Transmittal

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Subject:	Remedial Investigation Report		

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1	Remedial Investigation Report	4	

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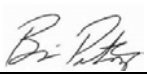
Copy to: Richard Wright, Jacksons Food Stores

Completed by: Brian Peters [Please Print] Signed: 

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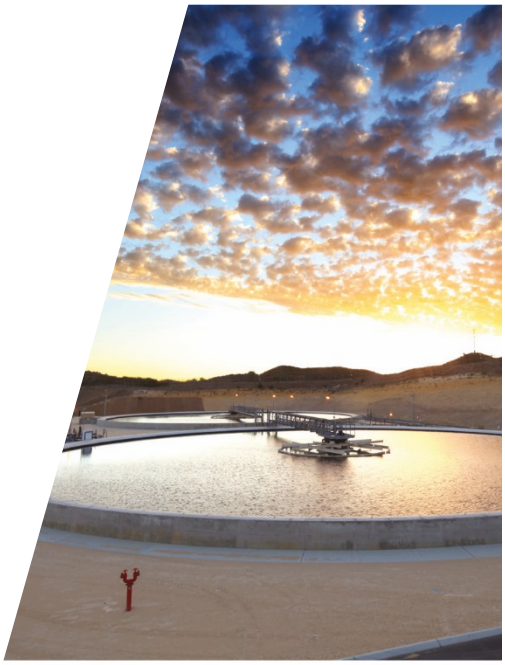
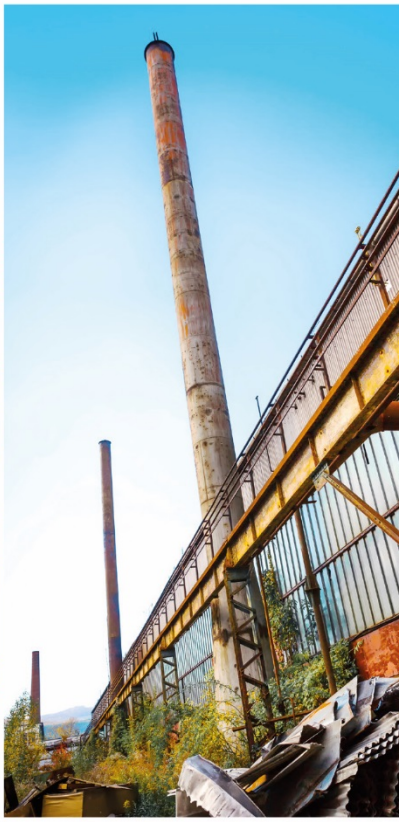


Remedial Investigation Report

Jacksons Food Store No. 5017
21641 Renton-Maple Valley Road
Maple Valley, Washington
Facility/Site No.: 23177881
VCP No.: NW2995



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1. Introduction

1.1 Site Information

Site Name:	Jacksons Food Store No. 5017
Site Address:	21641 Renton-Maple Valley Road Maple Valley, Washington
Voluntary Cleanup Program Number:	NW2995
Project Consultant:	GHD Services Inc.
Project Consultant Contact Information:	Brian Peters 20818 44th Avenue W, Suite 190 Lynnwood, Washington, 98036 Office – 425.563.6500 Direct – 425.563.6506
Current Owner/Operator:	PacWest Energy, LLC/Jacksons Food Stores

1.2 Purpose

GHD Services Inc. (GHD) prepared this Remedial Investigation (RI) Report on behalf of Jacksons Food Stores (JFS) for JFS Store No. 5017 located at 21641 Renton-Maple Valley Road just north of the intersection of Renton-Maple Valley Road/Highway 169 and Witte Road Southeast, Maple Valley, King County, Washington (Property; Figure 1).

This RI Report was prepared to satisfy the requirements of the Washington Administrative Code (WAC) 173-340-350 and summarizes RI findings for the Property. A list of all documents reviewed in preparation of this report is included in Section 4.1.

2. Site Identification and Description

2.1 Site Discovery and Regulatory Status

In 1992, during the USTs and product line replacement activities, the six former USTs, and three additional undocumented gasoline USTs, discovered near the northern dispenser islands (two 675-gallon and one 1,000-gallon), were removed from the Property, and replaced with the existing USTs. Soil impacted with petroleum hydrocarbon concentrations exceeding Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A cleanup levels was observed near the turbines of a gasoline UST and product lines and dispensers. Approximately 900 cubic yards of impacted soil was removed from the former and current gasoline UST pit, former waste oil UST excavation, and dispenser islands excavation. Confirmation soil sampling indicated

soil impacted with petroleum hydrocarbon concentrations exceeding MTCA Method A cleanup levels remained at shallow depths near the western dispenser islands and from the east wall of the gasoline USTs excavation. However, this impacted soil was reportedly over-excavated and treated on-site by aeration, prior to disposal at an off-property facility.

A petroleum release impacting soil and groundwater was reported to Ecology on June 2, 1990, and the Property was listed with Ecology's leaking underground storage tank (LUST) program and issued identification number 1938. The Property was also part of Shell Oil Products US (SOPUS) groundwater assessment program to periodically evaluate the condition of groundwater at active service stations.

The current status of the release is "Cleanup Started" for soil and groundwater as of July 1, 2011. Ecology submitted an early notice letter to SOPUS, dated April 9, 2013, re-opening the site as an active LUST case. After discussions in late 2013, Ecology and SOPUS agreed on assessment of current subsurface conditions along the western property boundary (Figure 2). The Property was entered into the Voluntary Cleanup Program (VCP) as of October 13, 2016 and was issued VCP No. NW2995. The environmental liability for the facility transferred from SOPUS to PacWest Energy, LLC (a joint venture between SOPUS and JFS) in 2015.

A chronological summary of the environmental work completed at the Property is included as Appendix A. Historical boring logs are included as Appendix B. Historical soil and groundwater data are provided in Tables 1 and 2, respectively.

2.2 Property and Site Use/Location/Definition

The Property is an active Shell-branded wholesale facility and JFS store. The Property consists of King County tax parcel number 510840-0014, and comprises of approximately 0.44 acres. A legal description of the Property, including past and present owners and operators, is included in Appendix C.

Current facilities include a convenience store building, a canopy and two dispenser islands, a car wash, and four 10,000-gallon underground storage tanks (USTs; three unleaded gasoline and one diesel) in a common excavation on the north portion of the Property (Figure 2). The Property was residentially developed by 1936 and redeveloped as a gasoline service station in 1965. Six USTs were installed on the Property by 1969, including four gasoline USTs (two 8,000-gallon and two 5,000-gallon) in a common excavation on northwestern portion the Property, one 550-gallon waste oil UST south of the station building, and one 500-gallon heating oil UST north of the station building.

The Property is located on the easternmost edge of the Kent-Maple Valley plateau adjacent to Cedar River at approximately 420 feet above mean sea level (msl). The local topography is relatively flat with a slight slope to the west toward Puget Sound and a steep slope moving east into the Cascade Mountains. The nearest surface water bodies are Cedar River approximately 0.65 miles east, Lake Wilderness approximately 0.85-miles southeast, and Shadow Lake approximately 1.95-miles northwest.

The MTCA site (Site) is defined as all affected areas from the petroleum release associated with the Property and potentially impacted adjacent parcels. The Site boundary is presented on Figure 2.

2.3 Neighborhood Setting

The Property is zoned as Neighborhood Business (NB). Land use on the adjoining properties is NB, with residential zoning surrounding. Adjoining properties consist of the following:

- North: The Property is bound to the north by commercial properties.
- West: The Property is bound to the west by a coffee kiosk and commercial property, with residential properties beyond.
- South: The Property is bound to the south by Maple Valley Market, with residential properties beyond.
- East: The Property is bound to the east by Renton-Maple Valley Road/Highway 169, with the Cedar River Trail beyond.

An area map showing surrounding properties is included as Figure 3.

2.4 Utilities and Water Supply

Utilities on and adjacent to the Property include electrical (subsurface and overhead), communications, water, sanitary sewer, storm water, and product lines/vent lines associated with the on-Site USTs. All subsurface utilities are likely buried shallower than 5 feet below ground surface (bgs), with the exception of sewer/storm water which may be somewhat deeper. Since groundwater is present at a depth greater than 10 feet bgs, it is unlikely that any subsurface utilities would act as a preferential pathway for groundwater migration.

Drinking water is supplied to the Property and vicinity by the Cedar River Water and Sewer District (District). The District purchases most of its water from Seattle Public Utilities (SPU), sourced from the Cedar River Watershed. In addition, the District has one groundwater production well which is used to supplement water supply and services residential customers in the east area of the District's coverage region. Finally, the District uses water purchased from the Covington Water District (CWD) and/or Tacoma Water (TW) on an intermittent basis. Water from CWD is sourced from groundwater production wells, while water from TW is sourced from the Green River. Annual Water Quality Reports are available through the District.

2.5 Past Property Uses and Facilities

Based on a review of historical reports, county assessor records, and Ecology UST database, the following past Property uses and facilities were determined:

Prior to 1936:	Unknown Property use and facilities.
1936 to 1964:	Property appears to be residential.
1964 to 1965:	A Shell-branded service station, owned by Frank Bagnarial was constructed. Features included an approximate 1,073-square-foot service station with two hoists, two 6,000-gallon and two 8,000-gallon gasoline USTs, one 550-gallon waste oil UST, one 500-gallon heating oil UST, one 280-gallon sump, and two air and water stations. At an unknown

	date, an additional two 675-gallon and one 1,000-gallon gasoline USTs were installed on the Property.
1987:	The existing car wash was added onto the Property building.
1992:	Texaco Refining and Marketing, Inc. purchased the Property sometime prior to 1992.
1996:	First generation USTs were removed and replaced with the current USTs, which consist of three 10,000-gallon gasoline, one 10,000-gallon diesel, and one 550-gallon heating oil. The waste oil UST was permanently decommissioned and was not replaced.
1998:	Equilon Enterprises, LLC assumed ownership.
2009:	PacWest Energy, LLC assumed ownership.

2.6 Potential Off-Property Sources of Contamination

There is currently one property within a 0.5-mile radius of the subject Property listed in Ecology's database as a LUST property. The property is located at 21639 Renton-Maple Valley Road, which is immediately adjacent to the subject Property, to the west. Ecology's Toxic Cleanup Program reports that the release status is 'Awaiting Cleanup.' An initial investigation was completed in 2013 and indicated petroleum constituents in soil and groundwater above cleanup levels. Given the close proximity to the Site, this presents a feasible off-Property source of contamination. However, the Site boundaries are fully defined by clean down-gradient wells (as discussed further in Section 4). Therefore, further action with regard to the off-Property source of contamination is not required at this time.

3. Natural Conditions

3.1 Geology

The Property is situated within the Cedar River valley within the Puget Lowland. Regional geology consists of non-glacial alluvial deposits, with the immediate vicinity of the Property consisting mainly of Holocene aged alluvial fan deposits of boulders, cobbles, and sand (Booth, 1995).

According to subsurface investigations conducted at the Site, soil appears to consist of fill and/or alluvium comprised of cobbles, sandy gravel, silty sand, and silts to a maximum explored depth of approximately 35 feet bgs. Boring logs are included as Appendix B. Cross sections describing subsurface soil and groundwater conditions are included as Figures 4 and 5.

3.2 Groundwater

The Property is located in the Cedar River Watershed. The Cedar River Watershed is part of the greater Lake Washington-Cedar River drainage, encompassing the land area in which rainwater drains to Lake Sammamish, the Sammamish River, and out into Lake Washington (King County, "Watersheds, Rivers, and Streams").

The following is a summary of information obtained from the Ecology Well Log Database (well log database) and King County Water and Land Services, Groundwater Well Viewer (well viewer) of potential water supply wells located within 0.5-mile of the Property.

Privately owned wells

The well log database and well viewer identifies one well down gradient of the Site, and seven wells cross gradient of the Site within a 0.5-mile radius. The down gradient well is approximately 0.4 miles from the Site with the Cedar River in between. According to the well viewer, the well is privately owned and was last sampled for water quality data in 1990. The well is 90 feet deep. The current status of the well is unknown. However, based on the distance from the Site and physical separation by the Cedar River, this well is not a potential receptor. Six of the cross gradient wells are separated from the Site by the Cedar River and at a distance of approximately 0.2-0.4 miles. The remaining cross gradient well is approximately 0.35-miles north-northwest of the Site. Based on the distance and the cross gradient location, these wells are not potential receptors. The remainder of the private wells identified in the well log database and well viewer are located up gradient and are therefore, not potential receptors.

Site Wells

Based on the results of previous investigations and groundwater monitoring conducted at the Site, shallow groundwater is present between approximately 11 and 13 feet bgs, however, it has been measured as deep as 16 feet bgs. Shallow groundwater appears to flow toward the west. Historical groundwater elevations for Site wells are presented on Table 2**.**

3.3 Surface Water

The nearest water body, Cedar River, is approximately 430 feet south of the Property.

3.4 Natural Resources and Ecological Receptors

The Site qualifies for an exclusion from terrestrial ecological evaluation (TEE) because all remaining soil contamination is at least 15 feet bgs. A TEE exclusion form is included as Appendix D.

4. Contaminant Occurrence

The following sections present a discussion of Site characterization work that has occurred at the Site and a summary of current Site conditions for each affected media.

4.1 Summary of Previous Investigations

A total of nine monitoring wells, six soil borings, and 24 soil samples have been completed at the Site. The following reports include details of the environmental investigations which have been conducted at the Site:

- 1990, *Site Assessment*, Sweet-Edwards/EMCON
- 1993, *Underground Storage Tank Closure*, EMCON

- 1993, *Request for Recognition of Clean Closure*, EMCON
- 2003, *Shell GRASP Monitoring Report*, KHM
- 2008, *Phase II Environmental Site Assessment*, URS
- 2014, *Subsurface Investigation Report*, CRA

A complete chronological summary of work completed at the Site during the investigations listed above is included as Appendix A. Reports summarized in Appendix A represent all available investigation reports obtained by or provided to GHD. A summary of historical soil analytical data is presented in Table 1 and a summary of groundwater monitoring results are summarized in Table 2. All available historical boring logs for the previous investigations are included in Appendix B.

4.2 December 2014 Monitoring Well Installation

In December 2014, one monitoring well (MW-16) was installed down-gradient of well MW-14. The boring was advanced to 30 feet bgs, and soil samples were collected from 10, 15, 20, and 30 feet bgs. The well log is provided in Appendix B. Groundwater samples were collected from the well following installation, and an additional ten times from December 2014 through June 2019.

4.3 Soil

A total of 42 soil samples have been collected for laboratory analysis. Soil samples were collected from borings advanced in 1990 and 2008, from well installation activities in 1990, 1993, and 2014, and, the remedial excavation completed in 1992. The approximate sample depths were between the ground surface and 30 feet bgs.

Figure 6 presents the locations of all soil samples collected during the investigation activities conducted at the Site, and petroleum hydrocarbon concentrations above MTCA Method A cleanup levels. Figure 7 presents the locations of all soil samples with petroleum hydrocarbon concentrations above MTCA Method A cleanup levels after the completion of the 1992 remedial excavation. A summary of all soil sample locations submitted for analyses, including the date of the sample, depth, and analytical method and results are presented on Table 1. The analytical laboratory report for soil samples collected from the boring for monitoring well MW-16 are provided in Appendix E.

Historically, petroleum-impacted soil exceeding MTCA Method A cleanup levels was identified during the UST excavation in 1992. However, the identified impacted soil was over-excavated during the UST replacement, and the excavation in the vicinity of the dispenser islands extended to approximately 7 feet bgs, the excavation in the vicinity of the USTs extended to approximately 14 feet bgs, and the excavation in the vicinity of the waste oil UST extended to approximately 10 feet bgs. A total of approximately 900 cubic yards of soil was removed from the Property. Following the excavation and subsequent groundwater monitoring, the Site was determined to be clean and the LUST case was changed to “reported cleaned up”.

In 2013, Ecology reopened the LUST case and requested additional assessment. In 2014, wells MW-14 and MW-15 were installed at the Site. A TPHg concentration of 1,370 milligram per kilogram (mg/kg) was detected in soil from MW-14 at 15 feet bgs. No other concentrations exceeded MTCA

Method A cleanup levels. In December 2014, well MW-16 was installed down-gradient of well MW-14. No soil concentrations exceeded MTCA Method A cleanup levels. Therefore, the only soil at the Site which exceeds the MTCA Method A cleanup level is from MW-14 at 15 feet bgs.

4.4 Groundwater

The locations of all former and current monitoring wells installed at the Site are presented on Figure 2. The groundwater elevation and chemical concentration maps for March and June 2019, the most recent sampling events, are provided as Figures 8 and 9. A summary of the historical groundwater conditions are provided in Table 2 and monitoring well construction details are provided in Table 3.

There are currently seven groundwater monitoring wells (MW-1b, MW-2b, MW-12, MW-13, MW-14, MW-15, and MW-16) present at the Site. Groundwater from Site wells was monitored between 1990 and 1993, from 2003 to 2010 as part of the SOPUS GRASP program, and from 2014 to the present The depth to water is typically measured between 11 and 13 feet bgs, however, it has been measured as deep as 16 feet bgs. The groundwater gradient is predominantly to the west at approximately 0.02 foot per foot.

Wells MW-1b, MW-2b, MW-12, MW-13 were included in the analytical sampling between 2002 and 2007; no concentrations exceeded the MTCA Method A cleanup levels in any wells since 2003. From 2014 through 2017, the analytical sampling was limited to MW-14, MW-15, and MW-16, and the analytical sampling from 2018 to the present was limited to MW-14 and MW-16. Wells MW-15 and MW-16 have never contained any groundwater concentrations exceeding MTCA Method A cleanup levels. Well MW-14 has contained TPHg and TPHd concentrations exceeding the MTCA Method A cleanup levels; however during the most recent sampling event in June 2019, a concentration of TPHg above the MTCA Method A cleanup level was the only exceedance identified. Field data sheets are provided in Appendix F for the first and second quarter 2019 sampling events.

Based on the current and historical groundwater data, the groundwater plume is limited to the vicinity of MW-14 and is fully delineated in all directions.

4.5 Surface Water

No surface water has been sampled as there has been no indication that surface water has been impacted by the release at the Site. The nearest surface water body, the Cedar River, is approximately 430 feet south of the Property Shallow groundwater appears to flow sub-parallel to the river and therefore likely does not discharge to the river until 0.25 to 0.5 miles downriver.

4.6 Sediment

No indication of surface water impact has been identified in association with the Site; therefore, no sediment sampling has been conducted.

4.7 Soil Vapor

Soil vapor has not been sampled at the Site; however, based on Ecology's *Implementation Memo No. 14 (IM-14) – Updated Process for Initially Assessing the Potential for Petroleum Vapor*

Intrusion, the initial assessment of the vapor intrusion risk demonstrates that further assessment is unnecessary given the current conditions and use of the Property. Exceedances of TPHg are present along the western Property boundary, in well MW-14, which is located approximately 10 feet from the on-Property car wash and convenience store. The horizontal distance of the on-Property building to the impacts identified in well MW-14 do not rule out vapor intrusion as indicated in IM-14; however, the existing soil impacts are present at a depth of 15 feet bgs. Soil at this depth has a TPHg concentration of 1,370 mg/kg, and shallower soil samples collected and analyzed from this well (from depths of 5 and 10 feet bgs) did not have detections of TPHg above the MTCA Method A cleanup level of 100 mg/kg. The presence of the identified TPH concentration at a depth of 15 feet bgs, but not shallower soils, meets the criteria of vertical separation outlined in IM-14 Attachment B. Additionally, depth to groundwater at the Site ranges from 11 to 16 feet bgs. Exceedances in groundwater are only present in well MW-14, where TPHg concentrations were most recently detected at 1,790 µg/L. This concentration is well below the TPH criteria of 30,000 µg/L, which would require at least six feet of vertical separation at stated in IM-14 Attachment B. Therefore, the residual petroleum impacts at the Site meet the criteria for adequate vertical separation distance as defined in IM-14 Attachment B. Based on the criteria in IM-14, the most recent soil and groundwater data demonstrates that remnant impacts associated with the historical petroleum release do not pose a vapor intrusion threat. Tier I and/or Tier II assessments are not necessary at this time.

5. Interim Remedial Actions

Historically, petroleum hydrocarbon-impacted soil exceeding MTCA Method A cleanup levels was identified during the UST excavation in 1992. This impacted soil was reportedly over-excavated during the UST replacement. Confirmatory soil samples were collected at the final excavation extent and no soil concentrations exceeded MTCA Method A cleanup levels. A total of approximately 900 cubic yards of soil was removed from the Property. Following the excavation and subsequent groundwater monitoring, the Site was determined to be clean and the LUST case was changed to “reported cleaned up.”

In August 2019, GHD placed four feet of oxygen release compound (ORC) socks in well MW-14 to treat the residual TPHg concentrations in groundwater. GHD plans on removing the socks in December 2019, and resuming quarterly groundwater monitoring events.

6. Site Conceptual Model

Petroleum was initially released into soil at the service station sometime prior to 1992. The release appeared to be in the vicinity of the dispenser islands and/or USTs. TPH-HCID analysis during the excavation indicated that the release was likely gasoline.

The Site has been capped by asphalt and concrete since the Property was developed and therefore, the majority of the Site has not been exposed to infiltrating surface water. Subsurface soils at the Site consist of alluvium consisting of gravel, sandy gravel, and silt from the ground surface to 30 feet bgs. Historical soil impacts were identified in the vicinity of the USTs and

dispenser islands, but approximately 900 cubic yards of soil was removed during the excavation; the UST vicinity was excavated to 14 feet bgs, the dispenser islands excavation was extended to 7 feet bgs, and the waste oil UST excavation was extended to 10 feet bgs. Confirmatory soil samples were collected at the final excavation extent and no soil concentrations exceeded MTCA Method A cleanup levels.

Groundwater depth ranges from approximately 11 feet bgs to 16 feet bgs with an average of approximately 13 feet bgs. One TPHg concentration in soil from MW-14 at 15 feet bgs exceeded the MTCA Method A cleanup level; however, this soil is submerged below the groundwater table for the majority of the year. Down-gradient well MW-16, installed in 2014, has never contained soil or groundwater concentrations exceeding the MTCA Method A cleanup level. Therefore, the lateral extent of soil and groundwater impacts is fully defined.

The overall steady TPHg concentration in well MW-14 indicates the residual soil impacts are continuing to impact groundwater quality.

Based on the absence of soil impacts, with the exception of well MW-14 at 15 feet bgs, and relatively low residual groundwater impacts in well MW-14, the Site meets the vertical separation criteria as outlined in Ecology's IM-14; therefore, potential risks due to petroleum hydrocarbon soil vapor are unlikely. In addition, a fueling service station continues to operate on the Property. It is anticipated that the commercial use of the Property will continue in the future.

In accordance with MTCA, potential exposure pathways for human and environmental receptors based on the current and planned land use identified during this investigation include the following:

- Human health protection from direct soil contact
- Human health protection from soil to groundwater (drinking water)
- Human health protection from soil to groundwater (direct contact)
- Human health protection from soil vapor inhalation
- Human health protection from soil to surface water
- Human health protection from groundwater to surface water
- Terrestrial ecological protection.

Based on information provided in this report, the following conclusions can be made:

- The direct soil contact pathway is incomplete because no soil concentrations exceeding MTCA Method A cleanup levels are present within the upper 15 feet of soil on Site.
- The soil vapor inhalation pathway is incomplete due to the vertical separation distance of low concentrations of volatile contaminants present in soil and groundwater and the continued Site use as a fueling service station.
- The soil to surface water pathway is incomplete because the distance to any surface water bodies is greater than the potential for contaminant migration and the groundwater plume is fully delineated and is not migrating beyond the point of compliance.

- The groundwater to surface water pathway is incomplete due to the physical distance separating impacted groundwater and surface water.
- The terrestrial ecological pathway is incomplete based on the lack of undeveloped land surrounding the Property.

Based on the information provided, the only potential exposure pathways are limited to soil to groundwater (drinking water), and groundwater direct contact. Since the drinking water receptor is the most sensitive, cleanup standards will be based on this exposure pathway.

7. Cleanup Standards – Soil and Groundwater

In accordance with MTCA, development of cleanup levels includes identifying potential exposure pathways for humans and environmental receptors based on the planned land use. The site is currently zoned for commercial use and site zoning is not anticipated to change. Potential constituents of concern (COCs) for this site include the compounds listed in MTCA 173-340-900 Table 830-1 *Required Testing for Petroleum Releases*.

MTCA Method A cleanup levels for soil and groundwater are appropriate for the Site. All data has been compared to MTCA Method A cleanup levels. Soil from MW-14 at 15 feet bgs exceeded the MTCA Method A cleanup level in 2014, and groundwater from MW-14 has exceeded the MTCA Method A cleanup level since it's installation in 2014.

8. Areas Requiring Future Management

8.1 Constituents of Concern

TPHg is the only constituent remaining above the MTCA Method A cleanup levels for soil and groundwater.

8.2 Soil Requiring Future Management

Based on the information included in this RI, one soil sample currently exceeds the MTCA Method A cleanup level for TPHg. However, because the sample is located at 15 feet bgs and below groundwater the majority of the year, it is likely that any interim action completed for groundwater in the vicinity of the well will address the remaining soil impacts.

8.3 Groundwater Requiring Future Management

TPHg was detected in groundwater from well MW-14 in exceedance of the MTCA Method A cleanup level during the most recent groundwater monitoring event in June 2019. Therefore, further groundwater monitoring is necessary at the Site.

9. Conclusions and Recommendations

Based on the information contained within this RI report, residual soil and groundwater impacts are fully delineated at the Site and confined to the vicinity of well MW-14. Groundwater concentrations have been below MTCA Method A cleanup levels in other Site monitoring wells for more than four consecutive quarters and TPHg concentrations show a steady trend in well MW-14. A residual TPHg concentration in soil also remains on-Site in MW-14 at 15 feet bgs. However, based on data collected from the down-gradient compliance well MW-16, these residual soil and groundwater impacts have not been identified off-Property. Additionally, the Site meets the criteria required for exclusion from further TEE, indicating that the Site conditions are protective of the terrestrial environment.

9.1 Path to Closure

Based on the most recent soil and groundwater data, GHD anticipates the selected remedial action of installing ORC socks in well MW-14, as described in Section 5, will aid in achieving MTCA Method A cleanup levels in monitoring well MW-14. GHD will remove the ORC socks in December 2019 and resume quarterly groundwater monitoring of wells MW-14 and MW-16 for four consecutive quarters. At the completion of monitoring, assuming cleanup levels are achieved, GHD will prepare a Cleanup Action Report documenting the results of subsequent groundwater monitoring activities.

10. References

Conestoga-Rovers & Associates (CRA). *Subsurface Investigation Report*. January 2015.

EMCON Northwest, Inc. (EMCON). *Underground Storage Tank Closure Report*. February 12, 1993.

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Sweet-Edwards/EMCON. *Site Assessment*. October 10, 1990.

URS. *Phase II Environmental Site Assessment Report*. July 11, 2008.

Washington State Department of Ecology. Facility Site Database Search.

Washington State Department of Ecology. Implementation Memo No. 14 (IM-14) – Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusion, March 31, 2016.

Washington State Department of Ecology. Model Toxics Control Act, Publication No. 94-06, Revised November 2007.

Washington State Department of Ecology. Terrestrial Ecological Evaluation. http://www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm.

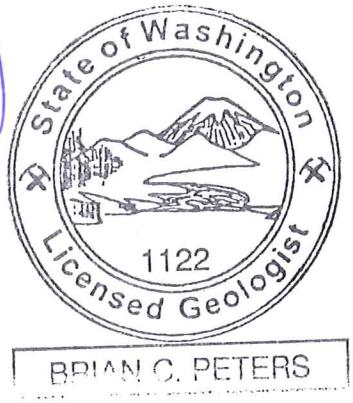
Washington State Department of Ecology. Washington State Well Log Viewer.

All of Which is Respectfully Submitted,

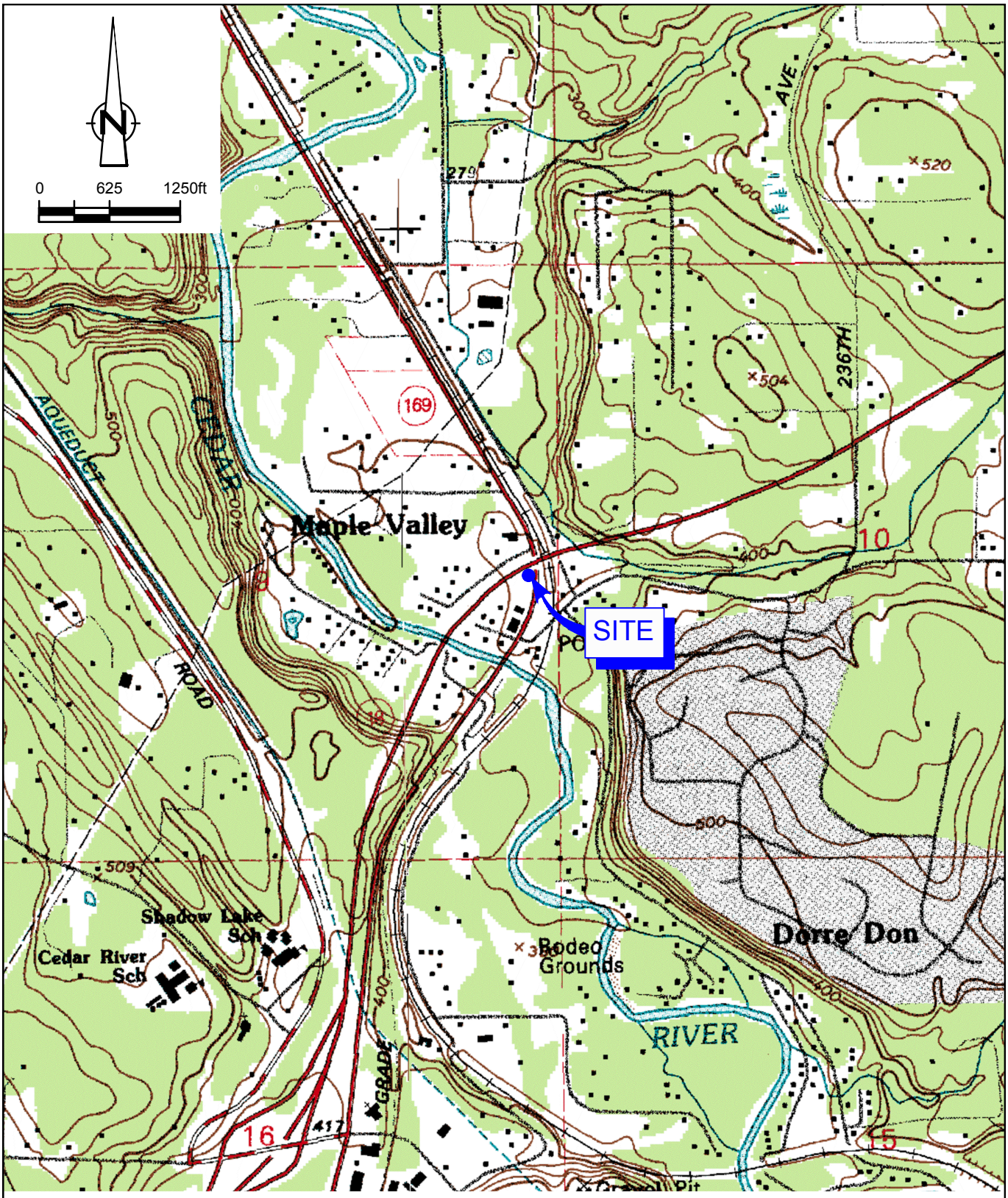
GHD

Emily Blakeway

Brian Peters, LG



Figures

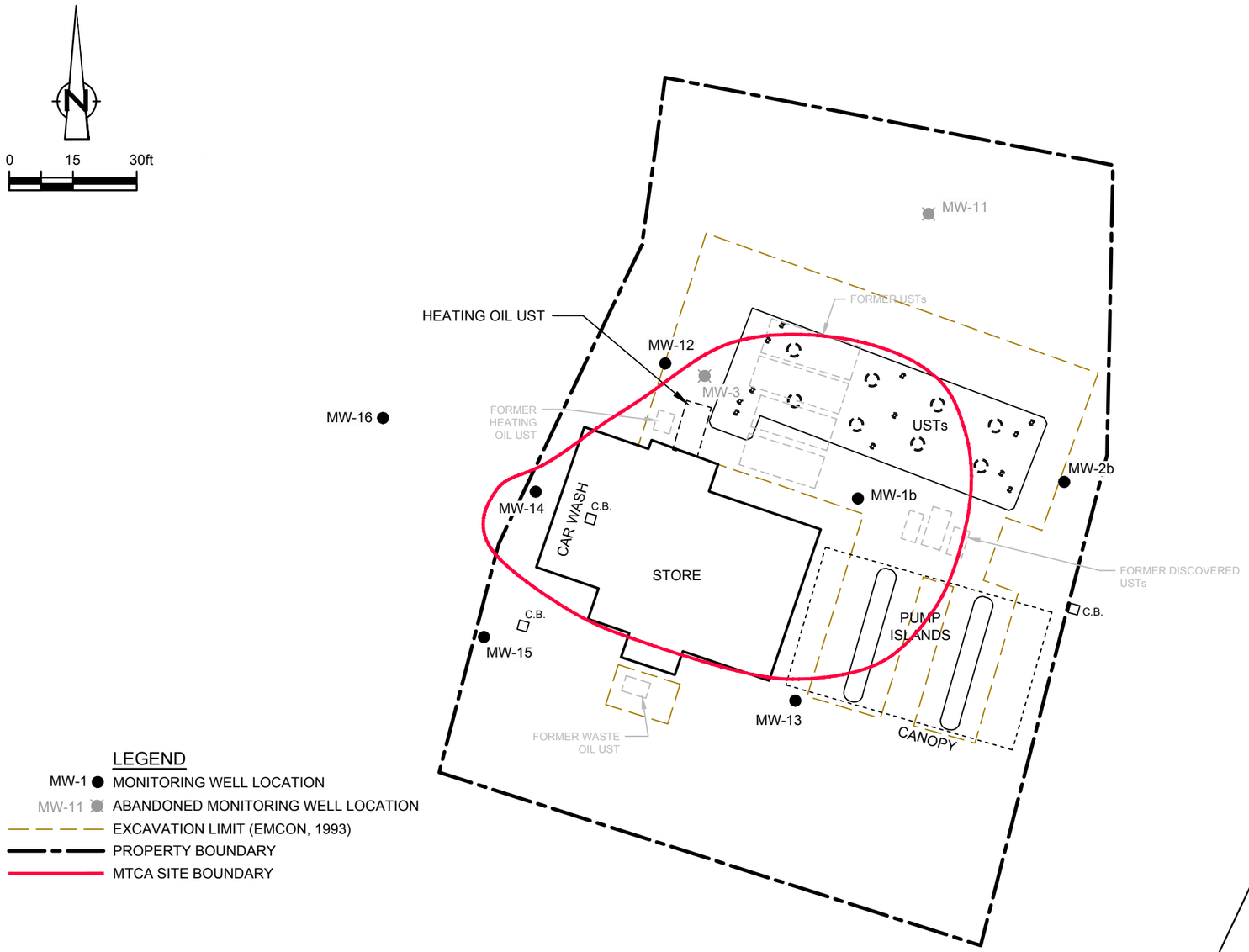


SOURCE: USGS QUADRANGLE MAP: MAPLE VALLEY, WA.

figure 1

VICINITY MAP
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY ROAD
Maple Valley, Washington

GHD



SOURCE:
DELTA CONSULTANTS, FIGURE 2, GROUNDWATER ELEVATION CONTOUR MAP, DATED 5/2/07;
STATEWIDE LAND SURVEYING INC. DATED 5/19/14.

NOTE:
WASHINGTON STATE PLANE COORDINATE SYSTEM NAD 83/CORS 96,
NORTH ZONE 4601, IN U.S. SURVEY FEET.

figure 2

SITE PLAN
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY ROAD
Maple Valley, Washington

Sour□e: Mi□rosoft Produ□t S□reen Shot(s) Reprinted □ith permission from Mi□rosoft Corporation, A□□uisition Date □un□no□n□, A□□essed: 2018.

LEGEND

COMMERCIAL PROPERTY

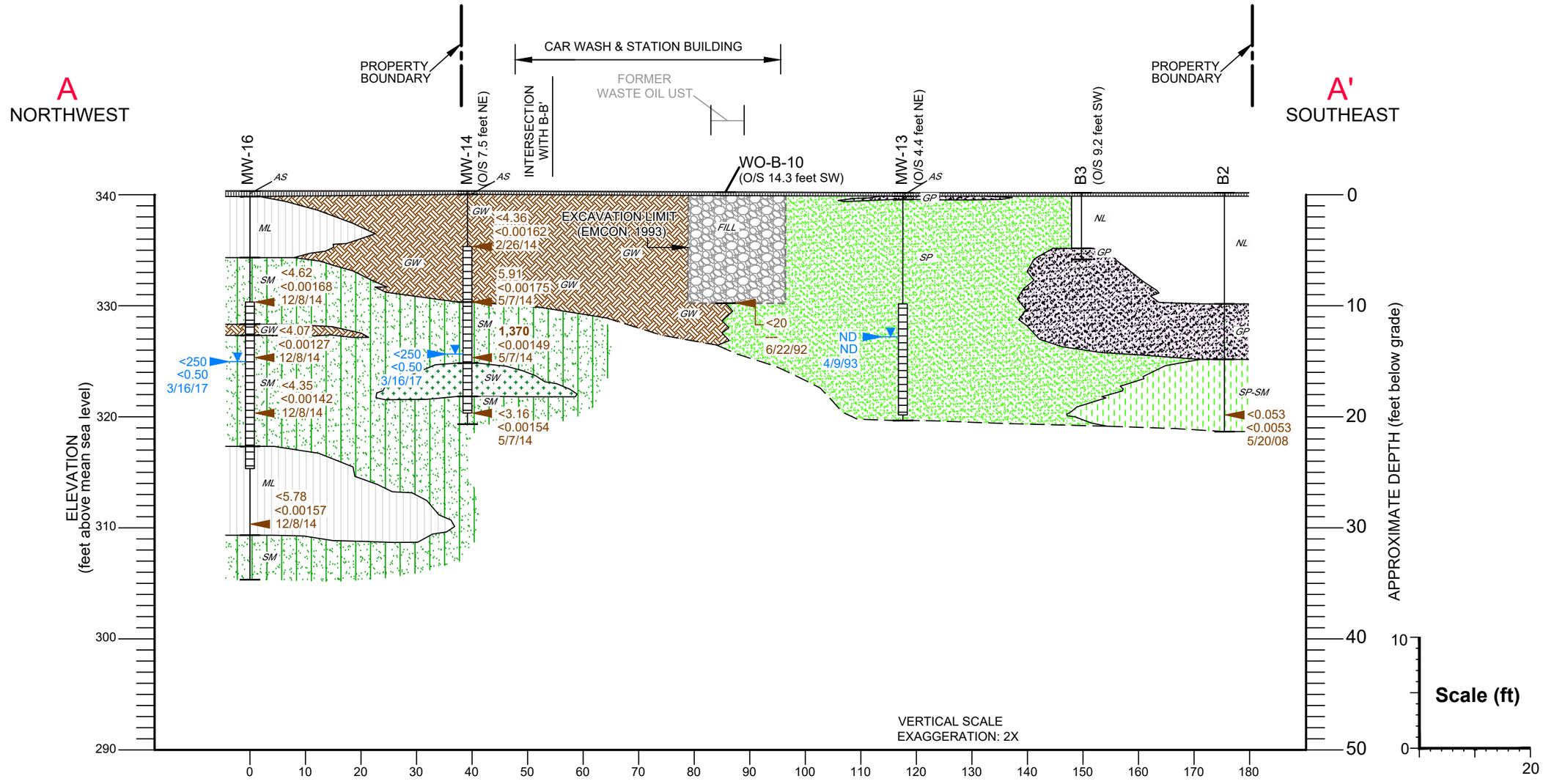
SUBJECT SITE

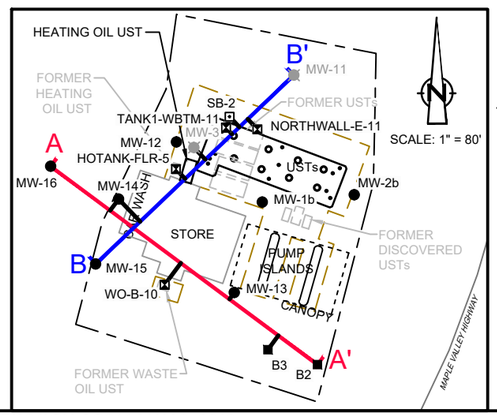
SOURCE:
DELTA CONSULTANTS, FIGURE 2, GROUNDWATER ELEVATION CONTOUR MAP, DATED 5/2/07;
STATEWIDE LAND SURVEYING INC. DATED 5/19/14.

NOTE:
WASHINGTON STATE PLANE COORDINATE SYSTEM NAD 83/CORS 96,
NORTH ZONE 4601, IN U.S. SURVEY FEET.

figure 3

SITE LOCATION AND SURROUNDING PROPERTIES
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY ROAD
Maple Valley, Washington





LEGEND

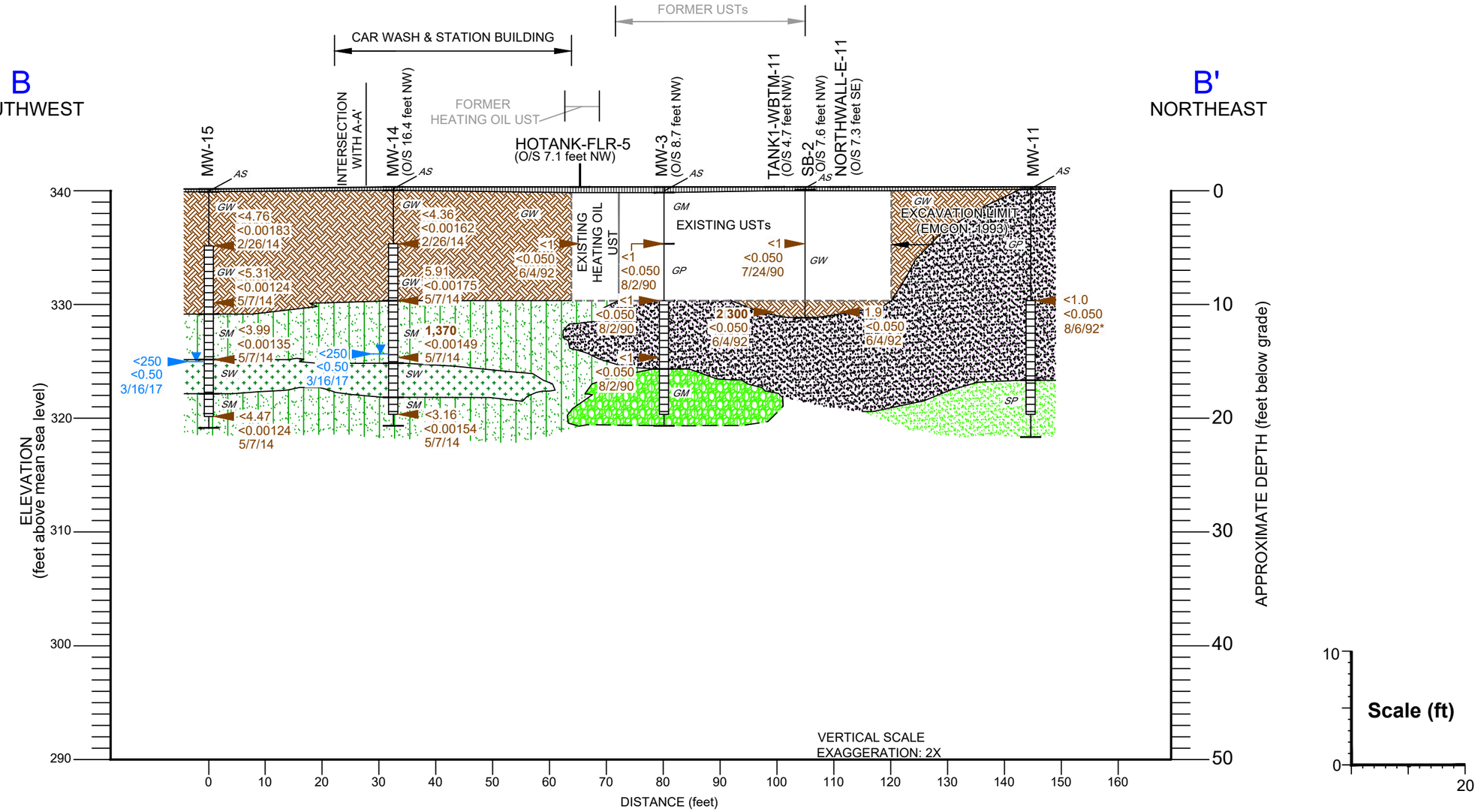
- MW-16 — WELL DESIGNATION
- GROUND SURFACE (OFFSET)
- GROUNDWATER MONITORING WELL
- STRATIGRAPHIC BOUNDARY
- c — TYPICAL SOIL CLASSIFICATION
- SCREENED INTERVAL
- BOTTOM OF BORING
- NL — NOT LOGGED
- GROUNDWATER DEPTH

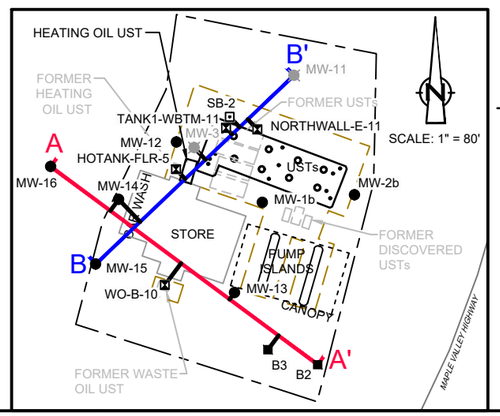
- *AS* - ASPHALT
- *FILL* - FILL (TANK PIT)
- *ML* - INORGANIC SILTS, VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, CLAYEY SILTS WITH SLIGHT PLASTICITY
- *GM* - SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
- APPROXIMATE SAMPLE LOCATION
- TPH-G / BENZENE / DATE — HYDROCARBON CONCENTRATIONS IN SOIL (mg/kg)-ONLY CONCENTRATIONS OF EITHER TPHg, BENZENE, AND/OR MTBE WHICH EXCEED THE LOWEST SFBRWQCB'S ESL'S ARE SHOWN.
- APPROXIMATE GROUNDWATER SAMPLE LOCATION
- TPH-G / BENZENE / DATE — HYDROCARBON CONCENTRATIONS IN GROUNDWATER (µg/L)

- *GP* - POORLY-GRADED GRAVELS, GRAVEL-SILT MIXTURES, LITTLE OR NO FINES
- *GW* - WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
- *SM* - SILTY SANDS, SAND-SILT MIXTURES
- *SP* - POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
- *SW* - WELL-GRADED SAND, GRAVELLY SANDS, LITTLE OR NO FINES
- *SP-SM* - SAND WITH SILT

figure 4

GENERALIZED GEOLOGIC CROSS SECTION A-A'
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY ROAD
Maple Valley, Washington





LEGEND

MW-16 — WELL DESIGNATION
GROUND SURFACE (OFFSET)
— GROUNDWATER MONITORING WELL
— STRATIGRAPHIC BOUNDARY
c — TYPICAL SOIL CLASSIFICATION
— SCREENED INTERVAL
— BOTTOM OF BORING

NL NOT LOGGED
* COMPOSITE SAMPLE FROM 0-22 FEET
GROUNDWATER DEPTH

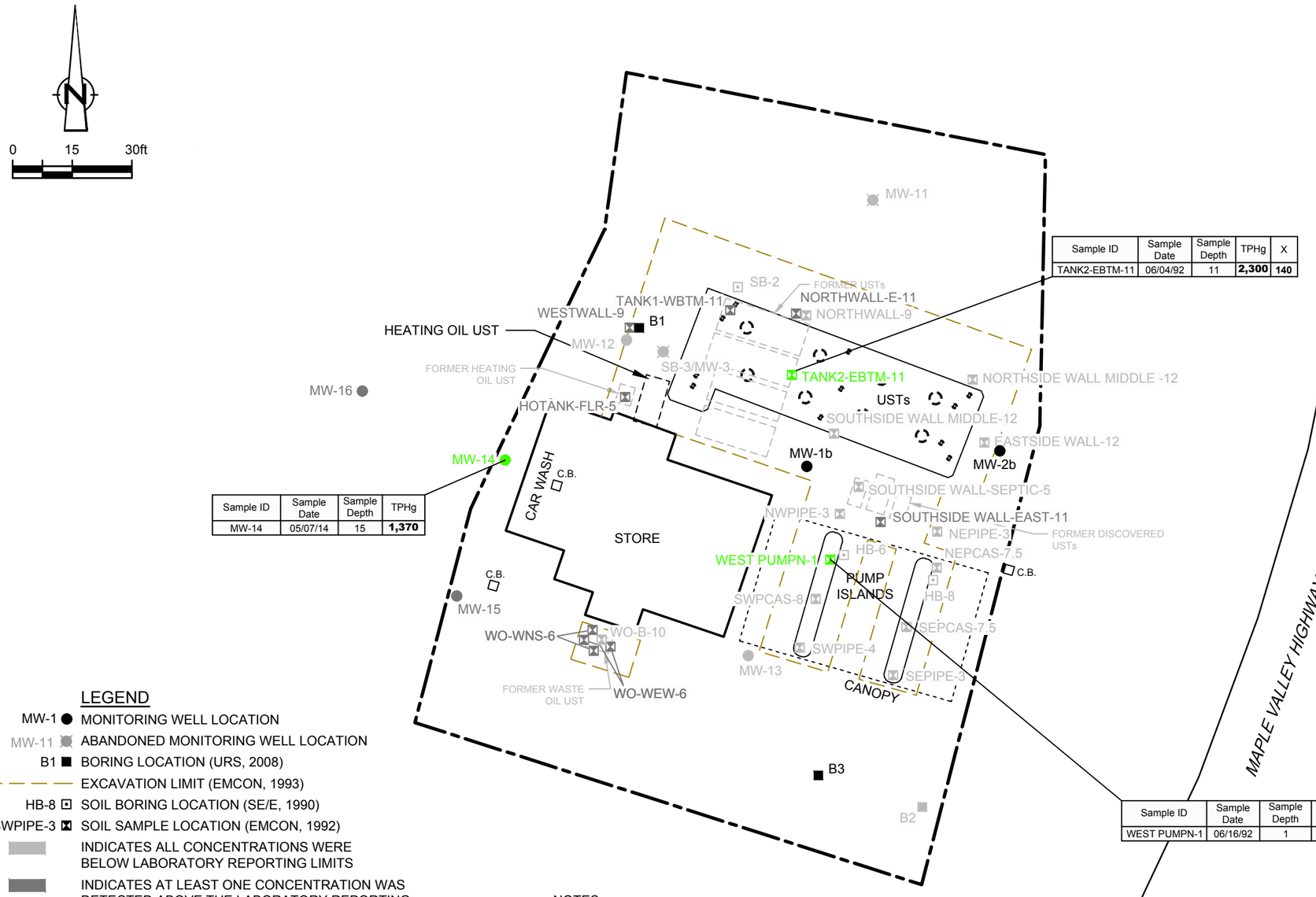
AS - ASPHALT
FILL - FILL (TANK PIT)
ML - INORGANIC SILTS, VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, CLAYEY SILTS WITH SLIGHT PLASTICITY
GM - SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
APPROXIMATE SAMPLE LOCATION
TPH-G / BENZENE / DATE — HYDROCARBON CONCENTRATIONS IN SOIL (mg/kg)-ONLY CONCENTRATIONS OF EITHER TPHg, BENZENE, AND/OR MTBE WHICH EXCEED THE LOWEST SFBRWQCB'S ESL'S ARE SHOWN.
APPROXIMATE GROUNDWATER SAMPLE LOCATION
TPH-G / BENZENE / DATE — HYDROCARBON CONCENTRATIONS IN GROUNDWATER (µg/L)

GP - POORLY-GRADED GRAVELS, GRAVEL-SILT MIXTURES, LITTLE OR NO FINES
GW - WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
SM - SILTY SANDS, SAND-SILT MIXTURES
SP - POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
SW - WELL-GRADED SAND, GRAVELLY SANDS, LITTLE OR NO FINES
SP-SM - SAND WITH SILT

figure 5

GENERALIZED GEOLOGIC CROSS SECTION B-B'
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY ROAD
Maple Valley, Washington

GHD



Sample ID	Sample Date	Sample Depth	TPHg	X
TANK2-EBTM-11	06/04/92	11	**2,300**	**140**

Sample ID	Sample Date	Sample Depth	TPHg
MW-14	05/07/14	15	**1,370**

Sample ID	Sample Date	Sample Depth	TPHg	T	X
WEST PUMPN-1	06/16/92	1	**6,400**	**9.6**	**350**

LEGEND

- MW-1 ● MONITORING WELL LOCATION
- MW-11 ✱ ABANDONED MONITORING WELL LOCATION
- B1 ■ BORING LOCATION (URS, 2008)
- EXCAVATION LIMIT (EMCON, 1993)
- HB-8 ⊡ SOIL BORING LOCATION (SE/E, 1990)
- SWPIPE-3 ⊠ SOIL SAMPLE LOCATION (EMCON, 1992)
- INDICATES ALL CONCENTRATIONS WERE BELOW LABORATORY REPORTING LIMITS
- INDICATES AT LEAST ONE CONCENTRATION WAS DETECTED ABOVE THE LABORATORY REPORTING LIMITS, BUT NO CONCENTRATION EXCEEDED THE MTCA METHOD A CLEANUP LEVELS
- INDICATES AT LEAST ONE CONCENTRATION EXCEEDED THE MTCA METHOD A CLEANUP LEVELS
- NO SOIL SAMPLES WERE ANALYZED

NOTES:

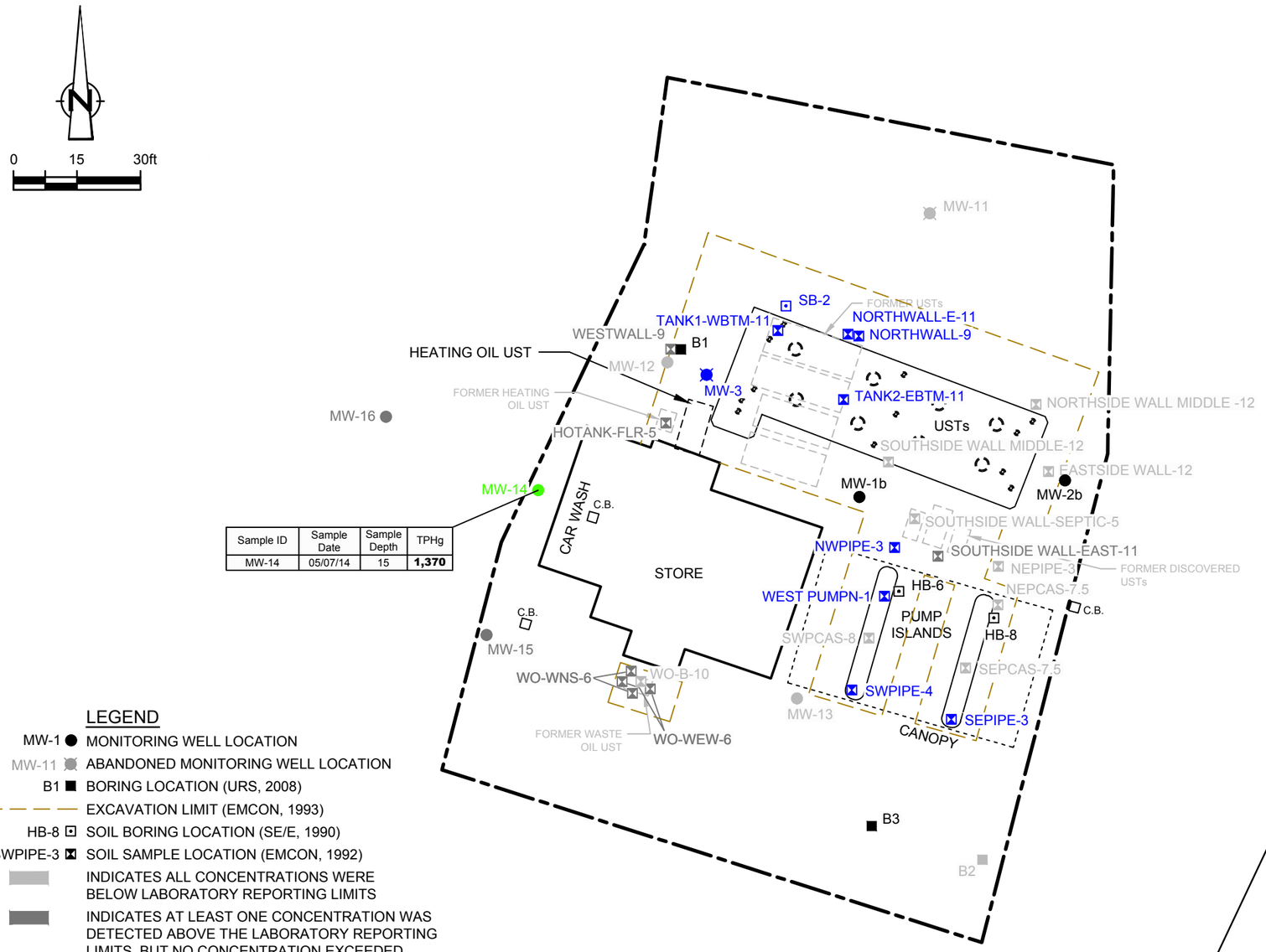
- MTCA = MODEL TOXICS CONTROL ACT
- ALL RESULTS IN MILLIGRAMS PER KILOGRAM (MG/KG) UNLESS OTHERWISE INDICATED.
- RESULTS IN BOLD INDICATE AN EXCEEDANCE OF THE MTCA METHOD A CLEANUP LEVELS.
- SAMPLE DEPTH IS IN FEET BELOW GROUND SURFACE
- TPHg = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS
- T = TOLUENE, X = XYLENES

SOURCE:
DELTA CONSULTANTS, FIGURE 2, GROUNDWATER ELEVATION CONTOUR MAP, DATED 5/2/07;
STATEWIDE LAND SURVEYING INC. DATED 5/19/14.

NOTE:
WASHINGTON STATE PLANE COORDINATE SYSTEM NAD 83/CORS 96,
NORTH ZONE 4601, IN U.S. SURVEY FEET.

figure 6

PRE-CLEANUP SOIL INVESTIGATION DATA MAP
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY ROAD
Maple Valley, Washington



Sample ID	Sample Date	Sample Depth	TPHg
MW-14	05/07/14	15	**1,370**

LEGEND

- MW-1 ● MONITORING WELL LOCATION
- MW-11 ⊗ ABANDONED MONITORING WELL LOCATION
- B1 ■ BORING LOCATION (URS, 2008)
- EXCAVATION LIMIT (EMCON, 1993)
- HB-8 ⊡ SOIL BORING LOCATION (SE/E, 1990)
- SWPIPE-3 ⊠ SOIL SAMPLE LOCATION (EMCON, 1992)
- INDICATES ALL CONCENTRATIONS WERE BELOW LABORATORY REPORTING LIMITS
- INDICATES AT LEAST ONE CONCENTRATION WAS DETECTED ABOVE THE LABORATORY REPORTING LIMITS, BUT NO CONCENTRATION EXCEEDED THE MTCA METHOD A CLEANUP LEVELS
- INDICATES SOIL SAMPLES WERE NOT ANALYZED
- INDICATES AT LEAST ONE CONCENTRATION EXCEEDED THE MTCA METHOD A CLEANUP LEVELS
- INDICATES THE SOIL SAMPLE HAS BEEN OVEREXCAVATED

NOTES:

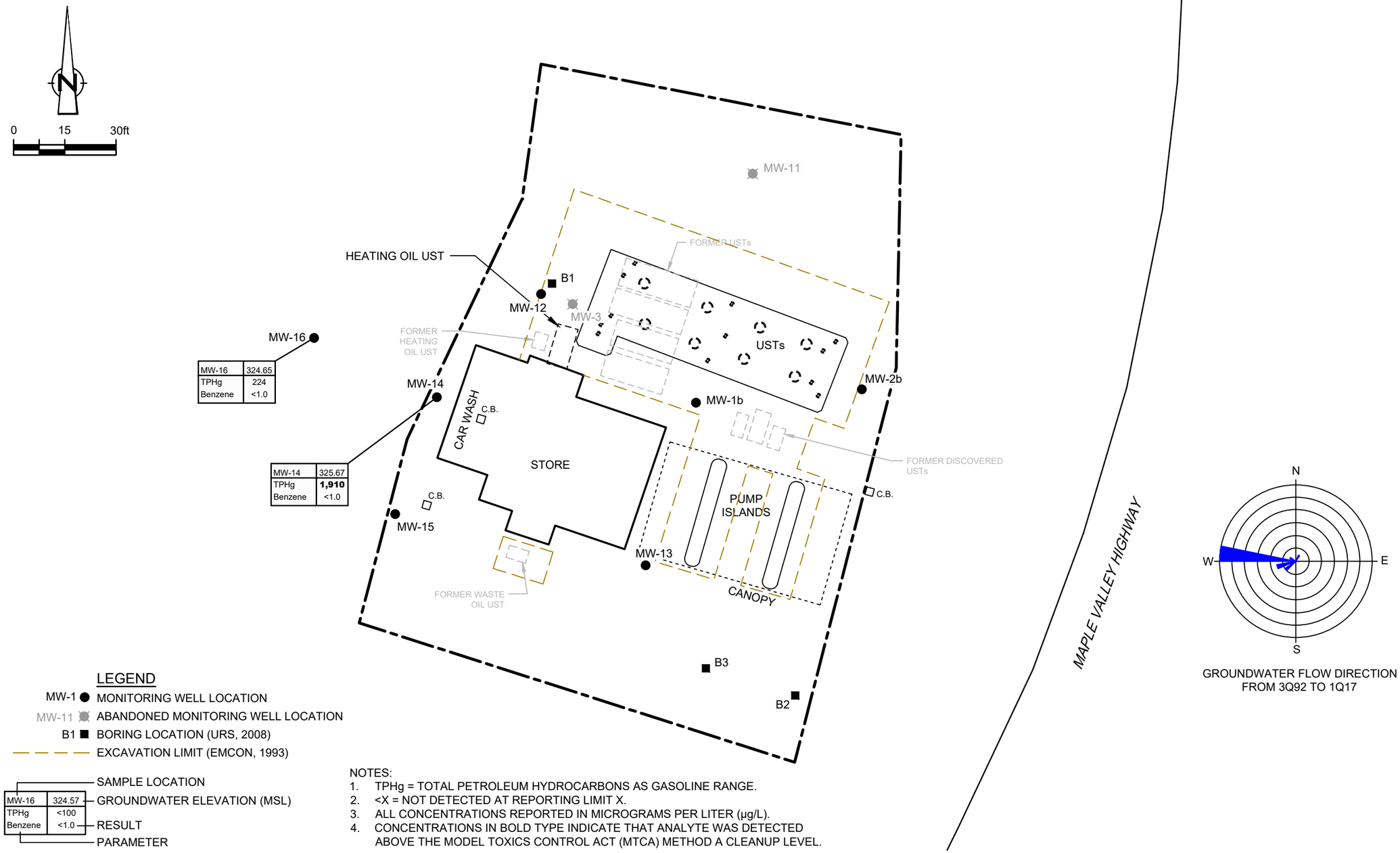
- MTCA = MODEL TOXICS CONTROL ACT
- ALL RESULTS IN MILLIGRAMS PER KILOGRAM (MG/KG) UNLESS OTHERWISE INDICATED.
- RESULTS IN BOLD INDICATE AN EXCEEDANCE OF THE MTCA METHOD A CLEANUP LEVELS.
- SAMPLE DEPTH IS IN FEET BELOW GROUND SURFACE
- TPHg = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS
- T = TOLUENE, X = XYLENES

SOURCE:
DELTA CONSULTANTS, FIGURE 2, GROUNDWATER ELEVATION CONTOUR MAP, DATED 5/2/07;
STATEWIDE LAND SURVEYING INC. DATED 5/19/14.

NOTE:
WASHINGTON STATE PLANE COORDINATE SYSTEM NAD 83/CORS 96,
NORTH ZONE 4601, IN U.S. SURVEY FEET.

figure 7

POST-CLEANUP SOIL INVESTIGATION DATA MAP
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY ROAD
Maple Valley, Washington



NOTES:
1. TPHg = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE.
2. <X = NOT DETECTED AT REPORTING LIMIT X.
3. ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µg/L).
4. CONCENTRATIONS IN BOLD TYPE INDICATE THAT ANALYTE WAS DETECTED ABOVE THE MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVEL.

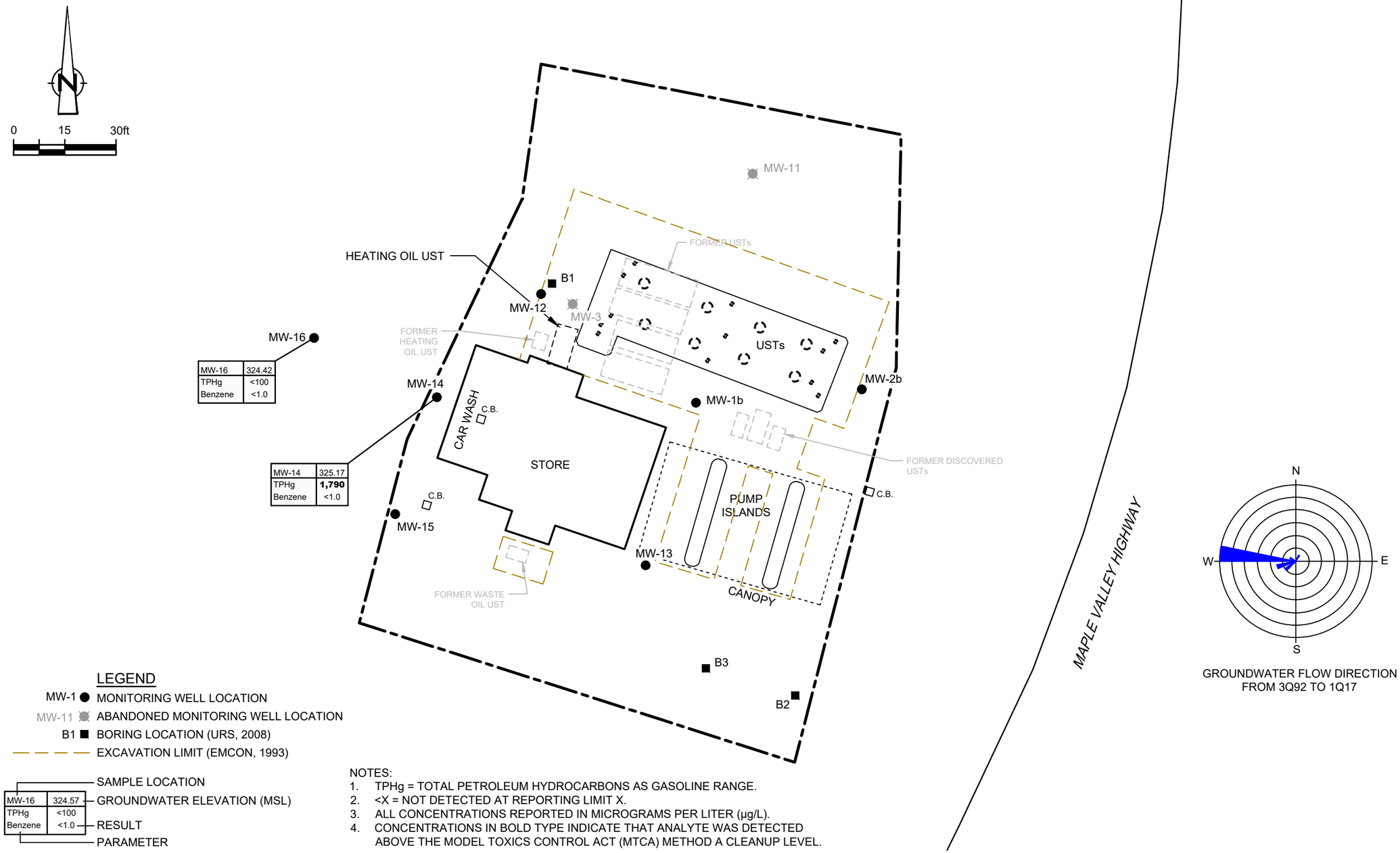
figure 8

GROUNDWATER ELEVATION AND CHEMICAL CONCENTRATION MAP - MARCH 25, 2019
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY ROAD
Maple Valley, Washington

SOURCE:
DELTA CONSULTANTS, FIGURE 2, GROUNDWATER ELEVATION CONTOUR MAP, DATED 5/2/07;
STATEWIDE LAND SURVEYING INC. DATED 5/19/14.

NOTE:
WASHINGTON STATE PLANE COORDINATE SYSTEM NAD 83/CORS 96,
NORTH ZONE 4601, IN U.S. SURVEY FEET.

Filename: I:\Sonoma.Public\CAD\drawings\062000s\062300s-JFS-Jackson Food Stores\062308-JFS-21641 Maple Valley Hwy, Maple Valley, WA\062308-REPORTS\062308-2017(004)GN\062308-2017(004)GN-SO014.DWG



NOTES:
1. TPHg = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE.
2. <X = NOT DETECTED AT REPORTING LIMIT X.
3. ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µg/L).
4. CONCENTRATIONS IN BOLD TYPE INDICATE THAT ANALYTE WAS DETECTED ABOVE THE MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVEL.

figure 9

GROUNDWATER ELEVATION AND CHEMICAL CONCENTRATION MAP - JUNE 7, 2019
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY ROAD
Maple Valley, Washington

SOURCE:
DELTA CONSULTANTS, FIGURE 2, GROUNDWATER ELEVATION CONTOUR MAP, DATED 5/2/07;
STATEWIDE LAND SURVEYING INC. DATED 5/19/14.

NOTE:
WASHINGTON STATE PLANE COORDINATE SYSTEM NAD 83/CORS 96,
NORTH ZONE 4601, IN U.S. SURVEY FEET.

Filename: I:\Sonoma.Public\CAD\drawings\062000s\062300s-JFS-Jackson Food Stores\062308-JFS-21641 Maple Valley Hwy, Maple Valley, WA\062308-REPORTS\062308-2017(004)GN\062308-2017(004)GN-SO013.DWG

Tables

TABLE 1

SUMMARY OF SOIL ANALYTICAL DATA
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY ROAD
MAPLE VALLEY, WASHINGTON

				HYDROCARBONS				PRIMARY VOCs						OXYGENATES	VOCs	PAHs	LEAD	PCBs
Sample ID	Consultant	Sample Date	Sample Depth	TPH	TPHg	TPHd	TPHo	B	T	E	X	EDB	EDC	MTBE	PCE	Naphthalenes	Total	Aroclor 1242
MTCA Method A Screening Levels				NE	30/100	2,000	2,000	0.03	7	6	9	0.005	N/A	0.1	0.05	5	250	1
			ft bgs	(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)
SB-2-5	SE/E	07/24/90	5	---	<1	<50	---	<0.050 a	<0.050	<0.050	<0.100	---	---	---	---	---	---	---
SB-3-5 (MW-3)	SE/E	08/02/90	5	---	<1	<50	---	<0.050 a	<0.050	<0.050	<0.100	---	---	---	---	---	---	---
SB-3-10 (MW-3)	SE/E	08/02/90	10	---	<1	<50	---	<0.050 a	<0.050	<0.050	<0.100	---	---	---	---	---	---	---
SB-3-15 (MW-3)	SE/E	08/02/90	15	---	<1	<50	---	<0.050 a	<0.050	<0.050	<0.100	---	---	---	---	---	---	---
HB-6-5	SE/E	07/24/90	5	---	<1	<50	---	<0.050 a	<0.050	<0.050	<0.100	---	---	---	---	---	---	---
HB-8-5	SE/E	07/24/90	5	---	<1	<50	---	<0.050 a	<0.050	<0.050	<0.100	---	---	---	---	---	---	---
TP-9	EMCON	06/02/92	9	---	1.1/<20 b	<50	<100	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	<7.5	---
WESTWALL-9	EMCON	06/04/92	9	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	13	---
NORTHWALL-9	EMCON	06/04/92	9	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	56	---
NORTHWALL-E-11	EMCON	06/04/92	11	---	1.9	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	14	---
TANK1-WBTM-11	EMCON	06/04/92	11	---	41	---	---	<0.050 a	<0.10	<0.10	0.24	---	---	---	---	---	13	---
TANK2-EBTM-11	EMCON	06/04/92	11	---	**2,300**	---	---	<0.050 a	0.96	2.0	**140**	---	---	---	---	---	19	---
HOTANK-FLR-5	EMCON	06/04/92	5	---	<1.0/<20 b	<50	<100	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	42	---
NORTH SIDEWALL MIDDLE-12 & EAST-12	EMCON	06/11/92	12	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
SOUTH SIDEWALL MIDDLE-12	EMCON	06/11/92	12	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
SOUTH SIDEWALL EAST-11	EMCON	06/11/92	11	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	12	---
EAST SIDEWALL-12	EMCON	06/11/92	12	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
SOUTH SIDEWALL & SEPTIC-5 [1]	EMCON	06/11/92	5	---	<1.0/<20 b	<50	<100	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
WEST PUMPN-1	EMCON	06/16/92	1	---	**6,400**	---	---	<0.050 a	**9.6**	5.1	**350**	---	---	---	---	---	---	---
PMCAS-10	EMCON	06/17/92	10	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
SWPCAS-8	EMCON	06/17/92	8	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
NWPIPE-3	EMCON	06/17/92	3	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
NEPIPE-3	EMCON	06/17/92	3	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
SEPIPE-3	EMCON	06/17/92	3	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
SWPIPE-4	EMCON	06/18/92	4	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
SEPCAS-7.5	EMCON	06/18/92	7.5	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
NEPCAS-7.5	EMCON	06/18/92	7.5	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
WO-WNS-6	EMCON	06/22/92	6	83	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WO-WEW-6	EMCON	06/22/92	6	40	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WO-B-10 [2]	EMCON	06/22/92	10	---	<20 c	<50	<100	---	---	---	---	---	<0.10	---	<0.10	<0.10	---	<0.050
MW-11 COMP	EMCON	08/06/92	0-22	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
MW-12 COMP	EMCON	08/06/92	0-20	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
S-12-13 (cuttings, borings MW-12 & MW-13)	EMCON	08/11/92	0-20	---	<1.0	---	---	<0.050 a	<0.10	<0.10	<0.10	---	---	---	---	---	---	---
120891 B02-20 [3]	URS	05/20/08	20	---	<0.053	<5.3	<11	<0.0053	<0.0053	<0.0053	<0.00533	---	---	<0.0053	---	---	---	---
SO-060624-050714-MW-14-5 [4]	CRA	02/26/14	5	---	<4.36	<49.8	531	<0.00162	<0.00162	<0.00162	<0.00406	<0.00162	<0.00162	<0.00162	<0.00162	<0.00406	9.01	<0.0364

TABLE 1

SUMMARY OF SOIL ANALYTICAL DATA
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY ROAD
MAPLE VALLEY, WASHINGTON

				HYDROCARBONS				*PRIMARY VOCs*						*OXYGENATES*	*VOCs*	*PAHs*	*LEAD*	*PCBs*
Sample ID	***Consultant***	***Sample Date***	***Sample Depth***	***TPH***	***TPHg***	***TPHd***	***TPHo***	***B***	***T***	***E***	***X***	***EDB***	***EDC***	***MTBE***	***PCE***	***Naphthalenes***	***Total***	***Aroclor 1242***
	MTCA Method A Screening Levels			***NE***	***30/100***	***2,000***	***2,000***	***0.03***	***7***	***6***	***9***	***0.005***	***N/A***	***0.1***	***0.05***	***5***	***250***	***1***
			ft bgs	***(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-060624-050714-MW-14-10 [4]	CRA	05/07/14	10	---	5.91	<4.90	<4.90	<0.00175	<0.00175	<0.00175	<0.00438	<0.000877	<0.00175	---	0.00332	<0.00438	2.08	<0.0349
SO-060624-050714-MW-14-15 [4]	CRA	05/07/14	15	---	**1,370**	85.4	<4.71	<0.00149	<0.00149	<0.00149	<0.00373	<0.000746	<0.00149	---	<0.00149	0.00775	8.64	<0.0376
SO-060624-050714-MW-14-20 [4]	CRA	05/07/14	20	---	<3.16	<4.82	<4.82	<0.00154	0.00161	0.00166	0.00408	<0.000772	<0.00154	---	0.0128	<0.00386	2.32	<0.0338
SO-060624-050714-MW-15-5 [5]	CRA	02/26/14	5	---	<4.76	<4.90	<4.90	<0.00183	<0.00183	<0.00183	<0.00458	<0.00183	<0.00183	<0.00183	<0.00183	<0.00458	3.1	---
SO-060624-050714-MW-15-10 [5]	CRA	05/07/14	10	---	<5.31	<4.59	<4.59	<0.00124	<0.00124	<0.00124	<0.00309	<0.000618	<0.00124	---	<0.00124	<0.00309	1.53	---
SO-060624-050714-MW-15-15 [5]	CRA	05/07/14	15	---	<3.99	<4.98	<4.98	<0.00135	<0.00135	<0.00135	<0.00337	<0.000674	<0.00135	---	0.00164	<0.00337	3.02	---
SO-060624-050714-MW-15-20 [5]	CRA	05/07/14	20	---	<4.47	<4.55	<4.55	<0.00124	<0.00124	<0.00124	<0.00309	<0.000619	<0.00124	---	0.00226	<0.00309	2.77	---
SO-060624-120814-MW-16-10	CRA	12/8/2014	10	---	<4.62	13.3	120	<0.00168	<0.00168	<0.00168	<0.00253	---	---	---	---	---	---	---
SO-060624-120814-MW-16-15	CRA	12/8/2014	15	---	<4.07	<3.93	<3.93	<0.00126	<0.00126	<0.00126	<0.00188	---	---	---	---	---	---	---
SO-060624-120814-MW-16-20	CRA	12/8/2014	20	---	<4.35	<3.88	<3.88	<0.00142	<0.00142	<0.00142	<0.00213	---	---	---	---	---	---	---
SO-060624-120814-MW-16-30	CRA	12/8/2014	30	---	<5.78	6.81	<3.97	<0.00157	<0.00157	<0.00157	<0.00235	---	---	---	---	---	---	---

Notes:
MTCA = Model Toxics Control Act
-- = Not analyzed or not reported
All results in milligrams per kilogram (mg/kg) unless otherwise indicated.
Results in bold indicate an exceedance of the MTCA Method A cleanup levels.
ft bgs = feet below ground surface
TPH = Total recoverable petroleum hydrocarbons by EPA Method 418.1
TPHg = Total petroleum hydrocarbons as gasoline range organics analyzed by NWTPH-Gx; before May 20, 2008, analyzed by EPA Method 8015, unless otherwise noted
TPHd = Total petroleum hydrocarbons as diesel range organics analyzed by NWTPH-Dx; before May 20, 2008, analyzed by Method WTPH-HICD; before June 2, 1992, analyzed by EPA Method 8015, unless otherwise noted
TPHo = Total petroleum hydrocarbons as heavy oil range organics analyzed by NWTPH-Dx; before May 20, 2008, analyzed by Method WTPH-HCID, unless otherwise noted
BTEX = Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B; before May 20, 2008, analyzed by EPA Method 8020 unless otherwise noted
EDB = 1,2-Dibromoethane analyzed by EPA Method 8260B
EDC = 1,2-Dichloroethane analyzed by EPA Method 8260B
VOCs = volatile organic compounds
PCE = Tetrachloroethene by EPA Method 8260B
Total Lead analyzed by EPA Method 6020; before May 7, 2014, analyzed by EPA Method 7420/7421.
PCBs = Polychlorinated biphenyls analyzed by EPA Method 8080
<x = Not detected at reporting limit x
Shading indicate the soil sample has been overexcavated.
a= Method detection limit is greater than the MTCA Method A cleanup level.
b = Two methods were used for analysis of TPHg concentrations. The first value was analyzed using EPA Method 8015, and the second value was analyzed using Method WTPH-HCID.
c = TPHg was analyzed by Method WTPH-HCID.
[1] Sample was additionally analyzed for TCLP extraction metals by EPA Method 6010/7000, all concentrations were below Washington State Maximum Allowable Metals Standards.
[2] Sample was additionally analyzed for TCLP extraction metals by EPA Method 6010/7000, full list of volatile organics by EPA Method 8240/8260, full list of semi-volatile organics including polycyclic aromoatic hydrocarbons (PAHs) by EPA Method 8270, and polychlorinated biphenyls (PCBs) by EPA Method 8082; all analytes concentrations were below Washington State Maximum Allowable Metals Standards or MTCA Method A cleanup levels.
[3] Sample was additionally analyzed for other oxygenates including diisopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), t-butyl alcohol (TBA), and tert-amyl methyl ether (TAME). No analytes were detected above laboratory detection limits.
[4] Sample was additionally analyzed for PAHs by EPA Method 8270D SIM, PCBs by EPA Method 8082, full list of VOCs by EPA Method 8260B; all analytes concentrations were below MTCA Method A cleanup levels.
[5] Sample was additionally analyzed for full list of VOCs by EPA Method 8260B; all analytes concentrations were below MTCA Method A cleanup levels.

TABLE 2

SUMMARY OF GROUNDWATER MONITORING DATA
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY HIGHWAY
MAPLE VALLEY, WASHINGTON

						HYDROCARBONS			VOCs											METALS	PAHs	PCBs
Sample ID	Date	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	EDB	EDC	MTBE	TBA	DIPE	ETBE	TAME	PCE	Ethanol	Total Lead	Naphthalene	Total
	Model Toxics Control Act Method A Cleanup Levels					1,000	500	500	5	1000	700	1000	0.01	5	20	N/A	N/A	N/A	N/A	5	N/A	15	160	0.1
				Feet		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L					ug/L		ug/L	ug/L	ug/L
B2	05/20/08	---	---	---	---	<50	<250	<500	<5	<5	<5	<5	---	---	---	---	---	---	---	---	---	<50	---	---
MW-1b	12/19/02	340.10	12.53	---	327.57	<250	<250	<750	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<2.5	<0.5	<0.5	<0.5	---	---	---	---	---
MW-1b	05/13/03	340.10	12.47	---	327.63	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	---	---	---	---
MW-1b	08/20/03	340.10	13.10	---	327.00	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-1b	12/10/03	340.10	12.25	---	327.85	530	<250	<500	**240**	180	5.7	21.2	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-1b	01/08/04 [1]	340.10	12.35	---	327.75	<100	---	---	<0.25	<0.5	<0.5	<1	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	05/26/04	340.10	12.75	---	327.35	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-1b	11/15/04	340.10	12.95	---	327.15	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-1b	05/24/05	340.10	12.44	---	327.66	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-1b	10/26/05	340.10	13.10	---	327.00	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-1b	04/26/06	340.10	12.39	---	327.71	<50.0	<236	<472	<0.500	<0.500	<0.500	<3.00	---	---	<5.00	<50.0	<1.00	<1.00	<1.00	---	<150	---	---	---
MW-1b	10/26/06	340.10	12.80	---	327.30	<50.0	<96.2	<96.2	<0.500	<0.500	<0.500	<3.00	--	--	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	--	---	---
MW-1b	04/05/07	340.10	15.12	---	324.98	<50.0	<250	<500	<0.500	<0.500	<0.500	<3.00	<0.500	<0.500	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	--	---	---
MW-1b	05/29/08	340.10	12.62	---	327.48	<50.0	<250	<500	<1	<1	<1	<1	<0.01	<1	<1	<5	<1	<1	<1	---	<5,000	--	---	---
MW-1b	06/09/08	340.10	12.60	---	327.50	<50	<250	<500	<5	<5	<5	<5	--	--	<5	<100	<10	<10	<10	---	--	<50	---	---
MW-1b	02/10/09	340.10	12.29	---	327.81	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	--	--	<1.0	<10	<2.0	<2.0	<2.0	---	<100	--	---	---
MW-1b	06/18/14	340.10	12.53	---	327.57	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	09/04/14	340.10	12.75	---	327.35	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	12/22/14	340.10	12.51	---	327.59	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	06/19/15	340.10	12.78	---	327.32	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	08/26/15	340.10	13.20	---	326.90	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	11/12/15	340.10	13.04	---	327.06	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	03/25/16	340.10	13.35	---	326.75	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	07/11/16	340.10	14.00	---	326.10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	09/29/16	340.10	14.41	---	325.69	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	12/06/16	340.10	13.57	---	326.53	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	03/16/17	340.10	12.98	---	327.12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	12/19/02	339.47	11.57	---	327.90	<250	<250	<750	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<2.5	<0.5	<0.5	<0.5	---	---	---	---	---
MW-2b	05/13/03	339.47	11.51	---	327.96	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	---	---	---	---
MW-2b	08/20/03	339.47	12.50	---	326.97	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-2b	12/10/03	339.47	11.32	---	328.15	<250	<250	<500	3.2	2.6	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-2b	01/08/04 [1]	339.47	11.41	---	328.06	<100	---	---	<0.25	<0.5	<0.5	<1	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	05/26/04	339.47	11.78	---	327.69	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---

TABLE 2

SUMMARY OF GROUNDWATER MONITORING DATA
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY HIGHWAY
MAPLE VALLEY, WASHINGTON

						HYDROCARBONS			VOCs											METALS	PAHs	PCBs
Sample ID	Date	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	EDB	EDC	MTBE	TBA	DIPE	ETBE	TAME	PCE	Ethanol	Total Lead	Naphthalene	Total
	Model Toxics Control Act Method A Cleanup Levels					1,000 ug/L	500 ug/L	500 ug/L	5 ug/L	1000 ug/L	700 ug/L	1000 ug/L	0.01 ug/L	5 ug/L	20 ug/L	N/A	N/A	N/A	N/A	5 ug/L	N/A	15 ug/L	160 ug/L	0.1 ug/L
				Feet																				
MW-2b	11/15/04	339.47	11.97	---	327.50	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-2b	05/24/05	339.47	12.41	---	327.06	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-2b	10/26/05	339.47	12.04	---	327.43	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-2b	04/26/06	339.47	11.34	---	328.13	<50.0	<236	<472	<0.500	<0.500	<0.500	<3.00	---	---	<5.00	<50.0	<1.00	<1.00	<1.00	---	<150	---	---	---
MW-2b	10/26/06	339.47	11.78	---	327.69	<50.0	<97.1	<97.1	<0.500	<0.500	<0.500	<3.00	---	---	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	---	---	---
MW-2b	04/05/07	339.47	14.85	---	324.62	<50.0	<250	<500	<0.500	<0.500	<0.500	<3.00	<0.500	<1.00	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	---	---	---
MW-2b	05/29/08	339.47	11.59	---	327.88	<50.0	<250	<500	<1	<1	<1	<1	<0.01	<1	<1	<5	<1	<1	<1	---	<5,000	---	---	---
MW-2b	06/09/08	339.47	11.57	---	327.9	<50	<250	<500	<5	<5	<5	<5	---	---	<5	<100	<10	<10	<10	---	---	<50	---	---
MW-2b	02/10/09	339.47	11.26	---	328.21	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	---	---	<1.0	<10	<2.0	<2.0	<2.0	---	<100	---	---	---
MW-2b	06/18/14	339.47	11.45	---	328.02	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	09/04/14	339.47	11.14	---	328.33	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	12/22/14	339.47	11.45	---	328.02	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	06/19/15	339.47	11.59	---	327.88	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	08/26/15	339.47	12.10	---	327.37	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	11/12/15	339.47	11.99	---	327.48	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	03/25/16	339.47	11.94	---	327.53	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	07/11/16	339.47	12.34	---	327.13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	09/29/16	339.47	12.78	---	326.69	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	12/06/16	339.47	12.05	---	327.42	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	03/16/17	339.47	11.64	---	327.83	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-3	08/09/90	---	13.32	---	---	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-3	05/08/91	---	12.60	---	---	ND	ND	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-3	Well Decommissioned in 1993																							
MW-11	08/17/92	---	11.83	---	---	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-11	04/09/93	---	11.32	---	---	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-11	Well Decommissioned in 1995																							
MW-12	08/17/92	340.34	13.19	---	327.15	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	08/17/92	340.34	13.19	---	327.15	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	04/09/93	340.34	12.73	---	327.61	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	04/09/93	340.34	12.73	---	327.61	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	12/19/02	340.34	12.95	---	327.39	<250	<250	<750	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<2.5	<0.5	<0.5	<0.5	---	---	---	---	---
MW-12	05/13/03	340.34	12.90	---	327.44	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	---	---	---	---
MW-12	08/20/03	340.34	13.21	---	327.13	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---

TABLE 2

SUMMARY OF GROUNDWATER MONITORING DATA
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY HIGHWAY
MAPLE VALLEY, WASHINGTON

						HYDROCARBONS			VOCs											METALS	PAHs	PCBs
Sample ID	Date Model Toxics	TOC Control	DTW Act	SPH Method	GWE A Cleanup Levels Feet	TPHg 1,000 ug/L	TPHd 500 ug/L	TPHo 500 ug/L	B 5 ug/L	T 1000 ug/L	E 700 ug/L	X 1000 ug/L	EDB 0.01 ug/L	EDC 5 ug/L	MTBE 20 ug/L	TBA N/A	DIPE N/A	ETBE N/A	TAME N/A	PCE 5 ug/L	Ethanol N/A	Total Lead 15 ug/L	Naphthalene 160 ug/L	Total 0.1 ug/L
MW-12	12/10/03	340.34	12.66	---	327.68	<250	<250	<500	**32**	24	<1	2.3	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-12	01/08/04 [1]	340.34	12.83	---	327.51	<100	---	---	0.326	2.14	<0.5	<1	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	05/26/04	340.34	13.10	---	327.24	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-12	11/15/04	340.34	13.29	---	327.05	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-12	05/24/05	340.34	12.80	---	327.54	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-12	10/26/05	340.34	13.41	---	326.93	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-12	04/26/06	340.34	12.75	---	327.59	<50.0	<245	<490	<0.500	<0.500	<0.500	<3.00	---	---	<5.00	<50.0	<1.00	<1.00	<1.00	---	<150	---	---	---
MW-12	10/26/06	340.34	13.11	---	327.23	<50.0	<96.2	138	<0.500	<0.500	<0.500	<3.00	---	---	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	---	---	---
MW-12	04/05/07	340.34	16.24	---	324.1	<50.0	<250	<500	<0.500	<0.500	<0.500	<3.00	<0.500	<0.500	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	---	---	---
MW-12	05/29/08	340.34	12.91	---	327.43	<50.0	<250	<500	<1	<1	<1	<1	<0.01	<1	<1	<5	<1	<1	<1	---	<5,000	---	---	---
MW-12	06/09/08	340.34	12.92	---	327.42	<50	<250	<500	<5	<5	<5	<5	---	---	<5	<100	<10	<10	<10	---	---	<50	---	---
MW-12	02/10/09	340.34	12.66	---	327.68	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	---	---	<1.0	<10	<2.0	<2.0	<2.0	---	<100	---	---	---
MW-12	06/18/14	340.34	13.74	---	326.60	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	09/04/14	340.34	13.03	---	327.31	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	12/22/14	340.34	12.80	---	327.54	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	06/19/15	340.34	13.18	---	327.16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	08/26/15	340.34	13.51	---	326.83	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	11/12/15	340.34	13.42	---	326.92	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	03/25/16	340.34	13.75	---	326.59	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	07/11/16	340.34	14.37	---	325.97	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	09/29/16	340.34	14.74	---	325.60	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	12/06/16	340.34	13.96	---	326.38	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	03/16/17	340.34	13.35	---	326.99	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	08/17/92	340.16	12.92	---	327.24	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	04/09/93	340.16	12.42	---	327.74	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	12/19/02	340.16	12.70	---	327.46	<250	<250	<750	<0.5	0.69	<0.5	<0.5	---	---	<0.5	<2.5	<0.5	<0.5	<0.5	---	---	---	---	---
MW-13	05/13/03	340.16	12.62	---	327.54	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	---	---	---	---
MW-13	08/20/03	340.16	13.52	---	326.64	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-13	12/10/03	340.16	12.37	---	327.79	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-13	01/08/04 [1]	340.16	12.54	---	327.62	<100	---	---	<0.25	<0.5	<0.5	<1	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	05/26/04	340.16	12.83	---	327.33	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-13	11/15/04	340.16	13.01	---	327.15	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-13	05/24/05	340.16	12.51	---	327.65	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-13	10/26/05	340.16	13.28	---	326.88	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-13	04/26/06	340.16	12.44	---	327.72	<50.0	<245	<490	<0.500	<0.500	<0.500	<3.00	---	---	<5.00	<50.0	<1.00	<1.00	<1.00	---	<150	---	---	---

TABLE 2

SUMMARY OF GROUNDWATER MONITORING DATA
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY HIGHWAY
MAPLE VALLEY, WASHINGTON

						HYDROCARBONS			VOCs											METALS	PAHs	PCBs
Sample ID	Date	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	EDB	EDC	MTBE	TBA	DIPE	ETBE	TAME	PCE	Ethanol	Total Lead	Naphthalene	Total
	Model Toxics Control Act Method A Cleanup Levels					1,000 ug/L	500 ug/L	500 ug/L	5 ug/L	1000 ug/L	700 ug/L	1000 ug/L	0.01 ug/L	5 ug/L	20 ug/L	N/A	N/A	N/A	N/A	5 ug/L	N/A	15 ug/L	160 ug/L	0.1 ug/L
				Feet																				
MW-13	10/26/06	340.16	12.89	---	327.27	<50.0	<96.2	129	<0.500	<0.500	<0.500	<3.00	---	---	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	---	---	---
MW-13	04/05/07	340.16	15.91	---	324.25	<50.0	<250	<500	<0.500	<0.500	<0.500	<3.00	<0.500	<0.500	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	---	---	---
MW-13	05/29/08	340.16	12.65	---	327.51	<50.0	<250	<500	<1	<1	<1	<1	<0.01	<1	<1	<5	<1	<1	<1	---	<5,000	---	---	---
MW-13	06/09/08	340.16	12.66	---	327.50	<50	<250	<500	<5	<5	<5	<5	---	---	<5	<100	<10	<10	<10	---	--	<50	---	---
MW-13	02/10/09	340.16	12.36	---	327.80	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	---	---	<1.0	<10	<2.0	<2.0	<2.0	---	<100	---	---	---
MW-13	06/18/14	340.16	12.58	---	327.58	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	09/04/14	340.16	12.81	---	327.35	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	12/22/14	340.16	12.51	---	327.65	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	06/19/15	340.16	12.46	---	327.70	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	08/26/15	340.16	13.31	---	326.85	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	11/12/15	340.16	13.15	---	327.01	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	03/25/16	340.16	13.28	---	326.88	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	07/11/16	340.16	13.92	---	326.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	09/29/16	340.16	14.38	---	325.78	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	12/06/16	340.16	13.56	---	326.60	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	03/16/17	340.16	12.96	---	327.20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	06/12/14	340.54	13.74	---	326.80	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	06/18/14	340.54	13.74	---	326.80	**3,520**	**1,040 / 1,210 a**	<93.9 / <93.9 a	<1.00	0.255 J	<1.00	0.740 J	**0.255 J**	0.385 J	<1.00	---	---	---	---	1.61 b	---	4.96	0.895 J	---
MW-14	09/04/14	340.54	13.93	---	326.61	**3,160**	**831 / 972 a**	<94.3 / <98.0 a	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	---	---	---	---	1.65	---	5.13	<5.00	---
MW-14	12/22/14	340.54	13.71	---	326.83	**2,250**	**979 / 1,230 a**	<93.9 / <93.9 a	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00	2.09	---	5.85	<5.00	---
MW-14	06/19/15	340.54	13.98	---	326.56	**2,540**	<400	<400	<1.0	<1.0	<1.0	<3.0	<0.0096	---	---	---	---	---	---	---	---	---	---	---
MW-14	08/26/15	340.54	14.42	---	326.12	**2,390**	<400	<400	---	---	---	---	4	---	---	---	---	---	---	---	---	---	---	---
MW-14	11/12/15	340.54	13.81	---	326.73	**1,110**	<400	<400	---	---	---	---	<0.0017	---	---	---	---	---	---	---	---	---	---	---
MW-14	03/25/16	340.54	14.94	---	325.60	**1,800**	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	07/11/16	340.54	15.48	---	325.06	**1,330**	450	<270	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	09/29/16	340.54	15.81	---	324.73	799	490	280	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	12/06/16	340.54	15.11	---	325.43	**1,460**	<220	<420	<1.0	0.12 J	0.14 J	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	03/16/17	340.54	14.69	---	325.85	<250	<470	<470	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	12/14/18	340.54	14.82	---	325.72	**2,230**	<380	<380	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	03/25/19	340.54	14.87	---	325.67	**1,910**	**530**	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	06/07/19	340.54	15.37	---	325.17	**1,790**	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	06/12/14	339.54	12.75	---	326.79	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	06/18/14	339.54	13.19	---	326.35	<100	27.0 J / <93.9 a	a	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	---	---	---	---	2.02 b	---	<2	<5.00	---
MW-15	09/04/14	339.54	13.39	---	326.15	<100	<94.3 / <98.0 a	<94.3 / <98.0 a	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	---	---	---	---	2.51	---	<2	<5.00	---

TABLE 2

SUMMARY OF GROUNDWATER MONITORING DATA
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY HIGHWAY
MAPLE VALLEY, WASHINGTON

						HYDROCARBONS			VOCs												METALS	PAHs	PCBs
Sample ID	Date Model Toxics Control Act Method A Cleanup Levels	TOC	DTW	SPH Feet	GWE	TPHg 1,000 ug/L	TPHd 500 ug/L	TPHo 500 ug/L	B 5 ug/L	T 1000 ug/L	E 700 ug/L	X 1000 ug/L	EDB 0.01 ug/L	EDC 5 ug/L	MTBE 20 ug/L	TBA N/A	DIPE N/A	ETBE N/A	TAME N/A	PCE 5 ug/L	Ethanol N/A	Total Lead 15 ug/L	Naphthalene 160 ug/L	Total 0.1 ug/L
MW-15	12/22/14	339.54	13.19	---	326.35	<100	<93.9 / <93.9 a	<93.9 / <93.9 a	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00	2.34	---	<2	<5.00	---
MW-15	06/19/15	339.54	13.50	---	326.04	<2,000	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	08/26/15	339.54	13.64	---	325.90	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	11/12/15	339.54	13.20	---	326.34	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	03/25/16	339.54	14.08	---	325.46	<100	<410	<410	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	07/11/16	339.54	14.60	---	324.94	<250	<180	<270	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	09/29/16	339.54	14.97	---	324.57	<250	<190	<280	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	12/06/16	339.54	14.32	---	325.22	<100	<220	<420	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	03/16/17	339.54	13.86	---	325.68	<250	<480	<480	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	12/12/14	340.33	14.19	---	326.14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	12/22/14	340.33	14.24	---	326.09	<100	<93.9 / <93.9 a	<93.9 / <93.9 a	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00	2.28	---	<2	<5.00	---
MW-16	06/19/15	340.33	14.43	---	325.9	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	08/26/15	340.33	14.80	---	325.53	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	11/12/15	340.33	14.35	---	325.98	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	03/25/16	340.33	15.58	---	324.75	<100	<380	<380	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	07/11/16	340.33	15.98	---	324.35	<250	290	<280	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	09/29/16	340.33	16.25	---	324.08	<250	<180	<280	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	12/06/16	340.33	15.73	---	324.6	<100	<220	<420	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	03/16/17	340.33	15.36	---	324.97	<250	<430	<430	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	12/14/18	340.33	15.76	---	324.57	<100	<390	<390	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	03/25/19	340.33	15.68	---	324.65	224	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	06/07/19	340.33	15.91	---	324.42	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---

Notes:
SPH = Separate phase hydrocarbons (thickness measured in feet)
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
VOCs = Volatile organic compounds
PCE = Tetrachloroethene by EPA Method 8260B

TABLE 2

SUMMARY OF GROUNDWATER MONITORING DATA
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY HIGHWAY
MAPLE VALLEY, WASHINGTON

PAHs = Polycyclic aromatic hydrocarbons analyzed by EPA Method 8270C-SIM
<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

1 = Well was purged prior to groundwater sampling on January 8, 2004
* indicates the groundwater samples were additionally analyzed for full list of VOCs by EPA Method 8260B; some analytes concentrations were detected above the laboratory reporting limits but no concentrations were above MTCA Method A cleanup levels. Please see corresponding laboratory report for detected HVOCs.
a = diesel and heavy oil results were reported in two values. The first value is obtained by Method NWTPH-DX with Silica Gel Cleanup; the second value is obtained by NWTPH-Dx without Silica Gel Cleanup.
b = Compound was found in the blank and sample.
J = Result is less than the reporting limits but greater than or equal to the method detection limits and the concentration is an approximate value.

TABLE 3

WELL CONSTRUCTION DETAILS
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY HIGHWAY
MAPLE VALLEY, WASHINGTON

Boring/Well I.D.	Installation Date	Boring Depth (feet bgs)	Casing Diameter (inches)	Casing Material	Screen Top (feet bgs)	Screen Bottom (feet bgs)	Screen Size (inches)	Filter Pack Top (feet bgs)	Filter Pack Bottom (feet bgs)	TOC Elevation (feet, amsl)	Surface Elevation (feet, amsl)
MW-1b	12/10/02	25	2	PVC	10	25	0.010	8	25	340.10	340.37
MW-2b	12/10/02	25	2	PVC	10	25	0.010	8	25	339.47	339.75
MW-3	8/2/90	21	4	PVC	10	20	0.020	8	21	--	--
MW-11	8/6/92	22	4	PVC	10	20	0.020	8	22	--	--
MW-12	8/6/92	21	4	PVC	10	20	0.020	8	21	340.34	340.84
MW-13	8/11/92	20.5	4	PVC	10	20	0.020	8	20.5	340.16	340.50
MW-14	5/7/14	21	2	PVC	5	20	0.010	3	20	340.54	340.86
MW-15	5/7/14	21	2	PVC	5	20	0.010	3	20	339.54	339.84
MW-16	12/08/14	35	2	PVC	10	25	0.010	8	27	340.33	340.87

Abbreviations and Notes:

amsl = above mean sea level

bgs = below ground surface

TOC = Top of Casing

-- = not applicable or not available

Well MW-3 was decommissioned in 1993 an well MW-11 was decommissioned in 1995

Appendices

Appendix A
Summary of Previous Site Investigation and Remedial Activities

Appendix A Summary of Previous Site Investigations and Remedial Activities

1990 Site Assessment: In July and August 1990, seven soil borings were advanced at the Site. Four borings were advanced using hollow stem auger to a maximum depth of 11.5 feet below ground surface (bgs); borings SB-1A, SB-1B, SB-1C, and SB-2. Three borings were advanced using a hand auger to a maximum depth of six feet bgs; HB-6, HB-8, and HB-9. One boring was advanced using a cable tool drilling rig to a depth of 21 feet bgs and completed as a monitoring well; SB-3/MW-3. Soil samples were analyzed from SB-2, SB-3, HB-6 and HB-8 from depths of five to 15 feet bgs. Soil concentrations below the laboratory reporting limits and/or below Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A cleanup levels for total petroleum hydrocarbons (TPH) in the gasoline range (TPHg), diesel range (TPHd), and heavy oil range (TPHo), as well as benzene, toluene, ethylbenzene, and total xylenes (BTEX). Additional information is available in Sweet-Edwards/EMCON *Site Assessment* report, dated October 10, 1990.

1993 UST Closure Report: On June 3, 1992 six USTs were decommissioned and removed from the Site for tank and product line replacement; four gasoline USTs (two 8,000-gallon and two 5,000-gallon USTs), one waste oil UST (500-gallon), and one heating oil UST (500-gallon). In addition, three undocumented gasoline USTs were discovered near the northern pump islands (two 675-gallon and one 1,000-gallon) and removed from the Site. Petroleum impacted soil was observed near the turbines of a gasoline UST and product lines and dispensers, in addition, product was observed floating on water in the excavation. The release was reported to Ecology on June 5, 1992 and issued a Leaking UST (LUST) ID of 3358. Approximately 900 cubic yards of impacted soil was removed from the Site. The excavation measured 14 feet deep in the UST excavations, seven feet deep in the pump island excavation, and 10 feet deep in the waste oil UST excavation. Soils were screened using a photo ionization detector (PID) and analyzed for TPH-HCID. It was determined that gasoline was the contaminant of concern. Confirmation soil sampling indicated soil impacted with petroleum hydrocarbon concentrations exceeding MTCA Method A cleanup levels remained at shallow depths near the western dispenser islands and from the east wall of the gasoline USTs excavation. However, this impacted soil was reportedly over-excavated and treated on-site by aeration, prior to disposal at an off-site facility.

Monitoring well MW-3 (installed in 1990) was decommissioned and three replacement wells were installed to a depth of 20 feet bgs; MW-11, MW-12, and MW-13. Groundwater samples collected from the wells were documented below laboratory reporting limits for TPHg and BTEX.

Groundwater was sampled in August 1992 and April 1993, and no concentrations exceeded the MTCA Method A cleanup levels. The Site was removed from the LUST List in June 1995. Additional information is available in the EMCON *Underground Storage Tank Closure Report,* dated February 12, 1993 and the EMCON *Request for Recognition of Clean Closure* report, dated October 18, 1993.

2003 Site Assessment Report: In an effort to protect public wells from a potential subsurface release, two wells were installed for monitoring (MW-1B and MW-2B) near the Site's fuel pump islands and USTs on December 10, 2002. Groundwater from all on-Site wells was sampled; MW-1B, MW-2B, MW-12, and MW-13. The status of MW-11 was not reported. Groundwater concentrations were reported below MTCA Method A cleanup levels. Additional information is available in the KHM Environmental Management, Inc. *Shell GRASP Monitoring Report,* dated June 5, 2003.

2008 Phase II Environmental Site Assessment Report: On May 20, 2008, three soil borings (B01, B02, and B03) were advanced to evaluate subsurface conditions at the Site. Boring B01 was advanced adjacent to the gasoline/diesel UST complex to a depth of 11 feet bgs. Borings B02 and B03 were advanced adjacent to the dispenser island area to a depth of 21.5 feet bgs. Due to poor sample recovery, only one soil sample was submitted for laboratory analysis from B02 at 20 feet bgs. No soil concentrations exceeded the laboratory reporting limits. A groundwater grab sample was collected from B02 as well as samples collected from monitoring wells MW-12, MW-13, MW-1B, and MW-2B; laboratory results documented all concentrations below laboratory reporting limits. Additional information is available in the URS Corporation *Phase II Environmental Site Assessment Report,* dated July 11, 2008.

2015 Subsurface Investigation Report: On May 7, 2014, two monitoring wells (MW-14 and MW-15) were installed to a depth of 21 feet bgs via sonic drill rig. A total of eight soil samples were collected and submitted for laboratory analysis. TPHg was detected at a concentration of 1,370 mg/kg in MW-14 at 15 feet bgs. No other concentrations exceeded MTCA Method A cleanup levels. Additional information is available in the Conestoga-Rovers & Associates *Subsurface Investigation Report* dated January 2015.

Appendix B
Boring/Well Logs

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Texaco	BORING NO.	SB-1A
LOCATION	Maple Valley, Washington	PAGE	1 OF 1
DRILLED BY	McDonald Holt, Inc.	REFERENCE ELEV.	
DRILL METHOD	H.S. Auger	TOTAL DEPTH	9.50'
LOGGED BY	Anne Udaloy	DATE COMPLETED	7/23/90

SAMPLING METHOD and NUMBER	PID (ppm)	BLOWS per 6"	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
SB-1	0	10 22 27		5 10 15 20				0 - 0.3 feet: ASPHALT. (AS) 0.3 - 4.5 feet: SANDY GRAVEL (GW), moderate yellow brown, fine to coarse, fine to coarse sand, some cobbles, trace fines, compacted, dry to moist. (FILL) 4.5 - 9.5 feet: GRAVEL (SW), moderate yellow brown, fine to coarse, some fine to coarse sand, trace fines, dense to very dense, moist. (ALLUVIUM) Bottom of boring at 9.5 feet, auger refusal.

REMARKS

1) SB = split barrel samples collected using a modified Dames & Moore 2.5" ID core barrel driven with a 300# hammer. 2) Borehole backfilled with bentonite chips and sealed with concrete. 3) Blow counts do not represent Standard Penetration Test results. 4) PID = Model 580B photoionization detector.

SWEET-EDWARDS/EMCON

W56-19.01.MAPLE.17/cjf:3.08/15/90

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Texaco	BORING NO.	SB-1B
LOCATION	Maple Valley, Washington	PAGE	1 OF 1
DRILLED BY	McDonald Holt, Inc.	REFERENCE ELEV.	
DRILL METHOD	H.S. Auger	TOTAL DEPTH	2.00'
LOGGED BY	Anne Udaloy	DATE COMPLETED	7/23/90

SAMPLING METHOD and NUMBER	PID (ppm)	BLOWS per 6"	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
				5				0 - 0.25 feet: ASPHALT. (AS) 0.25 - 2 feet: SANDY GRAVEL (GW), moderate yellow brown, fine to coarse, fine to coarse sand, some cobbles, compacted, moist. (FILL) Bottom of boring at 2 feet, encountered 2-inch iron pipe.
				10				
				15				
				20				

REMARKS

1) SB = split barrel samples collected using a modified Dames & Moore 2.5" ID core barrel driven with a 300# hammer. 2) Borehole backfilled with bentonite chips and sealed with concrete. 3) Blow counts do not represent Standard Penetration Test results. 4) PID = Model 580B photoionization detector.

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Texaco	BORING NO.	SB-1C
LOCATION	Maple Valley, Washington	PAGE	1 OF 1
DRILLED BY	McDonald Holt, Inc.	REFERENCE ELEV.	
DRILL METHOD	H.S. Auger	TOTAL DEPTH	9.00'
LOGGED BY	Anne Udaloy	DATE COMPLETED	7/23/90

SAMPLING METHOD and NUMBER	PID (ppm)	BLOWS per 6"	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
SB-1	0	32 100/3"		5 10 15 20				0 - 0.3 feet: ASPHALT. (AS) 0.3 - 4.5 feet: SANDY GRAVEL (GW), moderate yellow brown, fine to coarse, fine to coarse sand, some cobbles, trace fines, trace boulders, compacted, moist. (FILL) 4.5 - 9.5 feet: GRAVEL (GW), moderate yellow brown, fine to coarse, some fine to coarse sand, some cobbles, trace fines, trace boulders, dense to very dense, moist. (ALLUVIUM) Bottom of boring at 9 feet, auger refusal.

REMARKS

1) SB = split barrel samples collected using a modified Dames & Moore 2.5" ID core barrel driven with a 300# hammer. 2) Borehole backfilled with bentonite chips and sealed with concrete. 3) Blow counts do not represent Standard Penetration Test results. 4) PID = Model 580B photoionization detector.

SWEET-EDWARDS/EMCON

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Texaco	BORING NO.	SB-2
LOCATION	Maple Valley, Washington	PAGE	1 OF 1
DRILLED BY	McDonald Holt, Inc.	REFERENCE ELEV.	
DRILL METHOD	H.S. Auger	TOTAL DEPTH	11.50'
LOGGED BY	Anne Udaloy	DATE COMPLETED	7/23/90

SAMPLING METHOD and NUMBER	PID (ppm)	BLOWS per 6"	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
								0 - 0.25 feet: ASPHALT. (AS)
								0.25- 4.5 feet: SANDY GRAVEL (GW), medium brown to moderate yellow brown, fine to coarse, fine to coarse sand, some cobbles, trace fines, trace boulders, moist, compacted. (FILL)
SB-1	21	15 19 39		5				4.5 - 11.5 feet: GRAVEL (GW), moderate yellow brown, fine to coarse, some fine to coarse sand, some cobbles, trace fines, trace boulders, moist, dense to very dense. (ALLUVIUM)
SB		50/4"		10				— no sample recovery
SB		60/4"						— no sample recovery
SB		100/2"						— no sample recovery
								Bottom of boring at 11.5 feet, auger refusal.
				15				
				20				

REMARKS

1) SB = split barrel samples collected using a modified Dames & Moore 2.5" ID core barrel driven with a 300# hammer. 2) Borehole backfilled with bentonite chips and sealed with concrete. 3) Blow counts do not represent Standard Penetration Test results. 4) PID = Model 580B photoionization detector.

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Texaco	BORING NO.	SB-3
LOCATION	Maple Valley, Washington	PAGE	1 OF 2
DRILLED BY	McDonald Holt, Inc.	REFERENCE ELEV.	100.63'
DRILL METHOD	Cable Tool	TOTAL DEPTH	21.00'
LOGGED BY	John Guenther	DATE COMPLETED	8/2/90

SAMPLING METHOD and NUMBER	PID (ppm)	BLOWS per 6"	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
								0 - 0.5 foot: ASPHALT. (AS)
								0.5 - 5 feet: SANDY GRAVEL (GM), brown, some very fine sand, medium gravel, trace cobbles, subround, dense, dry. (FILL)
SB-1	0	45/4"		5				5 - 16 feet: GRAVEL (GP), gray-brown, trace fines, very dense, dry. (ALLUVIUM)
SB-2	0	50/4"		10				
SB-3	4.5	50/4"	▽	15				16 - 21 feet: SILTY GRAVEL (GM), brown, some silt, trace sand, fine to medium gravel, dense, wet. (ALLUVIUM)
				20				

REMARKS

1) SB = split barrel samples collected using a modified Dames & Moore 2.5" ID core barrel driven with a 140# hammer. 2) REFERENCE ELEVATION represents top of PVC casing relative to a site datum. 3) Blow counts do not represent Standard Penetration Test Results. 4) MW-3 installed in SB-3. 5) PID = Model 580B photoionization detector.

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Texaco	BORING NO.	SB- 3
LOCATION	Maple Valley, Washington	PAGE	2 OF 2
DRILLED BY	McDonald Holt, Inc.	REFERENCE ELEV.	100.63'
DRILL METHOD	Cable Tool	TOTAL DEPTH	21.00'
LOGGED BY	John Guenther	DATE COMPLETED	8/2/90

SAMPLING METHOD and NUMBER	PID (ppm)	BLOWS per 6"	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
				25				16 - 21 feet: See Lithologic Description on previous page. Bottom of boring at 21 feet. Well Completion Details - MW-3: 0.5 - 10 feet: 4-inch diameter schedule 40 PVC riser 10 - 20 feet: 4-inch diameter schedule 40 PVC 0.020-inch screen 20 - 20.5 feet: 4-inch diameter schedule 40 PVC end plug 0 - 2 feet: concrete 2 - 8 feet: bentonite chips 8 - 21 feet: 8x12 Colorado silica sand
				30				
				35				
				40				

REMARKS

1) SB = split barrel samples collected using a modified Dames & Moore 2.5" ID core barrel driven with a 140# hammer. 2) REFERENCE ELEVATION represents top of PVC casing relative to a site datum. 3) Blow counts do not represent Standard Penetration Test Results. 4) MW- 3 installed in SB- 3. 5) PID = Model 580B photoionization detector.

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Texaco	BORING NO.	HB-6
LOCATION	Maple Valley, Washington	PAGE	1 OF 1
DRILLED BY	McDonald Holt, Inc.	REFERENCE ELEV.	
DRILL METHOD	Hand Auger	TOTAL DEPTH	5.50'
LOGGED BY	Anne Udaloy	DATE COMPLETED	7/23/90

SAMPLING METHOD and NUMBER	PID (ppm)	BLOWS per 6"	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
								0 - 0.5 feet: CONCRETE. (CON)
								0.5 - 5.5 feet: SAND (SW), medium brown, fine to coarse, few fines, some fine to coarse gravel, some cobbles, trace boulders, compacted, moist, pungent odor. (FILL)
HB-1	35			5				
								Bottom of boring at 5.5 feet.
				10				
				15				
				20				

REMARKS

1) HS = hand sample collected using a 2" OD core barrel driven manually using a 5# hammer. 2) Borehole backfilled with bentonite chips and sealed with concrete.

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Texaco	BORING NO.	HB-8
LOCATION	Maple Valley, Washington	PAGE	1 OF 1
DRILLED BY	McDonald Holt, Inc.	REFERENCE ELEV.	
DRILL METHOD	Hand Auger	TOTAL DEPTH	6.00'
LOGGED BY	Anne Udaloy	DATE COMPLETED	7/23/90

SAMPLING METHOD and NUMBER	PID (ppm)	BLOWS per 6"	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
HB-1	—			5				0 - 0.4 feet: CONCRETE. (CON) 0.4 - 6 feet: SAND (SW), medium brown to moderate yellow brown, fine to coarse, some non-plastic fines, some fine to coarse gravel, few cobbles, occasional boulders, compacted, moist. (FILL) Bottom of boring at 6 feet.
				10				
				15				
				20				

REMARKS

1) HS = hand sample collected using a 2" OD core barrel driven manually using a 5# hammer. 2) Borehole backfilled with bentonite chips and sealed with concrete.

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Texaco	BORING NO.	HB-9
LOCATION	Maple Valley, Washington	PAGE	1 OF 1
DRILLED BY	McDonald Holt, Inc.	REFERENCE ELEV.	
DRILL METHOD	Hand Auger	TOTAL DEPTH	2.00'
LOGGED BY	Anne Udaloy	DATE COMPLETED	7/23/90

SAMPLING METHOD and NUMBER	PID (ppm)	BLOWS per 6"	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
				5				0 - 0.4 feet: CONCRETE. (CON) 0.4 - 2 feet: SAND (SW), medium brown, fine to coarse, some fine to coarse gravel, some cobbles, trace fines, trace boulders, compacted, moist. (FILL) Bottom of boring at 2 feet, auger refusal (concrete).
				10				
				15				
				20				

REMARKS

1) HS = hand sample collected using a 2" OD core barrel driven manually using a 5# hammer. 2) Borehole backfilled with bentonite chips and sealed with concrete.

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Maple Valley	BORING NO.	MW-11
LOCATION	21641 Maple Valley Highway	PAGE	1 OF 2
DRILLED BY	Cascade Drilling	REFERENCE ELEV.	99.73'
DRILL METHOD	Air-rotary	TOTAL DEPTH	22.00'
LOGGED BY	Mike Noll	DATE COMPLETED	08/06/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
			ATD	5, 10, 15, 20				0 to 0.2 foot: ASPHALT. 0.2 to 0.6 foot: GRAVEL (GP), brown, angular with little fine to coarse sand. 0.6 to 17.0 feet: GRAVEL (GP), brown, subrounded, with some fine to coarse sand and little fines. @ 14.0 feet: becomes wet. 17.0 to 22.0 feet: SAND (SP), brown, fine to coarse, subrounded with little fine to coarse gravel and trace fines.

REMARKS

(1) Reference elevation = top of PVC casing surveyed relative to a site datum. (2) No samples collected. (3) 7 7/8-inch diameter button drill bit used. (4) ATD = At Time of Drilling.

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Maple Valley	BORING NO.	MW-11
LOCATION	21641 Maple Valley Highway	PAGE	2 OF 2
DRILLED BY	Cascade Drilling	REFERENCE ELEV.	99.73'
DRILL METHOD	Air-rotary	TOTAL DEPTH	22.00'
LOGGED BY	Mike Noll	DATE COMPLETED	08/06/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
				25				Total depth drilled = 22.0 feet. **WELL COMPLETION DETAILS:** 0.3 to 10.0 feet: 4-inch-diameter, flush threaded, schedule 40 PVC blank riser pipe. 10.0 to 20.0 feet: 4-inch-diameter, flush threaded schedule 40 PVC well screen with 0.020-inch machined slots. 20.0 to 20.5 feet: casing end cap. 0 to 2.0 feet: Concrete. 2.0 to 8.0 feet: Bentonite chips hydrated with potable water. 8.0 to 22.0 feet: 8 - 12 Colorado silica sand.
				30				
				35				
				40				

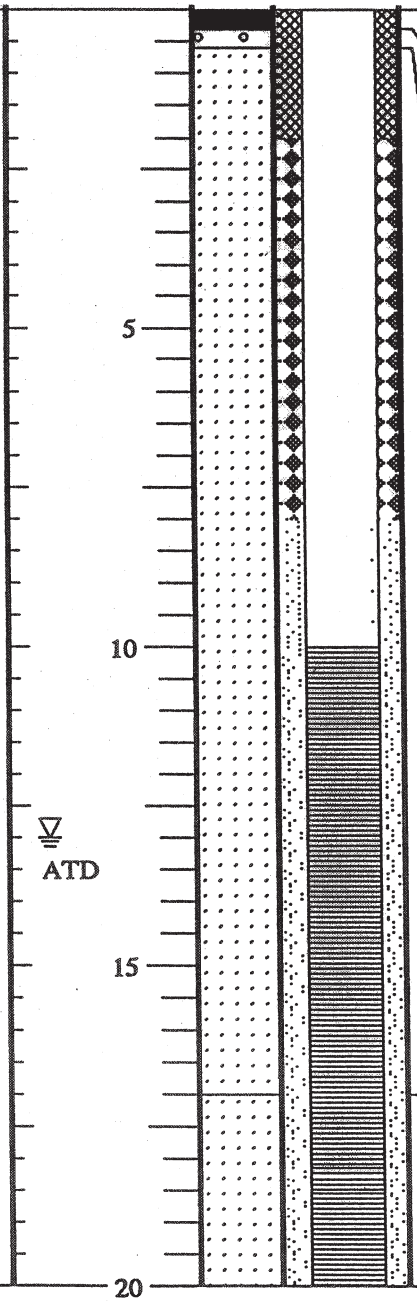
REMARKS

(1) Reference elevation = top of PVC casing surveyed relative to a site datum. (2) No samples collected. (3) 7 7/8-inch diameter button drill bit used. (4) ATD = At Time of Drilling.

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Maple Valley	BORING NO.	MW-12
LOCATION	21641 Maple Valley Highway	PAGE	1 OF 2
DRILLED BY	Cascade Drilling	REFERENCE ELEV.	100.56'
DRILL METHOD	Air-rotary	TOTAL DEPTH	21.00'
LOGGED BY	P. Brooks/M. Noll	DATE COMPLETED	08/06/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION



0 to 0.3 foot: ASPHALT.

0.3 to 0.6 foot: GRAVEL (GP), brown, angular with little fine to coarse sand, moist.

0.6 to 17.0 feet: SAND (SP), fine to coarse, subrounded with little fine to coarse subrounded gravel and few cobbles, moist.

@ 13.0 feet: becomes wet.

17.0 to 21.0 feet: SAND (SP), fine to coarse, subrounded, with few subrounded gravel, wet.

REMARKS

(1) Reference elevation = top of PVC casing surveyed relative to a site datum. (2) No samples collected. (3) 7 7/8-inch diameter button drill bit used. (4) ATD = At Time of Drilling.

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Maple Valley	BORING NO.	MW-12
LOCATION	21641 Maple Valley Highway	PAGE	2 OF 2
DRILLED BY	Cascade Drilling	REFERENCE ELEV.	100.56'
DRILL METHOD	Air-rotary	TOTAL DEPTH	21.00'
LOGGED BY	P. Brooks/M. Noll	DATE COMPLETED	08/06/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
				25				Total depth drilled = 21.0 feet.
				30				**WELL COMPLETION DETAILS:** 0.3 to 10.0 feet: 4-inch-diameter, flush threaded schedule 40 PVC blank riser pipe. 10.0 to 20.0 feet: 4-inch-diameter, flush threaded schedule 40 PVC well screen with 0.020-inch machined slots. 20.0 to 20.5 feet: casing end cap. 0 to 2.0 feet: Concrete. 2.0 to 8.0 feet: Bentonite chips hydrated with potable water. 8.0 to 21.0 feet: 8 - 12 Colorado silica sand.
				35				
				40				

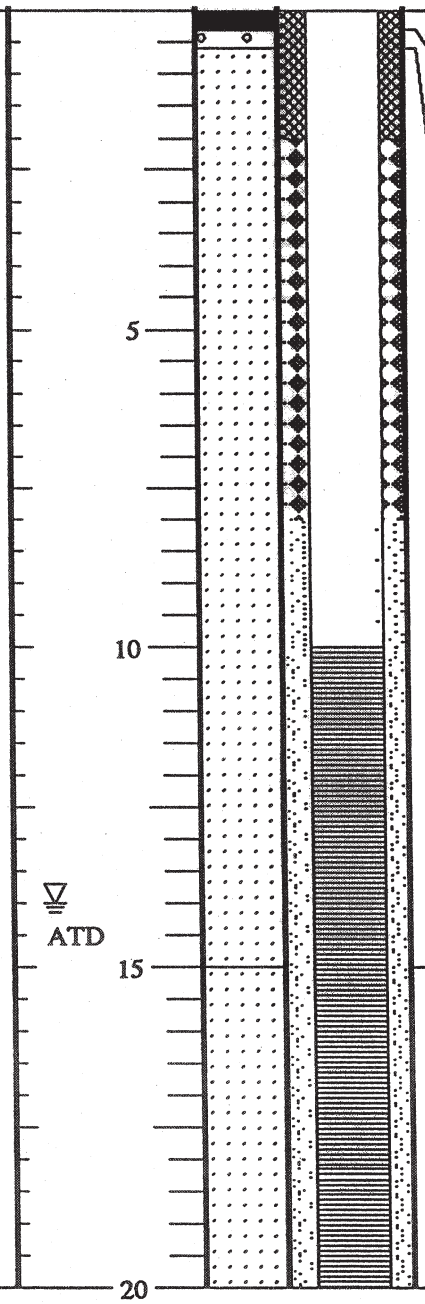
REMARKS

(1) Reference elevation = top of PVC casing surveyed relative to a site datum. (2) No samples collected. (3) 7 7/8-inch diameter button drill bit used. (4) ATD = At Time of Drilling.

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Maple Valley	BORING NO.	MW-13
LOCATION	21641 Maple Valley Highway	PAGE	1 OF 2
DRILLED BY	Cascade Drilling	REFERENCE ELEV.	100.37'
DRILL METHOD	Air-rotary	TOTAL DEPTH	20.50'
LOGGED BY	Patrick Brooks	DATE COMPLETED	08/11/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION



0 to 0.3 foot: ASPHALT.

0.3 to 0.6 foot: GRAVEL (GP), brown, angular with little fine to coarse sand, moist.

0.6 to 15.0 feet: SAND (SP), fine to coarse, with little fine to coarse, subrounded gravel and few cobbles, moist.

15.0 to 20.5 feet: SAND (SP), fine to coarse, subrounded, subrounded gravel.

REMARKS

(1) Reference elevation = top of PVC casing surveyed relative to a site datum. (2) No samples collected. (3) 7 7/8-inch diameter button drill bit used. (4) ATD = At Time of Drilling.

LOG OF EXPLORATORY BORING

PROJECT NAME	Shell/Maple Valley	BORING NO.	MW-13
LOCATION	21641 Maple Valley Highway	PAGE	2 OF 2
DRILLED BY	Cascade Drilling	REFERENCE ELEV.	100.37'
DRILL METHOD	Air-rotary	TOTAL DEPTH	20.50'
LOGGED BY	Patrick Brooks	DATE COMPLETED	08/11/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
				25				Total depth drilled = 20.5 feet. **WELL COMPLETION DETAILS:** 0.3 to 10.0 feet: 4-inch-diameter, flush threaded schedule 40 PVC blank riser pipe. 10.0 to 20.0 feet: 4-inch-diameter, flush threaded schedule 40 PVC well screen with 0.020-inch machined slots. 20.0 to 20.5 feet: casing end cap. 0 to 2.0 feet: Concrete. 2.0 to 8.0 feet: Bentonite chips hydrated with potable water. 8.0 to 20.5 feet: 8 - 12 Colorado silica sand.
				30				
				35				
				40				

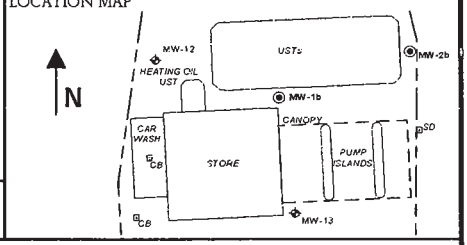
REMARKS

(1) Reference elevation = top of PVC casing surveyed relative to a site datum. (2) No samples collected. (3) 7 7/8-inch diameter button drill bit used. (4) ATD = At Time of Drilling.

KHM
ENVIRONMENTAL MANAGEMENT INCORPORATED

PROJECT NO:	A81-21641 Maple Valley	CLIENT:	Shell	BORING/WELL NO: MW-1b
LOGGED BY:	O. Popova/J. North	LOCATION:	21641 Maple Valley Hwy, WA	PAGE 1 OF 2
DRILLER:	Cascade Drilling Inc.	DATE DRILLED:	12/10/2002	
DRILLING METHOD:	ODEX	HOLE DIAMETER:	7"	
SAMPLING METHOD:	Grab	HOLE DEPTH:	25'	
CASING TYPE:	PVC	WELL DIAMETER:	2"	
SLOT SIZE:	0.010"	WELL DEPTH:	25'	
GRAVEL PACK:	2-12	CASING STICKUP:	0	
ELEVATION		NORTHING		EASTING

LOCATION MAP

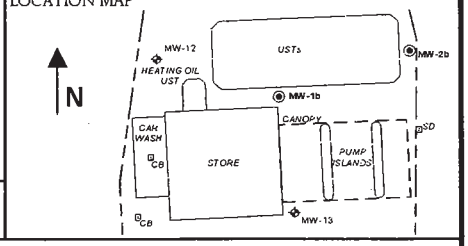


Well Completion: Backfill	Well Completion: Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Recovery	Sample: Interval	Soil Type	LITHOLOGY / DESCRIPTION
						1				0 - 3" ASPHALT
						2				Airknifed to 6' through peagravel [fill]
Bentonite Chips						3				
						4				
						5				
						6			GP	**Gravelly SAND/Sandy GRAVEL with cobbles**; subrounded/ subangular, medium to coarse grained sand, moist, dense
						7				
						8				
						9				
						10				
						11				
						12				
						13				(sand increasing, trace silt)
Sand						14			GP-GM	**Poorly Graded GRAVEL**; gravel - sand - silt mixture
						15				(moisture increasing)
						16				
		▽				17				(free water in return)
						18				
						19				
						20				
						21				
						22				

KHM
ENVIRONMENTAL MANAGEMENT INCORPORATED

PROJECT NO:	A81-21641 Maple Valley	CLIENT:	Shell	BORING/WELL NO: MW-1b
LOGGED BY:	O. Popova/J. North	LOCATION:	21641 Maple Valley Hwy, WA	PAGE 2 OF 2
DRILLER:	Cascade Drilling Inc.	DATE DRILLED:	12/10/2002	
DRILLING METHOD:	ODEX	HOLE DIAMETER:	7"	
SAMPLING METHOD:	Grab	HOLE DEPTH:	25'	
CASING TYPE:	PVC	WELL DIAMETER:	2"	
SLOT SIZE:	0.010"	WELL DEPTH:	25'	
GRAVEL PACK:	2-12	CASING STICKUP:	0	
ELEVATION		NORTHING		EASTING

LOCATION MAP

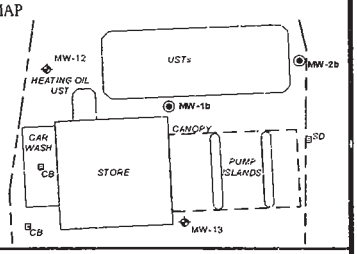


Well Completion: Backfill	Well Completion: Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Recovery	Sample: Interval	Soil Type	LITHOLOGY / DESCRIPTION
Sand						23			GP-GM	(As above)
						24				
						25				
						26				
						27				**BOTTOM OF BORING @ 25ft**
						28				
						29				
						30				
						31				
						32				
						33				
						34				
						35				
						36				
						37				
						38				
						39				
						40				
						41				
						42				
						43				
						44				

KHM
ENVIRONMENTAL MANAGEMENT INCORPORATED

PROJECT NO:	A81-21641 Maple Valley	CLIENT:	Shell	BORING/WELL NO: MW-2b	
LOGGED BY:	O. Popova/J. North	LOCATION:	21641 Maple Valley Hwy, WA	PAGE 1 OF 2	
DRILLER:	Cascade Drilling Inc.	DATE DRILLED:	12/10/2002		
DRILLING METHOD:	ODEX	HOLE DIAMETER:	7"		
SAMPLING METHOD:	Grab	HOLE DEPTH:	25'		
CASING TYPE:	PVC	WELL DIAMETER:	2"		
SLOT SIZE:	0.010"	WELL DEPTH:	25'		
GRAVEL PACK:	2-12	CASING STICKUP:	0		
ELEVATION		NORTHING		EASTING	

LOCATION MAP

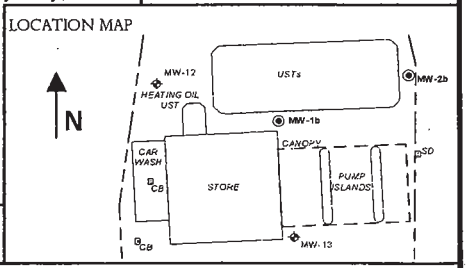


Well Completion: Backfill / Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Recovery / Interval	Soil Type	LITHOLOGY / DESCRIPTION
Bentonite Chips					1			0 - 3" ASPHALT
					2			Airknifed to 6' through pea gravel [fill]
					3			
					4			
					5			
					6			
					7		GW	**Sandy GRAVEL**; greyish brown, with subrounded/ subangular pebbles ~ 2-20" diameter
					8			
					9			
					10			
					11			
					12			
					13			
					14		SW	**Gravelly SAND**; light brown to brown, fine to coarse grained sand, loose
Sand	▽				15			
					16			
					17			
					18			
					19			
					20			
					21			
					22			

KHM
ENVIRONMENTAL MANAGEMENT INCORPORATED

PROJECT NO:	A81-21641 Maple Valley	CLIENT:	Shell	BORING/WELL NO: MW-2b	
LOGGED BY:	O. Popova/J. North	LOCATION:	21641 Maple Valley Hwy, WA	PAGE 2 OF 2	
DRILLER:	Cascade Drilling Inc.	DATE DRILLED:	12/10/2002		
DRILLING METHOD:	ODEX	HOLE DIAMETER:	7"		
SAMPLING METHOD:	Grab	HOLE DEPTH:	25'		
CASING TYPE:	PVC	WELL DIAMETER:	2"		
SLOT SIZE:	0.010"	WELL DEPTH:	25'		
GRAVEL PACK:	2-12	CASING STICKUP:	0		
ELEVATION		NORTHING		EASTING	

LOCATION MAP



Well Completion: Backfill / Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Recovery	Sample: Interval	Soil Type	LITHOLOGY / DESCRIPTION
Sand					23			SW	(As above)
					24				
					25				
					26				
					27				**BOTTOM OF BORING @ 25ft**
					28				
					29				
					30				
					31				
					32				
					33				
					34				
					35				
					36				
					37				
					38				
					39				
					40				
					41				
					42				
					43				
					44				

Project: Shell Western Washington Divestment
Project Location: 120891 - 21641 Maple Valley Highway, WA
Project Number: 46194210

Log of Boring B1

Sheet 1 of 1

Date(s) Drilled	5/20/2008	Logged By	Jacob Letts	Checked By	Brian Pletcher
Drilling Method	Hollow Stem Auger	Drilling Contractor	Cascade Drilling	Total Depth of Borehole ft bgs	11.0
Drill Rig Type	CME 85	Borehole Diameter (inches)	8	Approx. Surface Elevation ft msl	N/A
Approx. Depth Groundwater Encountered	Not Encountered	Sampler Type	Dames & Moore	Borehole Backfill	Quick Set
Comments					

Feet MSL	Depth, feet	SAMPLES Type	SAMPLES Number	Blows/6 in.	Inches Recovered	Graphic Log	MATERIAL DESCRIPTION	PID Headspace (ppm)		Sample Time	REMARKS
	0						Air knifed to 7.0 feet bgs.				
							Backfill from hole clearance.				
	5						**POORLY GRADED GRAVEL [GP]**, brown, dry , very dense, coarse gravel, cobbles between 1 and 6 inches in size (No odor or stain).				
	10			22 50/5"	0			0.0			
							Boring terminated at 11 feet bgs upon refusal and backfilled with quick set on 5/20/2008.				
	15										
	20										
	25										
	30										

URS

Project: Shell Western Washington Divestment
Project Location: 120891 - 21641 Maple Valley Highway, WA
Project Number: 46194210

Log of Boring B2

Sheet 1 of 1

Date(s) Drilled	5/20/2008	Logged By	Jacob Letts	Checked By	Brian Pletcher
Drilling Method	Hollow Stem Auger	Drilling Contractor	Cascade Drilling	Total Depth of Borehole ft bgs	21.5
Drill Rig Type	CME 85	Borehole Diameter (inches)	8	Approx. Surface Elevation ft msl	N/A
Approx. Depth Groundwater Encountered	12	Sampler Type	Dames & Moore	Borehole Backfill	Quick Set
Comments					

Feet MSL / Depth, feet	SAMPLES Type	SAMPLES Number	Blows/6 in.	Inches Recovered	Graphic Log	MATERIAL DESCRIPTION	PID Headspace (ppm)		Sample Time	REMARKS
0						Air knifed to 7.0 feet bgs.				
						Backfill from hole clearance.				
5										
10		120891-B02-10	12 50/6"	6		**POORLY GRADED GRAVEL [GP]**, brown, dry to damp, very dense, coarse gravel, cobbles up to 8 inches (No odor or stain). ▽	0.0		0915	120891-B02-GW (1000)
15		120891-B02-15	6 12 18	12		**POORLY GRADED SAND WITH SILT AND GRAVEL [SP-SM]**, brown, moist to wet, medium dense, coarse sand, medium gravel, occassional medium to large cobbles (No odor or stain).	0.0		0920	
20		120891-B02-20	12 25 26	18		*Grading to very dense, silt content increasing.*	0.0		0930	
						Boring terminated at 21.5 feet bgs upon refusal and backfilled with quick set on 5/20/2008.				
25										
30										

URS

Project: Shell Western Washington Divestment
Project Location: 120891 - 21641 Maple Valley Highway, WA
Project Number: 46194210

Log of Boring B3

Sheet 1 of 1

Date(s) Drilled	5/20/2008	Logged By	Jacob Letts	Checked By	Brian Pletcher
Drilling Method	Hollow Stem Auger	Drilling Contractor	Cascade Drilling	Total Depth of Borehole ft bgs	6.0
Drill Rig Type	CME 85	Borehole Diameter (inches)	8	Approx. Surface Elevation ft msl	N/A
Approx. Depth Groundwater Encountered	Not Encountered	Sampler Type	Dames & Moore	Borehole Backfill	Quick Set
Comments					

Feet MSL / Depth, feet	SAMPLES: Type / Number	Blows/6 in.	Inches Recovered	Graphic Log	MATERIAL DESCRIPTION	PID Headspace (ppm)		Sample Time	REMARKS
0					Air knifed to 5.0 feet bgs.				
					Backfill from hole clearance.				
5					**POORLY GRADED GRAVEL [GP]**, coarse gravel, cobbles between 4 and 8 inches in size (No odor or stain).	0			
					Boring terminated at 6 feet bgs upon refusal and backfilled with quick set on 5/20/2008.				
10									
15									
20									
25									
30									

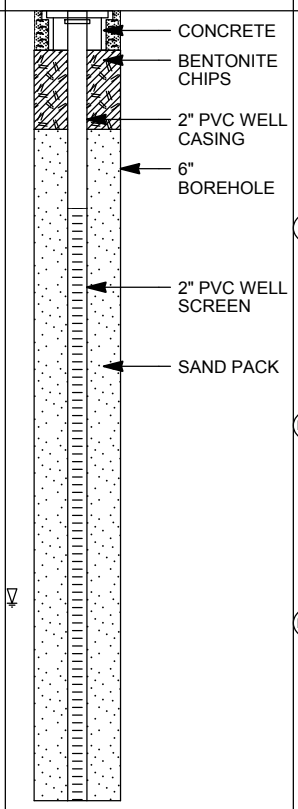
URS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 21641 MAPL
PROJECT NUMBER: 060624
CLIENT: SHELL OIL PRODUCTS US
LOCATION: 21641 MAPLE VALLEY HWY, MAPLE VALLEY

HOLE DESIGNATION: SB-4/MW-14
DATE COMPLETED: May 7, 2014
DRILLING METHOD: HSA/SONIC
FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	ASPHALT	0.33
2	GW, COBBLE, rounded gravel, sand, trace silt, olive gray, dry, no hydrocarbon odor - rounded 14x8" boulder at 2.0ft BGS - increase in silt content, light brown at 2.5ft BGS	
4	- gravel, cobbleloose at 4.0ft BGS	
	- AUGER REFUSAL, continued with Sonic on 5/17/2014 at 5.2ft BGS	5.00
6	GW-SANDY GRAVEL, with cobble, medium to coarse sand, light brown, dry, no hydrocarbon odor	
8		9.00
10	GW-SANDY GRAVEL, cobble, medium-coarse to coarse sand, greenish gray, dry, no hydrocarbon odor	10.00
	SM-SILTY SAND, intermixed with gravel, very dense	
12	- increase in gravelly sand content from 12.0 to 13.5ft BGS	
14	SM-SILTY SAND, with gravel, very dense, fine grained, olive gray, damp	14.00
16	- some cobble, dark gray, hydrocarbon odor at 15.0ft BGS	15.50
	SW-SAND, with gravel, medium-coarse to coarse grained, dark gray, saturated, hydrocarbon odor	
18		18.50
	SM-SILTY SAND, and gravel, dense, poorly sorted, brown, damp, slight hydrocarbon odor	
20	END OF BOREHOLE @ 20.0ft BGS	21.00
22		
24		
26		
28		
30		
32		
34		



WELL DETAILS
Screened interval:
5.00 to 20.00ft BGS
Length: 15ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Seal:
1.00 to 3.00ft BGS
Material: BENTONITE CHIPS
Sand Pack:
3.00 to 20.00ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
SB-4-5		100		0.6
MW-14-10		100		0.1
MW-14-15		100		536
MW-14-20		100		68

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS ⬭

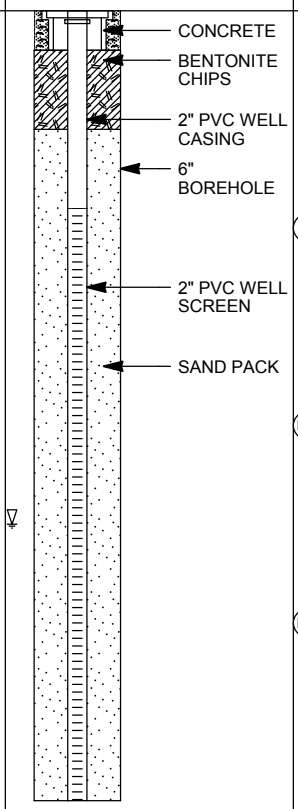
OVERBURDEN LOG 060624-WI.GPJ CRA_CORP.GDT 5/9/14

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 21641 MAPL
PROJECT NUMBER: 060624
CLIENT: SHELL OIL PRODUCTS US
LOCATION: 21641 MAPLE VALLEY HWY, MAPLE VALLEY

HOLE DESIGNATION: SB-5/MW-15
DATE COMPLETED: May 7, 2014
DRILLING METHOD: SONIC
FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	ASPHALT	0.25
2	GW-COBBLE, gravel and medium-coarse sand, rounded, light brown, dry, no hydrocarbon odor	
	- subrounded subangular cobble at 3.0ft BGS	
4		
	- AUGER REFUSAL, continued with Sonic on 5/7/2014 at 5.3ft BGS	5.00
6	GW-SANDY GRAVEL, cobble, medium-coarse sand, light brown, damp, no hydrocarbon odor	
8	- sandy gravel/cobble at 6.0ft BGS	
	- increase in gravelly sand content at 7.0ft BGS	
10	- increase in silt content, increase in density from 10.0 to 13.0ft BGS	10.00
		11.00
12	GW-SANDY GRAVEL/COBBLE, fine to coarse sand, greenish gray, dry, no hydrocarbon odor	
14	SM-SILTY SAND, dense, fine to medium grained, poorly sorted, brownish gray, wet, no hydrocarbon odor	
		15.00
16	SW-GRAVELLY SAND, with silt, medium to coarse grained, olive gray, saturated, no hydrocarbon odor	
18		18.00
	SM-SILTY SAND, trace gravel, dense, olive gray, wet, no hydrocarbon odor	
20	END OF BOREHOLE @ 20.0ft BGS	
		21.00
22		
24		
26		
28		
30		
32		
34		



WELL DETAILS
Screened interval:
5.00 to 20.00ft BGS
Length: 15ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Seal:
1.00 to 3.00ft BGS
Material: BENTONITE CHIPS
Sand Pack:
3.00 to 20.00ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
SB-5-5		100		0.1
MW-15-10		100		2.0
MW-15-15		100		10.0
MW-15-20		100		0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: 21641 MAPL
PROJECT NUMBER: 060624
CLIENT: SHELL OIL PRODUCTS US
LOCATION: 21641 MAPLE VALLEY HWY, MAPLE VALLEY

HOLE DESIGNATION: MW-16
DATE COMPLETED: December 8, 2014
DRILLING METHOD: SONIC
FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITORING WELL	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
0	ASPHALT	0.50	CONCRETE				
	ML-SANDY SILT (FILL), with cobble and gravel, bricks/fill		BENTONITE CHIPS				
5	ML-SANDY SILT (FILL), with gravel and cobble, dense, poorly sorted, light brown, no hydrocarbon odor	5.00	2" PVC WELL CASING				
	SM-SILTY SAND (FILL), with cobble and gravel, some debris/glass, poorly sorted, light brown, dry, no hydrocarbon odor	6.00	6" BOREHOLE				
10	- darker brown at 9.0ft BGS - increase in cobble, increase in fine sand content at 10.0ft BGS		2" PVC WELL SCREEN	MW-16-10			
12	GW-SANDY GRAVEL, with cobble, light gray to brown, dry, no hydrocarbon odor	12.00	SAND PACK				
	- damp to wet at 13.0ft BGS	13.00					
15	SM-SILTY SAND, dense to slightly dense, medium coarse to fine grained, poorly sorted, brown, moist to wet, no hydrocarbon odor	15.00		MW-16-15			
	- increase in sand content at 15.0ft BGS						
20	SM-SILTY SAND, trace gravel, fine to medium coarse grained, poorly sorted, brown, saturated - increase in gravel content, with coarse grained from 17.5 to 20.0ft BGS			MW-16-20			
23	ML-SILT, dense, low plasticity, brown, moist, no hydrocarbon odor	23.00					
25	ML-CLAYEY SILT, less dense, medium plasticity, copper colored veins, moist, no hydrocarbon odor	24.50					
27	ML-SILT, low density, medium plasticity, olive gray, moist, no hydrocarbon odor	27.00					
29	ML-SILT, dense, low plasticity, olive gray, dry, no hydrocarbon odor	29.00		MW-16-30			
31	SM-SILTY SAND, trace gravel, slightly dense, fine to medium coarse grained, poorly sorted, brown, wet, no hydrocarbon odor	31.00	BENTONITE CHIPS				
34							

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: 21641 MAPL
PROJECT NUMBER: 060624
CLIENT: SHELL OIL PRODUCTS US
LOCATION: 21641 MAPLE VALLEY HWY, MAPLE VALLEY

HOLE DESIGNATION: MW-16
DATE COMPLETED: December 8, 2014
DRILLING METHOD: SONIC
FIELD PERSONNEL: S. RASMUSSEN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITORING WELL	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
36	- increase in gravel content at 35.0ft BGS END OF BOREHOLE @ 35.0ft BGS	35.00	WELL DETAILS Screened interval: 10.00 to 25.00ft BGS Length: 15ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 2.50 to 8.00ft BGS Material: BENTONITE CHIPS Sand Pack: 8.00 to 27.00ft BGS Material: SAND				
38							
40							
42							
44							
46							
48							
50							
52							
54							
56							
58							
60							
62							
64							
66							
68							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

Appendix C
Legal Description of Property, Present Owner and Operator, Known Past Owners and Operators

Department of Assessments

500 Fourth Avenue, Suite ADM-AS-0708, Seattle, WA 98104

Office Hours: Mon - Fri 8:30 a.m. to 4:30 p.m.

TEL: 206-296-7300
FAX: 206-296-5107
TTY: 206-296-7888

Send us mail

- New Search
- Property Tax Bill
- Map This Property
- Glossary of Terms
-
- Print Property Detail
-

PARCEL DATA

Parcel	510840-0014	**Jurisdiction**	KING COUNTY
Name	PACWEST ENERGY LLC	**Levy Code**	4880
Site Address	21641 MAPLE VALLEY-BLACK DIAMON RD SE 98038	**Property Type**	C
		Plat Block / Building Number	
Geo Area	65-30	**Plat Lot / Unit Number**	2
Spec Area	0-0	**Quarter-Section-Township-Range**	SE-9 -22-6
Property Name	SHELL FOOD MART/CAR WASH		

Legal Description

MAPLE VALLEY CAMP SITES UNREC POR BEG ON E LN 50 FT SLY FR NE COR TH N 75-57-40 W 105 FT TH S 18-09-35 W 40.10 FT TH S 25-00-17 W 75.46 FT TH S 18-09-35 W 54 FT TH S 67-06-10 E 118.03 FT TH NLY ALG E LN TO BEG
PLat Block:
Plat Lot: 2

LAND DATA

Highest & Best Use As If Vacant	RETAIL/WHOLESALE	**Percentage Unusable**	
Highest & Best Use As Improved	PRESENT USE	**Unbuildable**	NO
		Restrictive Size Shape	NO
Present Use	Conv Store with Gas	**Zoning**	NB
Land SqFt	18,955	**Water**	WATER DISTRICT
Acres	0.44	**Sewer/Septic**	PUBLIC
		Road Access	PUBLIC
		Parking	ADEQUATE
		Street Surface	

Views

Rainier	
Territorial	
Olympics	
Cascades	
Seattle Skyline	
Puget Sound	
Lake Washington	
Lake Sammamish	
Lake/River/Creek	
Other View	

Waterfront

Waterfront Location	
Waterfront Footage	0
Lot Depth Factor	0
Waterfront Bank	
Tide/Shore	
Waterfront Restricted Access	
Waterfront Access Rights	NO
Poor Quality	NO
Proximity Influence	NO

Designations

Historic Site	
Current Use	(none)
Nbr Bldg Sites	
Adjacent to Golf Fairway	NO
Adjacent to Greenbelt	NO
Other Designation	NO
Deed Restrictions	NO
Development Rights Purchased	NO
Easements	NO
Native Growth Protection Easement	NO
DNR Lease	NO

Nuisances

Topography	
Traffic Noise	
Airport Noise	
Power Lines	NO
Other Nuisances	NO

Problems

Water Problems	NO
Transportation Concurrency	NO
Other Problems	NO

Environmental

Environmental	NO

BUILDING

Building Number	1
Building Description	C-Store w/Gas & Car Wash
Number Of Buildings Aggregated	1
Predominant Use	MINI-MART CONVENIENCE STORE (531)
Shape	Rect or Slight Irreg
Construction Class	WOOD FRAME

Picture of Building 1

Reference Links:

- King County Tax Links
- Property Tax Advisor
- Washington State Department of Revenue (External link)
- Washington State Board of Tax Appeals (External link)
- Board of Appeals/Equalization
- Districts Report
- iMap
- Recorder's Office

Scanned images of surveys and other map documents

Scanned images of plats

Notice mailing date: 07/04/2019

ADVERTISEMENT

Building Quality	GOOD
Stories	1
Building Gross Sq Ft	2,346
Building Net Sq Ft	2,346
Year Built	1965
Eff. Year	1985
Percentage Complete	100
Heating System	HEAT PUMP
Sprinklers	No
Elevators	

Section(s) Of Building Number: 1

Section Number	Section Use	Description	Stories	Height	Floor Number	Gross Sq Ft	Net Sq Ft
1	MINI-MART CONVENIENCE STORE (531)		1	13		1,717	1,717
2	Car Wash - Drive Thru (435)		1	13	0	629	629

Accessory

Accessory Type	Picture	Description	Qty	Unit Of Measure	Size	Grade	Eff Yr	%	Value	Date Valued
Miscellaneous		Type 2				(unknown)			300000	5/13/2003

TAX ROLL HISTORY

Account	Valued Year	Tax Year	Omit Year	Levy Code	Appraised Land Value ($)	Appraised Imps Value ($)	Appraised Total Value ($)	New Dollars ($)	Taxable Land Value ($)	Taxable Imps Value ($)	Taxable Total Value ($)	Tax Value Reason
510840001406	2019	2020		4880	189,500	421,300	610,800	0	189,500	421,300	610,800	
510840001406	2018	2019		4880	151,600	420,500	572,100	572,100	151,600	417,000	568,600	
510840001406	2017	2018		4880	151,600	417,000	568,600	0	151,600	417,000	568,600	
510840001406	2016	2017		4880	142,100	421,100	563,200	0	142,100	421,100	563,200	
510840001406	2015	2016		4880	132,600	435,200	567,800	0	132,600	435,200	567,800	
510840001406	2014	2015		4880	123,200	450,300	573,500	0	123,200	450,300	573,500	
510840001406	2013	2014		4880	123,200	465,300	588,500	0	123,200	465,300	588,500	
510840001406	2012	2013		4880	123,200	471,500	594,700	0	123,200	471,500	594,700	
510840001406	2011	2012		4880	104,200	482,700	586,900	0	104,200	482,700	586,900	
510840001406	2010	2011		4880	104,200	424,300	528,500	0	104,200	424,300	528,500	
510840001406	2009	2010		4880	104,100	436,700	540,800	0	104,100	436,700	540,800	
510840001406	2008	2009		4860	94,700	440,500	535,200	0	94,700	440,500	535,200	
510840001406	2007	2008		4860	94,700	444,200	538,900	0	94,700	444,200	538,900	
510840001406	2006	2007		4860	94,700	441,400	536,100	0	94,700	441,400	536,100	
510840001406	2005	2006		4860	94,700	443,200	537,900	0	94,700	443,200	537,900	
510840001406	2004	2005		4860	94,700	440,200	534,900	0	94,700	440,200	534,900	
510840001406	2003	2004		4860	94,700	441,800	536,500	0	94,700	441,800	536,500	
510840001406	2002	2003		4860	94,700	508,800	603,500	0	94,700	508,800	603,500	
510840001406	2001	2002		4860	94,800	511,600	606,400	0	94,800	511,600	606,400	
510840001406	2000	2001		4860	94,800	513,300	608,100	0	94,800	513,300	608,100	
510840001406	1999	2000		4860	94,800	552,200	647,000	0	94,800	552,200	647,000	
510840001406	1998	1999		4860	94,800	949,300	1,044,100	0	94,800	949,300	1,044,100	
510840001406	1997	1998		4860	0	0	0	0	94,800	949,300	1,044,100	
510840001406	1996	1997		4860	0	0	0	0	47,400	188,300	235,700	
510840001406	1994	1995		4860	0	0	0	0	47,400	188,300	235,700	
510840001406	1992	1993		4860	0	0	0	0	47,400	188,300	235,700	
510840001406	1990	1991		4860	0	0	0	0	47,400	116,800	164,200	
510840001406	1988	1989		4860	0	0	0	0	47,400	97,300	144,700	
510840001406	1987	1988		4860	0	0	0	0	28,400	90,900	119,300	
510840001406	1986	1987		4860	0	0	0	0	28,400	83,400	111,800	
510840001406	1984	1985		4860	0	0	0	0	28,400	83,400	111,800	
510840001406	1982	1983		4860	0	0	0	0	27,800	59,500	87,300	

SALES HISTORY

Excise Number	Recording Number	Document Date	Sale Price	Seller Name	Buyer Name	Instrument	Sale Reason
2422408	20091221000749	12/8/2009	$0.00	EQUILON ENTERPRISES LLC	PACWEST ENERGY LLC	Bargain and Sales Deed	Other
1627194	199807231668	6/26/1998	$0.00	TEXACO REFINING & MARKETING INC	EQUILON ENTERPRISES LLC	Special Warranty Deed	None

REVIEW HISTORY

Tax Year	Review Number	Review Type	Appealed Value	Hearing Date	Settlement Value	Decision	Status
2001	0004833	Local Appeal	$608,100	1/1/1900	$0		Completed
1985	8405155	Local Appeal	$0	1/1/1900	$0	SUSTAIN	Completed

PERMIT HISTORY

HOME IMPROVEMENT EXEMPTION

- New Search
- Property Tax Bill
- Map This Property
- Glossary of Terms
-
- Print Property Detail
-

Updated: Jan. 29, 2019

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Appendix D
Terrestrial Ecological Evaluation Form

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm.

Step 1: IDENTIFY HAZARDOUS WASTE SITE	
Please identify below the hazardous waste site for which you are documenting an evaluation.	
Facility/Site Name: JFS Store No. 5017	
Facility/Site Address: 21641 Renton Maple Valley Rd SE Maple Valley, WA	
Facility/Site No: 23177881	VCP Project No.: NW2995

Step 2: IDENTIFY EVALUATOR			
Please identify below the person who conducted the evaluation and their contact information.			
Name: Brian Peters			Title: Associate
Organization: GHD			
Mailing address: 20818 44th Ave W, Suit 190			
City: Lynnwood		State: WA	Zip code: 98036
Phone: 425-563-5406	Fax:	E-mail: brian.peters@ghd.com	

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

☒ Yes *If you answered **"YES,"** then answer **Question 2**.*

☐ No or Unknown *If you answered **"NO" or "UKNOWN,"** then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? *Check all that apply. Then skip to **Step 4** of this form.*

Point of Compliance: WAC 173-340-7491(1)(a)

☒ All soil contamination is, or will be,* at least 15 feet below the surface.

☐ All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

☐ All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

☐ There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.

☐ For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

☐ Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

[±] "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

[#] "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No or Unknown *If you answered **"NO"** or **"UNKNOWN,"** then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 3** below.*

☐ No *If you answered **"NO,"** then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

☐ Yes *If you answered **"YES,"** then answer **Question 4** below.*

☐ No *If you answered **"NO,"** then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

☐ Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*

☐ Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? *Check all that apply. Then skip to **Step 4** of this form.*

Exposure Analysis: WAC 173-340-7492(2)(a)

☐ Area of soil contamination at the Site is not more than 350 square feet.

☐ Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b)

☐ No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. *See* WAC 173-340-7493(1)(c).

1. Was there a problem? *See* WAC 173-340-7493(2).

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No *If you answered **"NO,"** then identify the reason here and then skip to **Question 5** below:*

- ☐ No issues were identified during the problem formulation step.
- ☐ While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? *See* WAC 173-340-7493(3).

☐ Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*

☐ Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use?
Check all that apply. See WAC 173-340-7493(3).

- ☐ Literature surveys.
- ☐ Soil bioassays.
- ☐ Wildlife exposure model.
- ☐ Biomarkers.
- ☐ Site-specific field studies.
- ☐ Weight of evidence.
- ☐ Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

- ☐ Confirmed there was no problem.
- ☐ Confirmed there was a problem and established site-specific cleanup levels.

5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?

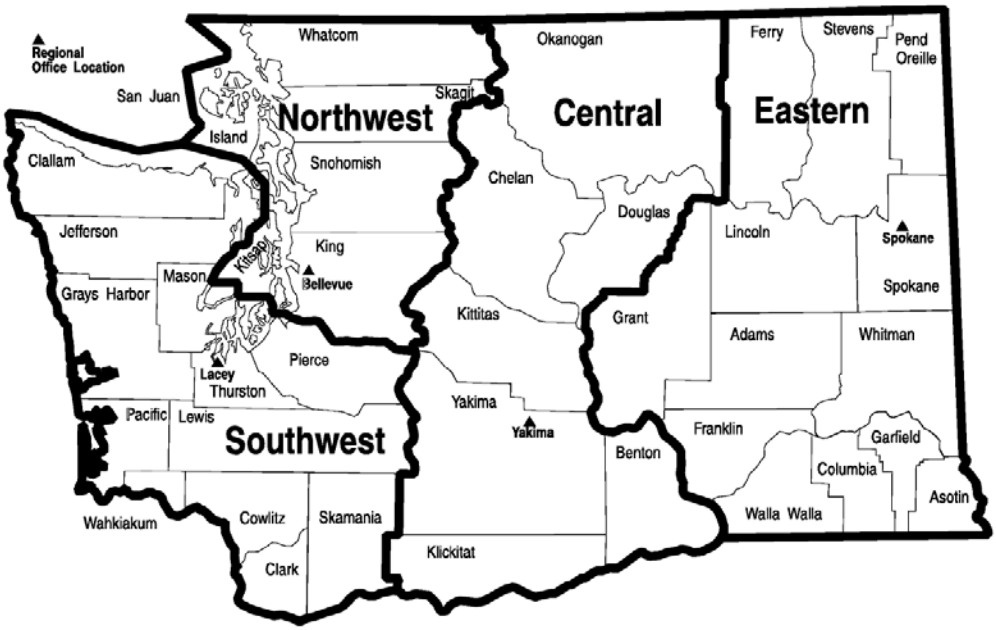
☐ Yes If so, please identify the Ecology staff who approved those steps:

☐ No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.

Northwest Region: Attn: VCP Coordinator 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009
Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295



Appendix E
Analytical Laboratory 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: 490-68323-1
TestAmerica Sample Delivery Group: SAP#120891/060624
Client Project/Site: 21641 Maple Valley Hwy, Maple Valley, WA

For:
Conestoga-Rovers & Associates, Inc.
20818 44th Ave W
Suite 190
Lynnwood, Washington 98036

Attn: Tim Mullin

Heather Baker

Authorized for release by:
12/23/2014 9:37:05 AM
Heather Baker, Project Manager I
(615)301-5043
heather.baker@testamericainc.com

Designee for

Roxanne Connor, Senior Project Manager
(615)301-5761
roxanne.connor@testamericainc.com

Table of Contents

Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 21641 Maple Valley Hwy, Maple Valley, WA

TestAmerica Job ID: 490-68323-1
SDG: SAP#120891/060624

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-68323-1	SO-060624-120814-MW-16-10	Solid	12/08/14 10:35	12/10/14 08:30
490-68323-2	SO-060624-120814-MW-16-15	Solid	12/08/14 10:50	12/10/14 08:30
490-68323-3	SO-060624-120814-MW-16-20	Solid	12/08/14 11:00	12/10/14 08:30
490-68323-4	SO-060624-120814-MW-16-30	Solid	12/08/14 11:30	12/10/14 08:30

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 21641 Maple Valley Hwy, Maple Valley, WA

TestAmerica Job ID: 490-68323-1
SDG: SAP#120891/060624

Job ID: 490-68323-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-68323-1

Comments
No additional comments.

Receipt
The samples were received on 12/10/2014 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.2º 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 215203.

No additional analytical or quality issues were noted, other than those described above or 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: 490-68323-2

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-68323-2

Comments
No additional comments.

Receipt
The samples were received on 12/10/2014 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.2º C.

GC VOA
Method(s) 8015B, NWTPH-Gx: Insufficient sample volume was prepared to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 214584.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) NWTPH-Dx: The following samples contained an insufficient amount of hydrocarbons to properly identify the contaminant: SO-060624-120814-MW-16-30 (490-68323-4).

Method(s) NWTPH-Dx: The following samples contained a petroleum product which most closely resembles motor oil: (490-68323-1 DU), SO-060624-120814-MW-16-10 (490-68323-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 490-68323-2 (Continued)

Laboratory: TestAmerica Nashville (Continued)

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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: Conestoga-Rovers & Associates, Inc.
Project/Site: 21641 Maple Valley Hwy, Maple Valley, WA

TestAmerica Job ID: 490-68323-1
SDG: SAP#120891/060624

Client Sample ID: SO-060624-120814-MW-16-10
Date Collected: 12/08/14 10:35
Date Received: 12/10/14 08:30

Lab Sample ID: 490-68323-1
Matrix: Solid
Percent Solids: 84.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00168		mg/Kg	☼	12/11/14 09:13	12/19/14 08:34	1
Ethylbenzene	ND		0.00168		mg/Kg	☼	12/11/14 09:13	12/19/14 08:34	1
Toluene	ND		0.00168		mg/Kg	☼	12/11/14 09:13	12/19/14 08:34	1
Xylenes, Total	ND		0.00253		mg/Kg	☼	12/11/14 09:13	12/19/14 08:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*12/11/14 09:13*	*12/19/14 08:34*	*1*
Dibromofluoromethane (Surr)	*111*		*70 - 130*	*12/11/14 09:13*	*12/19/14 08:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*	*12/11/14 09:13*	*12/19/14 08:34*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*	*12/11/14 09:13*	*12/19/14 08:34*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		4.62		mg/Kg	☼	12/11/14 09:02	12/17/14 13:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*85*		*50 - 150*	*12/11/14 09:02*	*12/17/14 13:08*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	**13.3**		3.91		mg/Kg	☼	12/12/14 11:12	12/14/14 22:41	1
C24-C40	**120**		3.91		mg/Kg	☼	12/12/14 11:12	12/14/14 22:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*50 - 150*	*12/12/14 11:12*	*12/14/14 22:41*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**85**		0.10		%			12/11/14 09:17	1

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 21641 Maple Valley Hwy, Maple Valley, WA

TestAmerica Job ID: 490-68323-1
SDG: SAP#120891/060624

Client Sample ID: SO-060624-120814-MW-16-15
Date Collected: 12/08/14 10:50
Date Received: 12/10/14 08:30

Lab Sample ID: 490-68323-2
Matrix: Solid
Percent Solids: 84.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00126		mg/Kg	☼	12/11/14 09:13	12/19/14 09:02	1
Ethylbenzene	ND		0.00126		mg/Kg	☼	12/11/14 09:13	12/19/14 09:02	1
Toluene	ND		0.00126		mg/Kg	☼	12/11/14 09:13	12/19/14 09:02	1
Xylenes, Total	ND		0.00188		mg/Kg	☼	12/11/14 09:13	12/19/14 09:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*12/11/14 09:13*	*12/19/14 09:02*	*1*
Dibromofluoromethane (Surr)	*106*		*70 - 130*	*12/11/14 09:13*	*12/19/14 09:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*	*12/11/14 09:13*	*12/19/14 09:02*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*	*12/11/14 09:13*	*12/19/14 09:02*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		4.07		mg/Kg	☼	12/11/14 09:02	12/17/14 14:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*74*		*50 - 150*	*12/11/14 09:02*	*12/17/14 14:31*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		3.93		mg/Kg	☼	12/12/14 11:12	12/16/14 02:45	1
C24-C40	ND		3.93		mg/Kg	☼	12/12/14 11:12	12/16/14 02:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*101*		*50 - 150*	*12/12/14 11:12*	*12/16/14 02:45*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**84**		0.10		%			12/11/14 09:17	1

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 21641 Maple Valley Hwy, Maple Valley, WA

TestAmerica Job ID: 490-68323-1
SDG: SAP#120891/060624

Client Sample ID: SO-060624-120814-MW-16-20
Lab Sample ID: 490-68323-3
Date Collected: 12/08/14 11:00
Matrix: Solid
Date Received: 12/10/14 08:30
Percent Solids: 86.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00142		mg/Kg	☼	12/11/14 09:13	12/19/14 09:29	1
Ethylbenzene	ND		0.00142		mg/Kg	☼	12/11/14 09:13	12/19/14 09:29	1
Toluene	ND		0.00142		mg/Kg	☼	12/11/14 09:13	12/19/14 09:29	1
Xylenes, Total	ND		0.00213		mg/Kg	☼	12/11/14 09:13	12/19/14 09:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*12/11/14 09:13*	*12/19/14 09:29*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*	*12/11/14 09:13*	*12/19/14 09:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 130*	*12/11/14 09:13*	*12/19/14 09:29*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*	*12/11/14 09:13*	*12/19/14 09:29*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		4.35		mg/Kg	☼	12/11/14 09:02	12/17/14 15:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*88*		*50 - 150*	*12/11/14 09:02*	*12/17/14 15:12*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		3.88		mg/Kg	☼	12/12/14 11:12	12/14/14 23:24	1
C24-C40	ND		3.88		mg/Kg	☼	12/12/14 11:12	12/14/14 23:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*99*		*50 - 150*	*12/12/14 11:12*	*12/14/14 23:24*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86		0.10		%			12/11/14 09:17	1

Client Sample ID: SO-060624-120814-MW-16-30
Lab Sample ID: 490-68323-4
Date Collected: 12/08/14 11:30
Matrix: Solid
Date Received: 12/10/14 08:30
Percent Solids: 76.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00157		mg/Kg	☼	12/11/14 09:13	12/19/14 09:56	1
Ethylbenzene	ND		0.00157		mg/Kg	☼	12/11/14 09:13	12/19/14 09:56	1
Toluene	ND		0.00157		mg/Kg	☼	12/11/14 09:13	12/19/14 09:56	1
Xylenes, Total	ND		0.00235		mg/Kg	☼	12/11/14 09:13	12/19/14 09:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*12/11/14 09:13*	*12/19/14 09:56*	*1*
Dibromofluoromethane (Surr)	*109*		*70 - 130*	*12/11/14 09:13*	*12/19/14 09:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*70 - 130*	*12/11/14 09:13*	*12/19/14 09:56*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*	*12/11/14 09:13*	*12/19/14 09:56*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		5.78		mg/Kg	☼	12/11/14 09:02	12/17/14 15:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*84*		*50 - 150*	*12/11/14 09:02*	*12/17/14 15:54*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	**5.61**		3.97		mg/Kg	☼	12/12/14 11:12	12/14/14 23:38	1
C24-C40	ND		3.97		mg/Kg	☼	12/12/14 11:12	12/14/14 23:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84*		*50 - 150*	*12/12/14 11:12*	*12/14/14 23:38*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**76**		0.10		%			12/11/14 09:17	1

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 21641 Maple Valley Hwy, Maple Valley, WA

TestAmerica Job ID: 490-68323-1
SDG: SAP#120891/060624

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 490-215203/6
Matrix: Solid
Analysis Batch: 215203

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			12/19/14 02:10	1
Ethylbenzene	ND		0.00200		mg/Kg			12/19/14 02:10	1
Toluene	ND		0.00200		mg/Kg			12/19/14 02:10	1
Xylenes, Total	ND		0.00300		mg/Kg			12/19/14 02:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*12/19/14 02:10*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*12/19/14 02:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*		*12/19/14 02:10*	*1*
Toluene-d8 (Surr)	*85*		*70 - 130*		*12/19/14 02:10*	*1*

Lab Sample ID: LCS 490-215203/3
Matrix: Solid
Analysis Batch: 215203

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	0.04848		mg/Kg		97	75 - 127		
Ethylbenzene			0.0500	0.05070		mg/Kg		101	80 - 134		
Toluene			0.0500	0.05114		mg/Kg		102	80 - 132		
Xylenes, Total			0.100	0.1077		mg/Kg		108	80 - 137		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
Dibromofluoromethane (Surr)	*116*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*
Toluene-d8 (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 490-215203/4
Matrix: Solid
Analysis Batch: 215203

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	0.05014		mg/Kg		100	75 - 127	3	50
Ethylbenzene			0.0500	0.05181		mg/Kg		104	80 - 134	2	50
Toluene			0.0500	0.04855		mg/Kg		97	80 - 132	5	50
Xylenes, Total			0.100	0.1006		mg/Kg		101	80 - 137	7	50

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
Dibromofluoromethane (Surr)	*116*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: 490-68323-1 DU
Matrix: Solid
Analysis Batch: 214584

Client Sample ID: SO-060624-120814-MW-16-10
Prep Type: Total/NA
Prep Batch: 213147

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	*83*		*50 - 150*

Lab Sample ID: MB 490-214584/3
Matrix: Solid
Analysis Batch: 214584

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			12/17/14 08:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*86*		*50 - 150*		*12/17/14 08:30*	*1*

Lab Sample ID: LCS 490-214584/2
Matrix: Solid
Analysis Batch: 214584

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	9.346		mg/Kg		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*101*		*50 - 150*

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

Lab Sample ID: MB 490-213592/1-A
Matrix: Solid
Analysis Batch: 214032

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 213592

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C24	ND		4.00		mg/Kg		12/12/14 11:12	12/14/14 22:14	1
C24-C40	ND		4.00		mg/Kg		12/12/14 11:12	12/14/14 22:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*94*		*50 - 150*	*12/12/14 11:12*	*12/14/14 22:14*	*1*

Lab Sample ID: LCS 490-213592/2-A
Matrix: Solid
Analysis Batch: 214032

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 213592

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C24			40.0	37.81		mg/Kg		95	55 - 129		

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 490-213592/2-A
Matrix: Solid
Analysis Batch: 214032

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 213592

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*98*		*50 - 150*

Lab Sample ID: 490-68323-1 DU
Matrix: Solid
Analysis Batch: 214032

Client Sample ID: SO-060624-120814-MW-16-10
Prep Type: Total/NA
Prep Batch: 213592

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C10-C24	13.3			19.01		mg/Kg	☼			36	50
C24-C40	120			177.5		mg/Kg	☼			38	50

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o-Terphenyl	*98*		*50 - 150*

Lab Sample ID: 490-68323-1 DU
Matrix: Solid
Analysis Batch: 214156

Client Sample ID: SO-060624-120814-MW-16-10
Prep Type: Total/NA
Prep Batch: 213592

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C24-C40	120			120.3		mg/Kg	☼			0.1	50

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o-Terphenyl	*95*		*50 - 150*

Method: Moisture - Percent Moisture

Lab Sample ID: 490-68336-D-2 DU
Matrix: Solid
Analysis Batch: 213156

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	84			86		%				3	20

GC/MS VOA

Prep Batch: 213151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68323-1	SO-060624-120814-MW-16-10	Total/NA	Solid	5035	
490-68323-2	SO-060624-120814-MW-16-15	Total/NA	Solid	5035	
490-68323-3	SO-060624-120814-MW-16-20	Total/NA	Solid	5035	
490-68323-4	SO-060624-120814-MW-16-30	Total/NA	Solid	5035	

Analysis Batch: 215203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68323-1	SO-060624-120814-MW-16-10	Total/NA	Solid	8260B	213151
490-68323-2	SO-060624-120814-MW-16-15	Total/NA	Solid	8260B	213151
490-68323-3	SO-060624-120814-MW-16-20	Total/NA	Solid	8260B	213151
490-68323-4	SO-060624-120814-MW-16-30	Total/NA	Solid	8260B	213151
LCS 490-215203/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-215203/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-215203/6	Method Blank	Total/NA	Solid	8260B	

GC VOA

Prep Batch: 213147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68323-1	SO-060624-120814-MW-16-10	Total/NA	Solid	5035	
490-68323-1 DU	SO-060624-120814-MW-16-10	Total/NA	Solid	5035	
490-68323-2	SO-060624-120814-MW-16-15	Total/NA	Solid	5035	
490-68323-3	SO-060624-120814-MW-16-20	Total/NA	Solid	5035	
490-68323-4	SO-060624-120814-MW-16-30	Total/NA	Solid	5035	

Analysis Batch: 214584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68323-1	SO-060624-120814-MW-16-10	Total/NA	Solid	NWTPH-Gx	213147
490-68323-1 DU	SO-060624-120814-MW-16-10	Total/NA	Solid	NWTPH-Gx	213147
490-68323-2	SO-060624-120814-MW-16-15	Total/NA	Solid	NWTPH-Gx	213147
490-68323-3	SO-060624-120814-MW-16-20	Total/NA	Solid	NWTPH-Gx	213147
490-68323-4	SO-060624-120814-MW-16-30	Total/NA	Solid	NWTPH-Gx	213147
LCS 490-214584/2	Lab Control Sample	Total/NA	Solid	NWTPH-Gx	
MB 490-214584/3	Method Blank	Total/NA	Solid	NWTPH-Gx	

GC Semi VOA

Prep Batch: 213592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68323-1	SO-060624-120814-MW-16-10	Total/NA	Solid	3550B	
490-68323-1 DU	SO-060624-120814-MW-16-10	Total/NA	Solid	3550B	
490-68323-2	SO-060624-120814-MW-16-15	Total/NA	Solid	3550B	
490-68323-3	SO-060624-120814-MW-16-20	Total/NA	Solid	3550B	
490-68323-4	SO-060624-120814-MW-16-30	Total/NA	Solid	3550B	
LCS 490-213592/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 490-213592/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 214032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68323-1	SO-060624-120814-MW-16-10	Total/NA	Solid	NWTPH-Dx	213592

GC Semi VOA (Continued)

Analysis Batch: 214032 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68323-1 DU	SO-060624-120814-MW-16-10	Total/NA	Solid	NWTPH-Dx	213592
490-68323-3	SO-060624-120814-MW-16-20	Total/NA	Solid	NWTPH-Dx	213592
490-68323-4	SO-060624-120814-MW-16-30	Total/NA	Solid	NWTPH-Dx	213592
LCS 490-213592/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Dx	213592
MB 490-213592/1-A	Method Blank	Total/NA	Solid	NWTPH-Dx	213592

Analysis Batch: 214156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68323-1 DU	SO-060624-120814-MW-16-10	Total/NA	Solid	NWTPH-Dx	213592
490-68323-2	SO-060624-120814-MW-16-15	Total/NA	Solid	NWTPH-Dx	213592

General Chemistry

Analysis Batch: 213156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68323-1	SO-060624-120814-MW-16-10	Total/NA	Solid	Moisture	
490-68323-2	SO-060624-120814-MW-16-15	Total/NA	Solid	Moisture	
490-68323-3	SO-060624-120814-MW-16-20	Total/NA	Solid	Moisture	
490-68323-4	SO-060624-120814-MW-16-30	Total/NA	Solid	Moisture	
490-68336-D-2 DU	Duplicate	Total/NA	Solid	Moisture	

Client Sample ID: SO-060624-120814-MW-16-10

Lab Sample ID: 490-68323-1

Date Collected: 12/08/14 10:35
Matrix: Solid
Date Received: 12/10/14 08:30
Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7.013 g	5.0 mL	213151	12/11/14 09:13	JLP	TAL NSH
Total/NA	Analysis	8260B		1	7.013 g	5.0 mL	215203	12/19/14 08:34	JMG	TAL NSH
Total/NA	Prep	5035			7.956 g	5.0 mL	213147	12/11/14 09:02	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	7.956 g	5.0 mL	214584	12/17/14 13:08	AMC	TAL NSH
Total/NA	Prep	3550B			30.20 g	1.00 mL	213592	12/12/14 11:12	RMS	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	30.20 g	1.00 mL	214032	12/14/14 22:41	KKH	TAL NSH
Total/NA	Analysis	Moisture		1			213156	12/11/14 09:17	RRS	TAL NSH

Client Sample ID: SO-060624-120814-MW-16-15

Lab Sample ID: 490-68323-2

Date Collected: 12/08/14 10:50
Matrix: Solid
Date Received: 12/10/14 08:30
Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			9.458 g	5.0 mL	213151	12/11/14 09:13	JLP	TAL NSH
Total/NA	Analysis	8260B		1	9.458 g	5.0 mL	215203	12/19/14 09:02	JMG	TAL NSH
Total/NA	Prep	5035			9.512 g	5.0 mL	213147	12/11/14 09:02	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	9.512 g	5.0 mL	214584	12/17/14 14:31	AMC	TAL NSH
Total/NA	Prep	3550B			30.23 g	1.00 mL	213592	12/12/14 11:12	RMS	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	30.23 g	1.00 mL	214156	12/16/14 02:45	JPS	TAL NSH
Total/NA	Analysis	Moisture		1			213156	12/11/14 09:17	RRS	TAL NSH

Client Sample ID: SO-060624-120814-MW-16-20

Lab Sample ID: 490-68323-3

Date Collected: 12/08/14 11:00
Matrix: Solid
Date Received: 12/10/14 08:30
Percent Solids: 86.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			8.149 g	5.0 mL	213151	12/11/14 09:13	JLP	TAL NSH
Total/NA	Analysis	8260B		1	8.149 g	5.0 mL	215203	12/19/14 09:29	JMG	TAL NSH
Total/NA	Prep	5035			8.108 g	5.0 mL	213147	12/11/14 09:02	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	8.108 g	5.0 mL	214584	12/17/14 15:12	AMC	TAL NSH
Total/NA	Prep	3550B			29.82 g	1.00 mL	213592	12/12/14 11:12	RMS	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	29.82 g	1.00 mL	214032	12/14/14 23:24	KKH	TAL NSH
Total/NA	Analysis	Moisture		1			213156	12/11/14 09:17	RRS	TAL NSH

Client Sample ID: SO-060624-120814-MW-16-30

Lab Sample ID: 490-68323-4

Date Collected: 12/08/14 11:30
Matrix: Solid
Date Received: 12/10/14 08:30
Percent Solids: 76.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			8.353 g	5.0 mL	213151	12/11/14 09:13	JLP	TAL NSH
Total/NA	Analysis	8260B		1	8.353 g	5.0 mL	215203	12/19/14 09:56	JMG	TAL NSH
Total/NA	Prep	5035			7.745 g	5.0 mL	213147	12/11/14 09:02	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	7.745 g	5.0 mL	214584	12/17/14 15:54	AMC	TAL NSH

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 21641 Maple Valley Hwy, Maple Valley, WA

TestAmerica Job ID: 490-68323-1
SDG: SAP#120891/060624

Client Sample ID: SO-060624-120814-MW-16-30
Date Collected: 12/08/14 11:30
Date Received: 12/10/14 08:30

Lab Sample ID: 490-68323-4
Matrix: Solid
Percent Solids: 76.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			33.00 g	1.00 mL	213592	12/12/14 11:12	RMS	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1	33.00 g	1.00 mL	214032	12/14/14 23:38	KKH	TAL NSH
Total/NA	Analysis	Moisture		1			213156	12/11/14 09:17	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: 21641 Maple Valley Hwy, Maple Valley, WA

TestAmerica Job ID: 490-68323-1
SDG: SAP#120891/060624

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
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: 21641 Maple Valley Hwy, Maple Valley, WA

TestAmerica Job ID: 490-68323-1
SDG: SAP#120891/060624

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	07-19-15

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Solids

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-68323 Chain of Custody

Cooler Received/Opened On: 12/10/2014 @0830

1. Tracking # 9670 (last 4 digits, FedEx)

Courier: Fed-Ex IR Gun ID: 14740456

2. Temperature of rep. sample or temp blank when opened: 0.2 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 (intial) _____

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? 12.10.14 YES..(NO)..NA 5021

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 (intial) _____

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 (intial) _____

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 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES..(NO) Was a NCM generated? YES...(NO)...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 11/28/12

Loc: 490
68323

Shell Oil Products Chain Of Custody Record

LAB (LOCATION)
- ☐ CALSCIENCE (_____)
- ☐ SPL Houston (_____)
- ☐ XENCO (_____)
- ☑ TEST AMERICA (Nashville)
- ☐ OTHER (_____)

Please Check Appropriate Box:
- ☐ ENV. SERVICES
- ☐ MOTIVA RETAIL
- ☐ SHELL RETAIL
- ☐ MOTIVA SD&CM
- ☑ CONSULTANT
- ☐ LUBES
- ☐ SHELL PIPELINE
- ☐ OTHER _____

Print Bill To Contact Name: Tim Mullin

INCIDENT # (ENV.): 2317881 — CK IF NO INCIDENT # APPLIES

DATE: 12/9/14

PAGE: _____ of _____

PO #: 4040360581

SAP #: 120891

SAMPLING COMPANY: Conestoga-Rovers & Associates

LOG CODE: CRAW

SITE ADDRESS: Street and City: 21641 Maple Valley Hwy, Maple Valley, WA

State:

GLOBAL ID NO.:

ADDRESS: 20818 44th Ave West, Suite 190, Lynnwood, WA 98036

EDF DELIVERABLE TO (Name, Company, Office Location): Christine Diel, CRA

PHONE NO.: 425-563-6500

E-MAIL: cdiel@CRAworld.com

CONSULTANT PROJECT NO.: 060624

PROJECT CONTACT (Hardcopy or PDF Report to): Tim Mullin

TELEPHONE: 425-563-6500

FAX: 425-563-6599

E-MAIL: TMullin@Craworld.com

SAMPLER NAME(S) (Print): Stephen Rasmussen

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 :

Copy final report to Shell.Lab.Billing@craworld.com

See TA PM for WA Dept. of Ecology MTCA Method A cleanup levels for minimum detection limits

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☐ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	NWTPH-Gx	NWTPH-Dx w/Silica Gel Cleanup	BTEX (8260B)	5 Oxygenates, MTBE, TBA, DIPE, TAME, ETBE (8260B)	EDC (8260B)	EDB (8260B)-Soil	EDB (8011)-Water	PCBs (8082)	PAHs (8270C SIM)	VOCs Full list (8260B)	Total Lead (6020)	NWTPH-VPH	NWTPH-EPH	n-Hexane (8260B)	Naphthalene (8260B)	Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene (8270C)	TEMPERATURE ON RECEIPT C°	Container PID Readings or Laboratory Notes
	SO-060624-120814-MW-16-10	12/8/2014	1035	SO				X	X	7	X	X	X														0.2°	-1
	SO-060624-120814-MW-16-15	12/8	1050	SO				X	X	7	X	X	X															-2
	SO-060624-120814-MW-16-20	12/8	1100	SO				X	X	7	X	X	X															-3
	SO-060624-120814-MW-16-30	12/8	1130	SO				X	X	7	X	X	X															-4
	~~SO-060624-SD~~																											
	~~SO-060624-SD~~																											
	~~SO-060624-SD~~																											

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Stephen Rasmussen 12/9/14	FedEx	12-10-14	0830

11/17/14 Revision

Page 21 of 22

12/23/2014

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 490-68323-2
SDG Number: SAP#120891/060624

Login Number: 68323
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	

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

April 04, 2019

Brian Peters
GHD Services, Inc.
20818 44th Avenue W
Suite 190
Lynnwood, WA 98036

RE: Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

Dear Brian Peters:
Enclosed are the analytical results for sample(s) received by the laboratory on March 28, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Emily Blakeway, GHD
Jeffrey Cloud, GHD Services Inc.

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE SUMMARY

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10468574001	**GW-062308-5017-032519-LB-MW-14**	Water	03/25/19 13:27	03/28/19 08:45
10468574002	**GW-062308-5017-032519-LB-MW-16**	Water	03/25/19 14:07	03/28/19 08:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10468574001	**GW-062308-5017-032519-LB-MW-14**	NWTPH-Dx	ST1	4	PASI-M
		NWTPH-Gx	AJR	2	PASI-M
		EPA 8260B	MJD	7	PASI-M
10468574002	**GW-062308-5017-032519-LB-MW-16**	NWTPH-Dx	ST1	4	PASI-M
		NWTPH-Gx	AJR	2	PASI-M
		EPA 8260B	MJD	7	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

Method: **NWTPH-Dx**
Description: NWTPH-Dx GCS LV
Client: GHD Services Inc
Date: April 04, 2019

General Information:
2 samples were analyzed for NWTPH-Dx. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA Mod. 3510C with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: 596307

S0: Surrogate recovery outside laboratory control limits.

- BLANK (Lab ID: 3223873)
  - n-Triacontane (S)
  - o-Terphenyl (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

Method: **NWTPH-Dx**
Description: NWTPH-Dx GCS LV
Client: GHD Services Inc
Date: April 04, 2019

Analyte Comments:

QC Batch: 596307

P2: Re-extraction or re-analysis could not be performed due to insufficient sample amount.

- GW-062308-5017-032519-LB-MW-14 (Lab ID: 10468574001)
  - Diesel Fuel Range

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PROJECT NARRATIVE

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

Method: **NWTPH-Gx**
Description: NWTPH-Gx GCV
Client: GHD Services Inc
Date: April 04, 2019

General Information:
2 samples were analyzed for NWTPH-Gx. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

Method: **EPA 8260B**
Description: 8260B MSV UST
Client: GHD Services Inc
Date: April 04, 2019

General Information:
2 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

Sample: GW-062308-5017-032519-LB-MW-14 **Lab ID: 10468574001** Collected: 03/25/19 13:27 Received: 03/28/19 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C							
Diesel Fuel Range	**0.53**	mg/L	0.40	1	03/28/19 17:31	03/29/19 18:04	68334-30-5	P2
Motor Oil Range	ND	mg/L	0.40	1	03/28/19 17:31	03/29/19 18:04		
Surrogates								
o-Terphenyl (S)	90	%.	50-150	1	03/28/19 17:31	03/29/19 18:04	84-15-1	
n-Triacontane (S)	97	%.	50-150	1	03/28/19 17:31	03/29/19 18:04	638-68-6	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
TPH as Gas	**1910**	ug/L	200	2		04/03/19 20:15		G+,G-
Surrogates								
a,a,a-Trifluorotoluene (S)	91	%.	50-150	2		04/03/19 20:15	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	1		03/31/19 03:13	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		03/31/19 03:13	100-41-4	
Toluene	ND	ug/L	1.0	1		03/31/19 03:13	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		03/31/19 03:13	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	111	%.	75-125	1		03/31/19 03:13	17060-07-0	
Toluene-d8 (S)	104	%.	75-125	1		03/31/19 03:13	2037-26-5	
4-Bromofluorobenzene (S)	105	%.	75-125	1		03/31/19 03:13	460-00-4	

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ANALYTICAL RESULTS

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

Sample: GW-062308-5017-032519-LB-MW-16 **Lab ID: 10468574002** Collected: 03/25/19 14:07 Received: 03/28/19 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C							
Diesel Fuel Range	ND	mg/L	0.40	1	03/29/19 18:13	03/30/19 18:31	68334-30-5	
Motor Oil Range	ND	mg/L	0.40	1	03/29/19 18:13	03/30/19 18:31		
Surrogates								
o-Terphenyl (S)	76	%.	50-150	1	03/29/19 18:13	03/30/19 18:31	84-15-1	
n-Triacontane (S)	73	%.	50-150	1	03/29/19 18:13	03/30/19 18:31	638-68-6	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
TPH as Gas	**224**	ug/L	100	1		04/03/19 12:42		
Surrogates								
a,a,a-Trifluorotoluene (S)	80	%.	50-150	1		04/03/19 12:42	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	1		03/31/19 03:37	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		03/31/19 03:37	100-41-4	
Toluene	ND	ug/L	1.0	1		03/31/19 03:37	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		03/31/19 03:37	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	111	%.	75-125	1		03/31/19 03:37	17060-07-0	
Toluene-d8 (S)	106	%.	75-125	1		03/31/19 03:37	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	75-125	1		03/31/19 03:37	460-00-4	

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QUALITY CONTROL DATA

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

QC Batch: 597358 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Water
Associated Lab Samples: 10468574001, 10468574002

METHOD BLANK: 3230148 Matrix: Water
Associated Lab Samples: 10468574001, 10468574002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	04/03/19 12:08	
a,a,a-Trifluorotoluene (S)	%.	85	50-150	04/03/19 12:08	

METHOD BLANK: 3230149 Matrix: Water
Associated Lab Samples: 10468574001, 10468574002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	04/03/19 12:25	
a,a,a-Trifluorotoluene (S)	%.	79	50-150	04/03/19 12:25	

LABORATORY CONTROL SAMPLE & LCSD: 3230150 3230151

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	972	967	97	97	75-125	0	20	
a,a,a-Trifluorotoluene (S)	%.				88	90	50-150			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3230240 3230241

Parameter	Units	10468574002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH as Gas	ug/L	224	1000	1000	1270	1310	105	109	75-125	3	30	
a,a,a-Trifluorotoluene (S)	%.						90	93	50-150			

SAMPLE DUPLICATE: 3230295

Parameter	Units	10468591017 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	ND	56.4J		30	
a,a,a-Trifluorotoluene (S)	%.	76	76			

SAMPLE DUPLICATE: 3230296

Parameter	Units	10468591018 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(612)607-1700

QUALITY CONTROL DATA

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

SAMPLE DUPLICATE: 3230296

Parameter	Units	10468591018 Result	Dup Result	RPD	Max RPD	Qualifiers
a,a,a-Trifluorotoluene (S)	%.	77	77			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

QC Batch: 596680 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV UST-WATER
Associated Lab Samples: 10468574001, 10468574002

METHOD BLANK: 3226669 Matrix: Water
Associated Lab Samples: 10468574001, 10468574002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/31/19 02:01	
Ethylbenzene	ug/L	ND	1.0	03/31/19 02:01	
Toluene	ug/L	ND	1.0	03/31/19 02:01	
Xylene (Total)	ug/L	ND	3.0	03/31/19 02:01	
1,2-Dichloroethane-d4 (S)	%.	111	75-125	03/31/19 02:01	
4-Bromofluorobenzene (S)	%.	106	75-125	03/31/19 02:01	
Toluene-d8 (S)	%.	106	75-125	03/31/19 02:01	

LABORATORY CONTROL SAMPLE: 3226670

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	22.5	113	75-125	
Ethylbenzene	ug/L	20	22.8	114	75-125	
Toluene	ug/L	20	21.0	105	75-125	
Xylene (Total)	ug/L	60	73.9	123	75-125	LS
1,2-Dichloroethane-d4 (S)	%.			111	75-125	
4-Bromofluorobenzene (S)	%.			104	75-125	
Toluene-d8 (S)	%.			104	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3226671 3226672

Parameter	Units	10468574001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	20	20	21.7	21.5	109	108	30-150	1	30	
Ethylbenzene	ug/L	ND	20	20	21.9	23.6	109	118	30-150	8	30	
Toluene	ug/L	ND	20	20	20.2	20.7	100	102	30-150	2	30	
Xylene (Total)	ug/L	ND	60	60	72.5	78.1	121	130	30-150	8	30	
1,2-Dichloroethane-d4 (S)	%.						109	110	75-125			
4-Bromofluorobenzene (S)	%.						105	107	75-125			
Toluene-d8 (S)	%.						103	103	75-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

QC Batch: 596307 Analysis Method: NWTPH-Dx
QC Batch Method: EPA Mod. 3510C Analysis Description: NWTPH-Dx GCS LV
Associated Lab Samples: 10468574001

METHOD BLANK: 3223873 Matrix: Water
Associated Lab Samples: 10468574001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	mg/L	ND	0.40	03/29/19 15:15	
Motor Oil Range	mg/L	ND	0.40	03/29/19 15:15	
n-Triacontane (S)	%.	14	50-150	03/29/19 15:15	S0
o-Terphenyl (S)	%.	17	50-150	03/29/19 15:15	S0

LABORATORY CONTROL SAMPLE & LCSD: 3223874 3223875

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	2	1.9	1.9	96	93	50-150	3	20	
Motor Oil Range	mg/L	2	2.0	1.9	100	96	50-150	4	20	
n-Triacontane (S)	%.				98	85	50-150			
o-Terphenyl (S)	%.				90	84	50-150			

SAMPLE DUPLICATE: 3223876

Parameter	Units	10468468001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	300J ug/L	.25J		30	
Motor Oil Range	mg/L	<178 ug/L	ND		30	
n-Triacontane (S)	%.	83	82			
o-Terphenyl (S)	%.	89	80			

SAMPLE DUPLICATE: 3224018

Parameter	Units	10468574001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	0.53	0.50	6	30	
Motor Oil Range	mg/L	ND	ND		30	
n-Triacontane (S)	%.	97	91			
o-Terphenyl (S)	%.	90	88			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

QC Batch: 596549 Analysis Method: NWTPH-Dx
QC Batch Method: EPA Mod. 3510C Analysis Description: NWTPH-Dx GCS LV
Associated Lab Samples: 10468574002

METHOD BLANK: 3225281 Matrix: Water
Associated Lab Samples: 10468574002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	mg/L	ND	0.40	03/30/19 14:07	
Motor Oil Range	mg/L	ND	0.40	03/30/19 14:07	
n-Triacontane (S)	%.	105	50-150	03/30/19 14:07	
o-Terphenyl (S)	%.	94	50-150	03/30/19 14:07	

LABORATORY CONTROL SAMPLE & LCSD: 3225282 3225283

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	2	1.9	1.8	93	92	50-150	1	20	
Motor Oil Range	mg/L	2	1.9	1.9	94	97	50-150	3	20	
n-Triacontane (S)	%.				102	102	50-150			
o-Terphenyl (S)	%.				88	87	50-150			

SAMPLE DUPLICATE: 3225284

Parameter	Units	10468591003 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	0.17	0.14	18	30	
Motor Oil Range	mg/L	0.11	.1J		30	
n-Triacontane (S)	%.	98	92			
o-Terphenyl (S)	%.	94	89			

SAMPLE DUPLICATE: 3225905

Parameter	Units	10468755001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	3.4	3.7	6	30	
Motor Oil Range	mg/L	0.93	0.98	6	30	
n-Triacontane (S)	%.	86	88			
o-Terphenyl (S)	%.	90	91			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

WORKORDER QUALIFIERS

WO: 10468574

[1]	Samples in this workorder were received in the laboratory without an associated trip blank.

ANALYTE QUALIFIERS

G+	Late peaks present outside the GRO window.
G-	Early peaks present outside the GRO window.
LS	Analyte recovery in the laboratory control sample (LCS) was outside QC limits for one or more of the constituent analytes used in the calculated result.
P2	Re-extraction or re-analysis could not be performed due to insufficient sample amount.
S0	Surrogate recovery outside laboratory control limits.

Pace Analytical Services, LLC
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Minneapolis, MN 55414
(612)607-1700

METHOD CROSS REFERENCE TABLE

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV UST	Water	SW-846 8260B/5030B	N/A

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10468574

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10468574001	**GW-062308-5017-032519-LB-MW-14**	EPA Mod. 3510C	596307	NWTPH-Dx	596627
10468574002	**GW-062308-5017-032519-LB-MW-16**	EPA Mod. 3510C	596549	NWTPH-Dx	596673
10468574001	**GW-062308-5017-032519-LB-MW-14**	NWTPH-Gx	597358		
10468574002	**GW-062308-5017-032519-LB-MW-16**	NWTPH-Gx	597358		
10468574001	**GW-062308-5017-032519-LB-MW-14**	EPA 8260B	596680		
10468574002	**GW-062308-5017-032519-LB-MW-16**	EPA 8260B	596680		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	GHD	Report To:	brian.peters@ghd.com	Attention:	Accounts Payable
Address:	20818 44th Ave W, Suite 190	Copy To:	emily.blakeway@ghd.com	Company Name:	GHD
	Lynnwood, Wa 98036	Copy To:	jeffrey.cloud@ghd.com	Address:	20818 44th Ave W, Suite 190, 98036
Email To:	Brian Peters	Purchase Order No.		Pace Quote Reference:	
Phone:	Fax:	Client Project ID:	JFS 5017-21641 Maple Valley Hwy	Pace Project Manager:	Jenni Gross
Requested Due Date/TAT:	***Standard***	Container Order Number:		Pace Profile #:	***35119 / 1***

Regulatory Agency	
State / Location	WA / Maple Valley

WO# : 10468574

10468574

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	NWTPHGx	NWTPHDx	8260 BTEX	Residual Chlorine (Y/N)	
Requested Analysis Filtered (Y/N)																								
1	GW-062308-5017-032518-LB-MW-14	WT	G	3/25/19	1327				8				X						X	X	X			004
2	GW-062308-5017-032519-LB-MW-16	W	G	3/25/19	1407				8				X						X	X	Y			002
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
		3/27/19	1600	SHIPPED VIA FEDEX						
					3/28/19	845	2.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	LEE BORES
SIGNATURE of SAMPLER:	DATE Signed: 3/25/19

Pace Analytical	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 06Feb2019 Page 1 of 1
	Document No.: **F-MN-L-213-rev.25**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt **Client Name:** GHD **Project #:** **WO#: 10468574**

PM: JMG **Due Date: 04/04/19** **CLIENT: GHD_WA**

Courier: ☒Fed Ex ☐UPS ☐USPS ☐Client ☐Pace ☐SpeeDee ☐Commercial **See Exception** ☐

Tracking Number: 7475 9396 6669

Custody Seal on Cooler/Box Present? ☒Yes ☐No **Seals Intact?** ☒Yes ☐No **Biological Tissue Frozen?** ☐Yes ☐No ☒N/A

Packing Material: ☒Bubble Wrap ☒Bubble Bags ☐None ☐Other:_____ **Temp Blank?** ☐Yes ☒No

Thermometer: ☐G87A9155100842 ☒G87A9170600254 **Type of Ice:** ☒Wet ☐Blue ☐None ☐Dry ☐Melted

Note: Each West Virginia Sample must have temp taken (no temp blanks)

Temp should be above freezing to 6°C	**Cooler Temp Read w/temp blank:** _____ °C	**Average Corrected Temp (no temp blank only):** 2.2 °C **See Exceptions** ☒
Correction Factor: _____	**Cooler Temp Corrected w/temp blank:** _____ °C	

USDA Regulated Soil: (☒N/A, water sample/Other:_____) **Date/Initials of Person Examining Contents:** EV 3/28/19

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐Yes ☐No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐Yes ☐No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present and Filled Out?	☒Yes	☐No		1.
Chain of Custody Relinquished?	☒Yes	☐No		2.
Sampler Name and/or Signature on COC?	☒Yes	☐No	☐N/A	3.
Samples Arrived within Hold Time?	☒Yes	☐No		4.
Short Hold Time Analysis (<72 hr)?	☐Yes	☒No		5. ☐Fecal Coliform ☐HPC ☐Total Coliform/E coli ☐BOD/cBOD ☐Hex Chrome ☐Turbidity ☐Nitrate ☐Nitrite ☐Orthophos ☐Other_____
Rush Turn Around Time Requested?	☐Yes	☒No		6.
Sufficient Volume?	☒Yes	☐No		7.
Correct Containers Used?	☒Yes	☐No		8.
-Pace Containers Used?	☒Yes	☐No		
Containers Intact?	☒Yes	☐No		9.
Field Filtered Volume Received for Dissolved Tests?	☐Yes	☐No	☒N/A	10. Is sediment visible in the dissolved container? ☐Yes ☐No
Is sufficient information available to reconcile the samples to the COC?	☒Yes	☐No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐
Matrix: ☒Water ☐Soil ☐Oil ☐Other_____				
All containers needing acid/base preservation have been checked?	☐Yes	☐No	☒N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐Yes	☐No	☒N/A	☐NaOH ☐HNO_3 ☐H_2SO_4 ☐Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☒Yes (EV 3/28/19)	☐No	☐N/A	Positive for Res. ☐Yes Chlorine? ☐No **See Exception** ☐
Headspace in VOA Vials (greater than 6mm)?	☐Yes	☒No	☐N/A	13. **See Exception** ☐
Trip Blank Present?	☐Yes	☒No	☐N/A	14.
Trip Blank Custody Seals Present?	☐Yes	☐No	☒N/A	Pace Trip Blank Lot # (if purchased): NA

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐Yes ☐No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ Jenni Gross _____ **Date:** 03/28/19

Note: Whenever there is a discrepancy affecting North Carolina samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: EV

During sample triage, this form is to be placed in each cooler that arrives above 6.0 degrees Celsius

SCUR Exceptions: **Workorder #:** 10468574

Out of Temp Sample IDs	Container Type	# of Containers	PM Notified? ☐Yes ☐No
			If yes, indicate who was contacted/date/time. If no, indicate reason why.
			Multiple Cooler Project? ☐Yes ☐No If you answered yes, fill out information to the left.

No Temp Blank		
Read Temp	Corrected Temp	Average Temp
0.2	0.2	2.2
4.7	4.7	
3.3	3.3	
0.5	0.5	

Other Issues

Issue Type: Sample ID	Container Type	# of Containers	Tracking Number	

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

June 18, 2019

Brian Peters
GHD Services, Inc.
20818 44th Avenue W
Suite 190
Lynnwood, WA 98036

RE: Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

Dear Brian Peters:
Enclosed are the analytical results for sample(s) received by the laboratory on June 11, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Emily Blakeway, GHD
Jeffrey Cloud, GHD Services Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10478684001	**GW-062308-5017-060719-MW-14**	Water	06/07/19 11:56	06/11/19 15:00
10478684002	**GW-062308-5017-060719-MW-16**	Water	06/07/19 12:37	06/11/19 15:00

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10478684001	**GW-062308-5017-060719-MW-14**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	AJR	2	PASI-M
		EPA 8260B	ML4	7	PASI-M
10478684002	**GW-062308-5017-060719-MW-16**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	AJR	2	PASI-M
		EPA 8260B	ML4	7	PASI-M

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

PROJECT NARRATIVE

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

Method: **NWTPH-Dx**
Description: NWTPH-Dx GCS LV
Client: GHD Services Inc
Date: June 18, 2019

General Information:
2 samples were analyzed for NWTPH-Dx. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA Mod. 3510C with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 612361

R1: RPD value was outside control limits.

- LCSD (Lab ID: 3308688)
  - Diesel Fuel Range
  - Motor Oil Range

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

PROJECT NARRATIVE

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

Method: **NWTPH-Gx**
Description: NWTPH-Gx GCV
Client: GHD Services Inc
Date: June 18, 2019

General Information:
2 samples were analyzed for NWTPH-Gx. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

PROJECT NARRATIVE

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

Method: **EPA 8260B**
Description: 8260B MSV UST
Client: GHD Services Inc
Date: June 18, 2019

General Information:
2 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

Sample: GW-062308-5017-060719-MW-14 **Lab ID: 10478684001** Collected: 06/07/19 11:56 Received: 06/11/19 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C							
Diesel Fuel Range	ND	ug/L	400	1	06/12/19 13:18	06/14/19 10:10	68334-30-5	
Motor Oil Range	ND	ug/L	400	1	06/12/19 13:18	06/14/19 10:10		
Surrogates								
o-Terphenyl (S)	82	%.	50-150	1	06/12/19 13:18	06/14/19 10:10	84-15-1	
n-Triacontane (S)	83	%.	50-150	1	06/12/19 13:18	06/14/19 10:10	638-68-6	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
TPH as Gas	**1790**	ug/L	200	2		06/14/19 00:44		G+,G-
Surrogates								
a,a,a-Trifluorotoluene (S)	101	%.	50-150	2		06/14/19 00:44	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	1		06/13/19 20:54	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/13/19 20:54	100-41-4	
Toluene	ND	ug/L	1.0	1		06/13/19 20:54	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/13/19 20:54	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%.	75-125	1		06/13/19 20:54	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1		06/13/19 20:54	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125	1		06/13/19 20:54	460-00-4	

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ANALYTICAL RESULTS

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

Sample: GW-062308-5017-060719-MW-16 **Lab ID: 10478684002** Collected: 06/07/19 12:37 Received: 06/11/19 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C							
Diesel Fuel Range	ND	ug/L	400	1	06/12/19 13:18	06/14/19 10:33	68334-30-5	
Motor Oil Range	ND	ug/L	400	1	06/12/19 13:18	06/14/19 10:33		
Surrogates								
o-Terphenyl (S)	87	%.	50-150	1	06/12/19 13:18	06/14/19 10:33	84-15-1	
n-Triacontane (S)	85	%.	50-150	1	06/12/19 13:18	06/14/19 10:33	638-68-6	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
TPH as Gas	ND	ug/L	100	1		06/13/19 20:31		
Surrogates								
a,a,a-Trifluorotoluene (S)	96	%.	50-150	1		06/13/19 20:31	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	1		06/13/19 21:10	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/13/19 21:10	100-41-4	
Toluene	ND	ug/L	1.0	1		06/13/19 21:10	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/13/19 21:10	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%.	75-125	1		06/13/19 21:10	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1		06/13/19 21:10	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125	1		06/13/19 21:10	460-00-4	

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QUALITY CONTROL DATA

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

QC Batch: 612820 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Water
Associated Lab Samples: 10478684001, 10478684002

METHOD BLANK: 3311177 Matrix: Water
Associated Lab Samples: 10478684001, 10478684002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	06/13/19 19:58	
a,a,a-Trifluorotoluene (S)	%.	95	50-150	06/13/19 19:58	

METHOD BLANK: 3311178 Matrix: Water
Associated Lab Samples: 10478684001, 10478684002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	06/13/19 20:15	
a,a,a-Trifluorotoluene (S)	%.	98	50-150	06/13/19 20:15	

LABORATORY CONTROL SAMPLE & LCSD: 3311179 3311180

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	1040	1020	104	102	75-125	2	20	
a,a,a-Trifluorotoluene (S)	%.				110	104	50-150			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3314127 3314128

Parameter	Units	10478684002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH as Gas	ug/L	ND	1000	1000	1040	1090	104	109	75-125	5	30	
a,a,a-Trifluorotoluene (S)	%.						103	105	50-150			

SAMPLE DUPLICATE: 3314126

Parameter	Units	10478576006 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	<38.3	ND		30	
a,a,a-Trifluorotoluene (S)	%.	88	98			

SAMPLE DUPLICATE: 3314129

Parameter	Units	10477997001 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	<38.3	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

SAMPLE DUPLICATE: 3314129

Parameter	Units	10477997001 Result	Dup Result	RPD	Max RPD	Qualifiers
a,a,a-Trifluorotoluene (S)	%.	90	93			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

QC Batch: 612818 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV UST-WATER
Associated Lab Samples: 10478684001, 10478684002

METHOD BLANK: 3311164 Matrix: Water
Associated Lab Samples: 10478684001, 10478684002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/13/19 18:57	
Ethylbenzene	ug/L	ND	1.0	06/13/19 18:57	
Toluene	ug/L	ND	1.0	06/13/19 18:57	
Xylene (Total)	ug/L	ND	3.0	06/13/19 18:57	
1,2-Dichloroethane-d4 (S)	%.	106	75-125	06/13/19 18:57	
4-Bromofluorobenzene (S)	%.	100	75-125	06/13/19 18:57	
Toluene-d8 (S)	%.	99	75-125	06/13/19 18:57	

LABORATORY CONTROL SAMPLE: 3311165

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	22.4	112	75-125	
Ethylbenzene	ug/L	20	20.8	104	75-125	
Toluene	ug/L	20	21.4	107	75-125	
Xylene (Total)	ug/L	60	61.8	103	75-125	
1,2-Dichloroethane-d4 (S)	%.			108	75-125	
4-Bromofluorobenzene (S)	%.			100	75-125	
Toluene-d8 (S)	%.			101	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3311166 3311167

Parameter	Units	10478660001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.10	20	20	28.1	21.6	141	108	30-150	26	30	
Ethylbenzene	ug/L	<0.14	20	20	26.1	20.4	131	102	30-150	24	30	
Toluene	ug/L	<0.083	20	20	26.7	20.6	133	103	30-150	26	30	
Xylene (Total)	ug/L	<0.31	60	60	76.6	60.6	128	101	30-150	23	30	
1,2-Dichloroethane-d4 (S)	%.						108	106	75-125			
4-Bromofluorobenzene (S)	%.						103	102	75-125			
Toluene-d8 (S)	%.						101	100	75-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

QC Batch: 612361 Analysis Method: NWTPH-Dx
QC Batch Method: EPA Mod. 3510C Analysis Description: NWTPH-Dx GCS LV
Associated Lab Samples: 10478684001, 10478684002

METHOD BLANK: 3308686 Matrix: Water
Associated Lab Samples: 10478684001, 10478684002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	ug/L	ND	400	06/14/19 09:36	
Motor Oil Range	ug/L	ND	400	06/14/19 09:36	
n-Triacontane (S)	%.	81	50-150	06/14/19 09:36	
o-Terphenyl (S)	%.	83	50-150	06/14/19 09:36	

LABORATORY CONTROL SAMPLE & LCSD: 3308687 3308688

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Fuel Range	ug/L	2000	1160	1960	58	98	50-150	51	20	R1
Motor Oil Range	ug/L	2000	1150	1930	57	96	50-150	51	20	R1
n-Triacontane (S)	%.				59	95	50-150			
o-Terphenyl (S)	%.				57	93	50-150			

SAMPLE DUPLICATE: 3308689

Parameter	Units	10478684001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	ug/L	ND	257J		30	
Motor Oil Range	ug/L	ND	ND		30	
n-Triacontane (S)	%.	83	81			
o-Terphenyl (S)	%.	82	81			

SAMPLE DUPLICATE: 3308690

Parameter	Units	10478685010 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	ug/L	4580	3800	19	30	
Motor Oil Range	ug/L	ND	210J		30	
n-Triacontane (S)	%.	86	74			
o-Terphenyl (S)	%.	88	77			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

WORKORDER QUALIFIERS

WO: 10478684

[1]	Samples in this workorder were received in the laboratory without an associated trip blank.

ANALYTE QUALIFIERS

G+	Late peaks present outside the GRO window.
G-	Early peaks present outside the GRO window.
R1	RPD value was outside control limits.

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METHOD CROSS REFERENCE TABLE

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV UST	Water	SW-846 8260B/5030B	N/A

Pace Analytical Services, LLC
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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JFS 5017-21641 Maple Valley Hw
Pace Project No.: 10478684

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10478684001	**GW-062308-5017-060719-MW-14**	EPA Mod. 3510C	612361	NWTPH-Dx	612936
10478684002	**GW-062308-5017-060719-MW-16**	EPA Mod. 3510C	612361	NWTPH-Dx	612936
10478684001	**GW-062308-5017-060719-MW-14**	NWTPH-Gx	612820		
10478684002	**GW-062308-5017-060719-MW-16**	NWTPH-Gx	612820		
10478684001	**GW-062308-5017-060719-MW-14**	EPA 8260B	612818		
10478684002	**GW-062308-5017-060719-MW-16**	EPA 8260B	612818		

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A — Required Client Information:

Company:	GHD
Address:	20818 44th Ave W, Suite 190
	Lynnwood, Wa 98036
Email To:	Brian Peters
Phone:	Fax:
Requested Due Date/TAT:	*Standard*

Section B — Required Project Information:

Report To:	brian.peters@ghd.com
Copy To:	emily.blakeway@ghd.com
Copy To:	jeffrey.cloud@ghd.com
Purchase Order No.	
Client Project ID:	JFS 5017-21641 Maple Valley Hwy
Container Order Number:	

Section C — Invoice Information:

Attention:	Jeffrey Cloud
Company Name:	GHD Services, Inc. -340
Address:	Apinvoices-340@ghd.com
Pace Quote Reference:	
Pace Project Manager:	Jenni Gross
Pace Profile #:	*35119 / 1*

Regulatory Agency:

State / Location: WA / Maple Valley

WO# : 10478684

10478684

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N)	Analyses Test: NWTPHGx	NWTPHDx	8260 BTEX	Residual Chlorine (Y/N)	
1	GW-062308-5017-060719-MW-14	WT	G	6/7/19	1156				8				X						X	X	X		
2	GW-062308-5017-060719-MW-16	WT	G	↓	1237				8				X						X	X	X		
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
060624-SH-2164Maple		6/10/19	[illegible]		C-C	1421				
		6-10 ~~15:00~~		Mike K Pace	G-H-A	15:00	0.9	Y	N	Y
		MK2								
		6-11-19								

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: L. BURES

SIGNATURE of SAMPLER:

DATE Signed: 6/7/19

Pace Analytical	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 09May2019 Page 1 of 1
	Document No.: **F-MN-L-213-rev.28**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: GHD

Project #: WO#: 10478684

PM: JMG **Due Date:** 06/24/19

CLIENT: GHD_WA

Courier: ☐Fed Ex ☐UPS ☐USPS ☒Client ☐Pace ☐SpeeDee ☐Commercial **See Exception** ☐

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☐Yes ☒No **Seals Intact?** ☐Yes ☒No **Biological Tissue Frozen?** ☐Yes ☐No ☒N/A

Packing Material: ☐Bubble Wrap ☒Bubble Bags ☐None ☐Other:_____ **Temp Blank?** ☒Yes ☐No

Thermometer: ☐T1(0461) ☐T2(1336) ☒T3(0459) ☐T4(0254) ☐T5(0489) **Type of Ice:** ☒Wet ☐Blue ☐None ☐Dry ☐Melted

Note: Each West Virginia Sample must have temp taken (no temp blanks)

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 0.8 °C

Correction Factor: +0.1 **Cooler Temp Corrected w/temp blank:** 0.9 °C

Average Corrected Temp (no temp blank only): _____ °C **See Exceptions** ☐

USDA Regulated Soil: (☒N/A, water sample/Other:_____)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐Yes ☐No

Date/Initials of Person Examining Contents: MKZ 6-11-19

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐Yes ☐No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present and Filled Out?	☒Yes	☐No		1.
Chain of Custody Relinquished?	☒Yes	☐No		2.
Sampler Name and/or Signature on COC?	☒Yes	☐No	☐N/A	3.
Samples Arrived within Hold Time?	☒Yes	☐No		4.
Short Hold Time Analysis (<72 hr)?	☐Yes	☒No		5. ☐Fecal Coliform ☐HPC ☐Total Coliform/E coli ☐BOD/cBOD ☐Hex Chrome ☐Turbidity ☐Nitrate ☐Nitrite ☐Orthophos ☐Other_____
Rush Turn Around Time Requested?	☐Yes	☒No		6.
Sufficient Volume?	☒Yes	☐No		7.
Correct Containers Used? -Pace Containers Used?	☒Yes ☒Yes	☐No ☐No		8.
Containers Intact?	☒Yes	☐No		9.
Field Filtered Volume Received for Dissolved Tests?	☐Yes	☐No	☒N/A	10. Is sediment visible in the dissolved container? ☐Yes ☐No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☒Water ☐Soil ☐Oil ☐Other_____	☒Yes	☐No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐
All containers needing acid/base preservation have been checked?	☐Yes	☐No	☒N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐Yes	☐No	☒N/A	☐NaOH ☐HNO_3 ☐H_2SO_4 ☐Zinc Acetate
Exceptions: VOA Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☒Yes	☐No	☐N/A	Positive for Res. Chlorine? ☐Yes ☐No **pH Paper Lot#** **See Exception** ☐
				Res. Chlorine: 0-6 Roll: 0-6 Strip: 0-14 Strip:
Headspace in VOA Vials (greater than 6mm)?	☐Yes	☒No	☐N/A	13. MKZ 6-11-19 **See Exception** ☐
Trip Blank Present?	☐Yes	☒No	☐N/A	14.
Trip Blank Custody Seals Present?	☐Yes	☐No	☒N/A	Pace Trip Blank Lot # (if purchased):_____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐Yes ☐No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ Jenni Gross _____ **Date:** 06/11/19

Note: Whenever there is a discrepancy affecting North Ca samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: MKZ

Appendix F
Field Data Sheets

WELL GAUGING DATA

Project # 190325-LB2 Date 3/25/19 Client GHD

Site JFS MAPLE VALLEY - 21641 MAPLE VALLEY HWY

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-14	1300	2					14.87	19.96		
MW-16	1254	2					15.68	25.23		

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190325-LBJ	Client: GHD
Sampler: LB	Gauging Date: 3/25/19
Well I.D.: MW-14	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 19.96	Depth to Water (ft.): 14.87
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: YSI-556 PRO PLUS

Purge Method: 2" Grundfos Pump | Peristaltic Pump | Bladder Pump
Sampling Method: Dedicated Tubing | New Tubing | Other ____

Start Purge Time: 1308 Flow Rate: 200 mL/MIN Pump Depth: 18'

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.)
1311	10.4	7.05	92.1	193	1.69	51.9	600	14.94
1314	9.9	6.95	87.4	156	1.62	52.7	1200	14.94
1317	10.2	6.94	86.8	128	1.54	48.3	1800	14.94
1320	10.1	7.06	86.3	76	1.44	36.1	2400	14.94
1323	10.0	7.08	86.7	76	1.43	35.3	3000	14.94
1326	10.0	7.09	87.1	75	1.41	34.5	3600	14.94

Did well dewater? Yes (No) Amount actually evacuated: 3.6L

Sampling Time: 1327 Sampling Date: 3/25/19

Sample I.D.: GW-032519-LB-MW-14 Laboratory: PACE

Analyzed for: (TPH-G) (BTEX) MTBE (TPH-D) Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190325-LB2	Client: GHD
Sampler: LB	Gauging Date: 3/25/19
Well I.D.: MW-16	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 25.23	Depth to Water (ft.): 15.68
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump | Peristaltic Pump | Bladder Pump
Sampling Method: Dedicated Tubing | New Tubing | Other ____

Start Purge Time: 1351 Flow Rate: 200 mL/MIN Pump Depth: 20'

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.)
1354	10.8	6.89	87.6	33	1.79	83.7	600	15.71
1357	10.9	6.84	87.9	17	1.54	82.8	1200	15.71
1400	10.9	6.88	90.4	19	1.49	81.7	1800	15.71
1403	10.9	6.86	90.5	19	1.46	80.3	2400	15.71
1406	10.9	6.96	90.6	20	1.45	79.8	3000	15.71

Did well dewater? Yes (No) Amount actually evacuated: 3L

Sampling Time: 1407 Sampling Date: 3/25/19

Sample I.D.: GW-062308-5017-032519-LB-MW-16 Laboratory: PACE

Analyzed for: (TPH-G) (BTEX) MTBE (TPH-D) Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

WELL GAUGING DATA

Project # 190607-LBI Date 6/7/19 Client GHD

Site 21641 MAPLE VALLEY HWY, MAPLE VALLEY, 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-14	1130	2					15.37	19.93		
MW-16	1118	2					15.91	25.24	↓	

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190607-LB1	Client: GHD
Sampler: LB	Gauging Date: 6/7/19
Well I.D.: MW-14	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 19.93	Depth to Water (ft.): 15.37
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump | (Peristaltic Pump) | Bladder Pump
Sampling Method: (Dedicated Tubing) | New Tubing | Other ____

Start Purge Time: 1137 Flow Rate: 200 mL/min Pump Depth: 18'

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.)
1140	12.7	6.89	206	63	1.31	110.6	600	15.43
1143	12.8	6.59	211	36	1.26	116.3	1200	15.43
1146	12.5	6.44	206	16	1.22	108.0	1800	15.43
1149	12.5	6.41	204	4	1.23	112.6	2400	15.43
1152	12.6	6.42	203	5	1.21	111.4	3000	15.43
1155	12.6	6.43	201	5	1.20	110.8	3600	15.43

Did well dewater? Yes (No) Amount actually evacuated: 3.6L

Sampling Time: 1156 Sampling Date: 6/7/19

Sample I.D.: GW-062308-5017-060719-MW-14 Laboratory: PACE

Analyzed for: (TPH-G) (BTEX) MTBE (TPH-D) Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190607-LB1	Client: GHD
Sampler: LB	Gauging Date: 6/7/19
Well I.D.: MW-16	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 25.24	Depth to Water (ft.): 15.91
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

Purge Method: 2" Grundfos Pump (Peristaltic) Pump Bladder Pump
Sampling Method: Dedicated (Tubing) New Tubing Other____

Start Purge Time: 1221 Flow Rate: 200 mL/MIN Pump Depth: 21'

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.)
1224	11.2	6.42	164	4	1.14	45.0	600	15.98
1227	11.1	6.48	164	3	1.21	37.0	1200	15.98
1230	11.1	6.52	165	2	1.20	36.7	1800	15.98
1233	11.1	6.53	165	2	1.19	35.4	2400	15.98
1236	11.1	6.55	166	2	1.18	34.7	3000	15.98

Did well dewater? Yes (No) Amount actually evacuated: 3L

Sampling Time: 1237 Sampling Date: 6/7/19

Sample I.D.: GW-062308-5017-060719-MW-16 Laboratory: PACE

Analyzed for: (TPH-G) (BTEX) MTBE (TPH-D) Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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