3	64	2.5	50	MG/L	04/23/2015	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	82.9	04/16/2015	PAB
TFT	EPA-8021	102	04/16/2015	PAB
C25	NWTPH-DX w/ SGA	78.4	04/16/2015	EBS
TCMX	EPA-8081	74.0	04/25/2015	CAS
DCB	EPA-8081	45.0	04/25/2015	CAS
2,4-Dichlorophenylacetic Acid	EPA-8151	136	05/01/2015	CAS

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-06
CLIENT SAMPLE ID	MW-4-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 2:00:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	ug/L	04/16/2015	PAB
Benzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Toluene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Xylenes	EPA-8021	U	3.0	1	ug/L	04/16/2015	PAB
TPH-Diesel Range	NWTPH-DX w/ SGA	580	130	1	ug/L	04/16/2015	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	250	250	1	ug/L	04/16/2015	EBS
A-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
G-BHC	EPA-8081	0.17	0.010	1	ug/L	04/25/2015	CAS
B-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Heptachlor	EPA-8081	U	0.062	1	ug/L	04/25/2015	CAS
D-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Aldrin	EPA-8081	U	0.012	1	ug/L	04/25/2015	CAS
Heptachlor Epoxide	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Chlordane	EPA-8081	0.28	0.010	1	ug/L	04/25/2015	CAS
Endosulfan I	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
4,4'-DDE	EPA-8081	U	0.033	1	ug/L	04/25/2015	CAS
Dieldrin	EPA-8081	2.0	0.10	10	ug/L	04/25/2015	CAS
Endrin	EPA-8081	U	0.13	1	ug/L	04/25/2015	CAS
4,4'-DDD	EPA-8081	U	0.13	1	ug/L	04/25/2015	CAS
Endosulfan II	EPA-8081	U	0.14	1	ug/L	04/25/2015	CAS
4,4'-DDT	EPA-8081	U	0.20	1	ug/L	04/25/2015	CAS
Endrin Aldehyde	EPA-8081	U	0.25	1	ug/L	04/25/2015	CAS
Endosulfan Sulfate	EPA-8081	U	0.014	1	ug/L	04/25/2015	CAS
Methoxychlor	EPA-8081	U	0.045	1	ug/L	04/25/2015	CAS
Hexachlorobenzene	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Toxaphene	EPA-8081	17	5.0	10	ug/L	04/25/2015	CAS
Nitrate	EPA-300.0	2600	150	1000	MG/L	04/17/2015	GAP
2,4,5-T	EPA-8151	U	2.5	1	ug/L	05/01/2015	CAS
2,4-DB	EPA-8151	U	8.9	1	ug/L	05/01/2015	CAS
Dalapon	EPA-8151	U	0.39	1	ug/L	05/01/2015	CAS
Dichloroprop	EPA-8151	U	0.040	1	ug/L	05/01/2015	CAS
Dinoseb	EPA-8151	U	2.3	1	ug/L	05/01/2015	CAS
MCPA	EPA-8151	U	140	1	ug/L	05/01/2015	CAS
MCPP	EPA-8151	U	97	1	ug/L	05/01/2015	CAS
2,4,5-TP (Silvex)	EPA-8151	U	790	100	ug/L	05/05/2015	CAS
2,4-D	EPA-8151	260	39	100	ug/L	05/05/2015	CAS
Dicamba	EPA-8151	160	20	100	ug/L	05/05/2015	CAS

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-06
CLIENT SAMPLE ID	MW-4-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 2:00:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Ammonia as N	SM 4500-NH3	1300	25	500	MG/L	04/23/2015	CAS
SURROGATE	METHOD	%REC				ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	78.1				04/16/2015	PAB
TFT	EPA-8021	96.5				04/16/2015	PAB
C25	NWTPH-DX w/ SGA	80.9				04/16/2015	EBS
TCMX	EPA-8081	65.0				04/25/2015	CAS
DCB	EPA-8081	39.0				04/25/2015	CAS
2,4-Dichlorophenylacetic Acid	EPA-8151	67.0				05/01/2015	CAS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains an unidentified diesel range product and an unidentified oil range product.



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-07
CLIENT SAMPLE ID	MW-3-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 2:40:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	ug/L	04/16/2015	PAB
Benzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Toluene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Xylenes	EPA-8021	U	3.0	1	ug/L	04/16/2015	PAB
TPH-Diesel Range	NWTPH-DX w/ SGA	U	130	1	ug/L	04/16/2015	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	250	1	ug/L	04/16/2015	EBS
A-BHC	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
G-BHC	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
B-BHC	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Heptachlor	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
D-BHC	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Aldrin	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Heptachlor Epoxide	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Chlordane	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Endosulfan I	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
4,4'-DDE	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Dieldrin	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Endrin	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
4,4'-DDD	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Endosulfan II	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
4,4'-DDT	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Endrin Aldehyde	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Endosulfan Sulfate	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Methoxychlor	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Hexachlorobenzene	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Toxaphene	EPA-8081	U	0.51	1	ug/L	04/25/2015	CAS
Nitrate	EPA-300.0	U	0.15	1	MG/L	04/17/2015	GAP
2,4,5-T	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
2,4,5-TP (Silvex)	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
2,4-D	EPA-8151	U	0.38	1	ug/L	05/01/2015	CAS
2,4-DB	EPA-8151	U	0.38	1	ug/L	05/01/2015	CAS
Dalapon	EPA-8151	U	0.38	1	ug/L	05/01/2015	CAS
Dicamba	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
Dichloroprop	EPA-8151	U	0.040	1	ug/L	05/01/2015	CAS
Dinoseb	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
MCPA	EPA-8151	U	95	1	ug/L	05/01/2015	CAS
MCPP	EPA-8151	U	95	1	ug/L	05/01/2015	CAS

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-07
CLIENT SAMPLE ID	MW-3-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 2:40:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Ammonia as N	SM 4500-NH3	0.20	0.050	1	MG/L	04/23/2015	CAS
SURROGATE	METHOD	%REC				ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	77.3				04/16/2015	PAB
TFT	EPA-8021	96.4				04/16/2015	PAB
C25	NWTPH-DX w/ SGA	90.5				04/16/2015	EBS
TCMX	EPA-8081	76.0				04/25/2015	CAS
DCB	EPA-8081	81.0				04/25/2015	CAS
2,4-Dichlorophenylacetic Acid	EPA-8151	38.0				05/01/2015	CAS

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-08
CLIENT SAMPLE ID	MW-2-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 3:35:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	ug/L	04/16/2015	PAB
Benzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Toluene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Xylenes	EPA-8021	U	3.0	1	ug/L	04/16/2015	PAB
TPH-Diesel Range	NWTPH-DX w/ SGA	U	130	1	ug/L	04/16/2015	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	250	1	ug/L	04/16/2015	EBS
A-BHC	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
G-BHC	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
B-BHC	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Heptachlor	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
D-BHC	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Aldrin	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Heptachlor Epoxide	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Chlordane	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Endosulfan I	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
4,4'-DDE	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Dieldrin	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Endrin	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
4,4'-DDD	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Endosulfan II	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
4,4'-DDT	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Endrin Aldehyde	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Endosulfan Sulfate	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Methoxychlor	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Hexachlorobenzene	EPA-8081	U	0.011	1	ug/L	04/25/2015	CAS
Toxaphene	EPA-8081	U	0.51	1	ug/L	04/25/2015	CAS
Nitrate	EPA-300.0	2.1	0.15	1	MG/L	04/17/2015	GAP
2,4,5-T	EPA-8151	U	0.19	1	ug/L	05/02/2015	CAS
2,4,5-TP (Silvex)	EPA-8151	U	0.19	1	ug/L	05/02/2015	CAS
2,4-D	EPA-8151	U	0.38	1	ug/L	05/02/2015	CAS
2,4-DB	EPA-8151	U	0.38	1	ug/L	05/02/2015	CAS
Dalapon	EPA-8151	U	0.38	1	ug/L	05/02/2015	CAS
Dicamba	EPA-8151	U	0.19	1	ug/L	05/02/2015	CAS
Dichloroprop	EPA-8151	U	0.040	1	ug/L	05/02/2015	CAS
Dinoseb	EPA-8151	U	0.19	1	ug/L	05/02/2015	CAS
MCPA	EPA-8151	U	95	1	ug/L	05/02/2015	CAS
MCPP	EPA-8151	U	95	1	ug/L	05/02/2015	CAS

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-08
CLIENT SAMPLE ID	MW-2-041515	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015 3:35:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Ammonia as N	SM 4500-NH3	0.075	0.050	1	MG/L	04/23/2015	CAS
SURROGATE	METHOD	%REC				ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	81.8				04/16/2015	PAB
TFT	EPA-8021	99.8				04/16/2015	PAB
C25	NWTPH-DX w/ SGA	90.1				04/16/2015	EBS
TCMX	EPA-8081	80.0				04/25/2015	CAS
DCB	EPA-8081	77.0				04/25/2015	CAS
2,4-Dichlorophenylacetic Acid	EPA-8151	57.0				05/02/2015	CAS

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS JOB#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	ALS SAMPLE#:	EV15040087-09
CLIENT SAMPLE ID	Trip Blanks	DATE RECEIVED:	04/16/2015
		COLLECTION DATE:	4/15/2015
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	ug/L	04/16/2015	PAB
Benzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Toluene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	ug/L	04/16/2015	PAB
Xylenes	EPA-8021	U	3.0	1	ug/L	04/16/2015	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	81.5	04/16/2015	PAB
TFT	EPA-8021	99.3	04/16/2015	PAB

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc. DATE: 5/7/2015
 130 - 2nd Ave. S. ALS SDG#: EV15040087
 Edmonds, WA 98020 WDOE ACCREDITATION: C601

CLIENT CONTACT: Tim Syverson
 CLIENT PROJECT: Smith-Kem / #1474002.020

LABORATORY BLANK RESULTS

MBG-041515W - Batch 92451 - Water by NWTPH-GX

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	ug/L	04/15/2015	PAB

U - Analyte analyzed for but not detected at level above reporting limit.

MB-041515W - Batch 92451 - Water by EPA-8021

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	1.0	1	ug/L	04/15/2015	PAB
Toluene	EPA-8021	U	1.0	1	ug/L	04/15/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	ug/L	04/15/2015	PAB
Xylenes	EPA-8021	U	3.0	1	ug/L	04/15/2015	PAB

U - Analyte analyzed for but not detected at level above reporting limit.

MB-041415W - Batch 92398 - Water by NWTPH-DX

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	130	1	ug/L	04/14/2015	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	ug/L	04/14/2015	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB1-04/25/2015 - Batch R254217 - Water by EPA-8081

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
A-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
G-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
B-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Heptachlor	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
D-BHC	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Aldrin	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Heptachlor Epoxide	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Chlordane	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Endosulfan I	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
4,4'-DDE	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Dieldrin	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Endrin	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
4,4'-DDD	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Endosulfan II	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
4,4'-DDT	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Endrin Aldehyde	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS



CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc. DATE: 5/7/2015
 130 - 2nd Ave. S. ALS SDG#: EV15040087
 Edmonds, WA 98020 WDOE ACCREDITATION: C601

CLIENT CONTACT: Tim Syverson
 CLIENT PROJECT: Smith-Kem / #1474002.020

LABORATORY BLANK RESULTS

MB1-04/25/2015 - Batch R254217 - Water by EPA-8081

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Endosulfan Sulfate	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Methoxychlor	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Hexachlorobenzene	EPA-8081	U	0.010	1	ug/L	04/25/2015	CAS
Toxaphene	EPA-8081	U	0.50	1	ug/L	04/25/2015	CAS

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-4172015 - Batch R253232 - Water by EPA-300.0

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Nitrate	EPA-300.0	U	0.15	1	MG/L	04/17/2015	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

MB1-05/01/2015 - Batch R254218 - Water by EPA-8151

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
2,4,5-T	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
2,4,5-TP (Silvex)	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
2,4-D	EPA-8151	U	0.38	1	ug/L	05/01/2015	CAS
2,4-DB	EPA-8151	U	0.38	1	ug/L	05/01/2015	CAS
Dalapon	EPA-8151	U	0.38	1	ug/L	05/01/2015	CAS
Dicamba	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
Dichloroprop	EPA-8151	U	0.38	1	ug/L	05/01/2015	CAS
Dinoseb	EPA-8151	U	0.19	1	ug/L	05/01/2015	CAS
MCPA	EPA-8151	U	95	1	ug/L	05/01/2015	CAS
MCPP	EPA-8151	U	95	1	ug/L	05/01/2015	CAS

U - Analyte analyzed for but not detected at level above reporting limit.

MB1-04/23/2015 - Batch R254220 - Water by SM 4500-NH3

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Ammonia as N	SM 4500-NH3	U	0.050	1	MG/L	04/23/2015	CAS

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS SDG#:	EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	WDOE ACCREDITATION:	C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 92451 - Water by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range - BS	NWTPH-GX	84.9			04/15/2015	PAB
TPH-Volatile Range - BSD	NWTPH-GX	88.4	4		04/15/2015	PAB

ALS Test Batch ID: 92451 - Water by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
Benzene - BS	EPA-8021	114			04/15/2015	PAB
Benzene - BSD	EPA-8021	118	4		04/15/2015	PAB
Toluene - BS	EPA-8021	108			04/15/2015	PAB
Toluene - BSD	EPA-8021	112	3		04/15/2015	PAB
Ethylbenzene - BS	EPA-8021	108			04/15/2015	PAB
Ethylbenzene - BSD	EPA-8021	112	4		04/15/2015	PAB
Xylenes - BS	EPA-8021	107			04/15/2015	PAB
Xylenes - BSD	EPA-8021	112	4		04/15/2015	PAB

ALS Test Batch ID: 92398 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	94.9			04/14/2015	EBS
TPH-Diesel Range - BSD	NWTPH-DX	95.1	0		04/14/2015	EBS

ALS Test Batch ID: R254217 - Water by EPA-8081

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
A-BHC - BS	EPA-8081	76.5			04/25/2015	CAS
A-BHC - BSD	EPA-8081	77.0	1		04/25/2015	CAS
G-BHC - BS	EPA-8081	77.5			04/25/2015	CAS
G-BHC - BSD	EPA-8081	77.5	0		04/25/2015	CAS
B-BHC - BS	EPA-8081	80.0			04/25/2015	CAS
B-BHC - BSD	EPA-8081	80.5	1		04/25/2015	CAS
Heptachlor - BS	EPA-8081	71.0			04/25/2015	CAS
Heptachlor - BSD	EPA-8081	68.0	4		04/25/2015	CAS
D-BHC - BS	EPA-8081	78.0			04/25/2015	CAS
D-BHC - BSD	EPA-8081	79.0	1		04/25/2015	CAS
Aldrin - BS	EPA-8081	56.5			04/25/2015	CAS
Aldrin - BSD	EPA-8081	50.5	11		04/25/2015	CAS
Heptachlor Epoxide - BS	EPA-8081	75.5			04/25/2015	CAS
Heptachlor Epoxide - BSD	EPA-8081	74.5	1		04/25/2015	CAS



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: 5/7/2015
CLIENT CONTACT:	Tim Syverson	ALS SDG#: EV15040087
CLIENT PROJECT:	Smith-Kem / #1474002.020	WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
Chlordane - BS	EPA-8081	72.0			04/25/2015	CAS
Chlordane - BSD	EPA-8081	71.0	1		04/25/2015	CAS
Endosulfan I - BS	EPA-8081	54.5			04/25/2015	CAS
Endosulfan I - BSD	EPA-8081	53.5	2		04/25/2015	CAS
4,4'-DDE - BS	EPA-8081	73.0			04/25/2015	CAS
4,4'-DDE - BSD	EPA-8081	72.0	1		04/25/2015	CAS
Dieldrin - BS	EPA-8081	76.5			04/25/2015	CAS
Dieldrin - BSD	EPA-8081	76.0	1		04/25/2015	CAS
Endrin - BS	EPA-8081	80.0			04/25/2015	CAS
Endrin - BSD	EPA-8081	79.5	1		04/25/2015	CAS
4,4'-DDD - BS	EPA-8081	75.0			04/25/2015	CAS
4,4'-DDD - BSD	EPA-8081	74.5	1		04/25/2015	CAS
Endosulfan II - BS	EPA-8081	59.5			04/25/2015	CAS
Endosulfan II - BSD	EPA-8081	59.5	0		04/25/2015	CAS
4,4'-DDT - BS	EPA-8081	77.0			04/25/2015	CAS
4,4'-DDT - BSD	EPA-8081	75.0	3		04/25/2015	CAS
Endrin Aldehyde - BS	EPA-8081	75.0			04/25/2015	CAS
Endrin Aldehyde - BSD	EPA-8081	76.0	1		04/25/2015	CAS
Endosulfan Sulfate - BS	EPA-8081	75.0			04/25/2015	CAS
Endosulfan Sulfate - BSD	EPA-8081	75.0	0		04/25/2015	CAS
Methoxychlor - BS	EPA-8081	79.0			04/25/2015	CAS
Methoxychlor - BSD	EPA-8081	77.5	2		04/25/2015	CAS
Hexachlorobenzene - BS	EPA-8081	70.5			04/25/2015	CAS
Hexachlorobenzene - BSD	EPA-8081	70.0	1		04/25/2015	CAS
Toxaphene - BS	EPA-8081	92.1			04/25/2015	CAS
Toxaphene - BSD	EPA-8081	86.6	6		04/25/2015	CAS

ALS Test Batch ID: R253232 - Water by EPA-300.0

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
Nitrate - BS	EPA-300.0	102			04/17/2015	GAP
Nitrate - BSD	EPA-300.0	97.0	5		04/17/2015	GAP

ALS Test Batch ID: R254218 - Water by EPA-8151

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
2,4,5-T - BS	EPA-8151	100			05/01/2015	CAS
2,4,5-T - BSD	EPA-8151	104	3		05/01/2015	CAS
2,4,5-TP (Silvex) - BS	EPA-8151	93.6			05/01/2015	CAS



CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: 5/7/2015 ALS SDG#: EV15040087 WDOE ACCREDITATION: C601
CLIENT CONTACT:	Tim Syverson	
CLIENT PROJECT:	Smith-Kem / #1474002.020	

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
2,4,5-TP (Silvex) - BSD	EPA-8151	96.0	3		05/01/2015	CAS
2,4-D - BS	EPA-8151	94.4			05/01/2015	CAS
2,4-D - BSD	EPA-8151	98.0	4		05/01/2015	CAS
2,4-DB - BS	EPA-8151	67.6			05/01/2015	CAS
2,4-DB - BSD	EPA-8151	61.2	10		05/01/2015	CAS
Dalapon - BS	EPA-8151	80.8			05/01/2015	CAS
Dalapon - BSD	EPA-8151	75.2	7		05/01/2015	CAS
Dicamba - BS	EPA-8151	84.4			05/01/2015	CAS
Dicamba - BSD	EPA-8151	86.0	2		05/01/2015	CAS
Dichloroprop - BS	EPA-8151	76.0			05/01/2015	CAS
Dichloroprop - BSD	EPA-8151	78.8	4		05/01/2015	CAS
Dinoseb - BS	EPA-8151	80.4			05/01/2015	CAS
Dinoseb - BSD	EPA-8151	78.0	3		05/01/2015	CAS
MCPA - BS	EPA-8151	85.2			05/01/2015	CAS
MCPA - BSD	EPA-8151	89.6	5		05/01/2015	CAS
MCPP - BS	EPA-8151	78.8			05/01/2015	CAS
MCPP - BSD	EPA-8151	90.4	14		05/01/2015	CAS

ALS Test Batch ID: R254220 - Water by SM 4500-NH3

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
Ammonia as N 5X Dilution - BS	SM 4500-NH3	97.5			04/23/2015	CAS

APPROVED BY

Laboratory Director

ALS ENVIRONMENTAL

Sample Receiving Checklist

Client: Landau

ALS Job #: EV15040087

Project: Smith Kern

Received Date: 4/16/15 Received Time: 10:10 By: RS

Type of shipping container: Cooler Box Other

Shipped via: FedEx Ground UPS Mail Courier ALS Hand Delivered
FedEx Express

Were custody seals on outside of sample? Yes No N/A
If yes, how many? 1 each Where? Top
Custody seal date: 4/16 Seal name: Landau.

Was Chain of Custody properly filled out (ink, signed, dated, etc.)? X

Did all bottles have labels? X

Did all bottle labels and tags agree with Chain of Custody? X

Were samples received within hold time? X

Did all bottles arrive in good condition (unbroken, etc.)? X

Was sufficient amount of sample sent for the tests indicated? X

Was correct preservation added to samples? X

If no, Sample Control added preservative to the following:

<u>Sample Number</u>	<u>Reagent</u>	<u>Analyte</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Were VOA vials checked for absence of air bubbles? X

Bubbles present in sample #: None

Temperature of cooler upon receipt: 3 4.7 5.4 5.3 on Ice Cold Cool Ambient N/A

Explain any discrepancies: _____

Was client contacted? Who was called? _____ By whom? _____ Date: _____

Outcome of call: _____