City of Poulsbo

December 2, 2016

Mr. Richard Bazzell
Kitsap Public Health District
Hazardous Waste Division
345 6th Street, Suite 300
Bremerton, WA 98337

Subject: Independent Remedial Action Report and Request for No Further Action Determination; Former City Hall Property, Poulsbo, WA

Dear Mr. Bazzell:

The City of Poulsbo has recently completed the demolition of our former City Hall building on Jensen Way in downtown Poulsbo. During this work, a 940-gallon underground heating oil storage tank was found to have leaked diesel fuel to soil at the property. The City responded by notifying the Department of Ecology, coordinating with your agency, and implementing remedial investigations and independent remedial actions to remove contaminated soil. This work was completed in October 2016.

The City has prepared the enclosed Independent Remedial Action Report documenting the nature and extent of the release and the actions and confirmation samples that confirm the successful removal of diesel contaminated soil from the property. In addition to the Independent Remedial Action Report, the enclosed document contains a UST Site Assessment Report (as required under MTCA 173-360).

REQUEST FOR A NO FURTHER ACTION DETERMINATION

Based on the findings of the Independent Remedial Action Report, the City has successfully remediated diesel contamination from soil at the property. Field investigations also confirm that groundwater was not impacted by the leaking tank. Based on these conditions, the City requests the Health District review the enclosed documentation and recommend to the Department of Ecology that no further remedial action is needed at the former City Hall property.

As prescribed in the Department of Ecology Guidelines for Property Cleanups under the Voluntary Cleanup Program, the City will be submitting a request to enter the Voluntary Cleanup Program and will stand by for a site manager assignment. In the meantime, the City

requests that the Health District provide a copy of your recommendation to the Department of Ecology for disposition of this site.

If you have any questions, please contact the City's project manager, Mr. Peter Battuello at pbattuello@cityofpoulsbo.com or call the City at 360.779.4078

Sincerely,

Andre Kasiniak, P.E.
Director of Engineering

cc: Mayor Becky Erickson
Diane Lenius

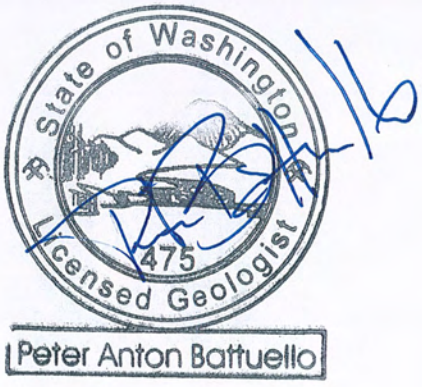
INDEPENDENT REMEDIAL ACTION REPORT and
UST SITE ASSESSMENT REPORT
FORMER CITY HALL
UNDERGROUND HEATING OIL STORAGE TANK
19050 JENSEN WAY
POULSBO, WA

Submitted to:

Kitsap County Public Health
Hazardous Waste Division
345 6th Street, Suite 300
Bremerton, WA 98337

Prepared By:

Peter Battuello, LG, LHG
City of Poulsbo
200 Moe Street
Poulsbo, WA 98370



December 2, 2016

1.0 OVERVIEW

Beginning in July 2016, the City of Poulsbo began the demolition and removal of the former City Hall Building at 19050 Jensen Way in downtown Poulsbo, Washington (Figure 1). The building was constructed in c. 1939 (See photograph 1) and went through several expansions and renovations until 2010 when the City opened its new City Hall.

The former City Hall building was entirely razed between July 18, and August 12, 2016. During the demolition, two underground heating oil storage tanks were decommissioned. One tank was found to have leaked. Laboratory testing confirmed that the levels of petroleum in the soil exceeded Department of Ecology cleanup levels published in WAC 173-340; Table 740-1.

Photograph 1 - from the Kitsap Herald, 2016

In response to the confirmed release, the City filed an Environmental Incident Report Form with the Department of Ecology and called the Kitsap Public Health District to inform local regulators of the release.

In September 2016, working with Sealaska, Inc., the City conducted additional site characterization studies to assess the lateral and vertical extent of contaminated soil. This work also included testing groundwater. This study confirmed that the petroleum contamination occurred only in a small area within the center of the property. This study also confirmed that groundwater beneath the site had not been impacted by the release.

In October 2016, the City directed its demolition contractor, Rhine Demolitions Services of Tacoma, Washington to excavate the remaining petroleum contaminated soil and transport it for disposal to a permitted facility in Kitsap County.

During building demolition, and again during the removal of contaminated soil, Environmental Specialties of Puyallup, WA performed a UST site assessment as required under WAC 173-360. The site assessment confirmed that all soil exceeding MTCA Method A cleanup levels for unrestricted land use had been removed from the property.

This report presents specific information about the property and the results of site characterization and removal actions at the site. This report is designed to meet the requirements of an independent remedial action as prescribed in WAC 173-340-515.

2.0 GENERAL FACILITY INFORMATION

The former City of Poulsbo City Hall building was located at 19050 Jensen Way in Poulsbo, WA (Tax Parcel 4230-002-005-0203). The former City Hall building was originally constructed as a fire station and town hall in circa 1939. In the 1960s it was renovated as a County Building. In the mid-1970s it was expanded to provide facilities for Planning, Public Works, Judiciary, Law Enforcement, the Fire Department, and the Poulsbo City Council and Executive. The building has been vacant since 2011.

Photograph 2 - Former City Hall, August 2016

To make way for a new residential development, the City abated hazardous materials and razed the building. The City currently owns the parcel and intends to transfer the property to the developer following completion of remedial actions at the site. The site is planned for redevelopment as multi-story apartments with sub-grade parking.

Today the site is a vacant parcel in the Poulsbo commercial downtown district. The parcel is in the NW1/4 of Section 23 Township 26 Range 1E at latitude 47.73581390N and Longitude -122.64727849E. It is 0.74 acres and is bounded by Jensen Way to the south, paved alleys to the north and south, and a paved parking lot to the north.

The legal description for the property is:

> POULSBO, PL OF ORIGINAL TOWN
> RESULTANT PARCEL 1 OF BOUNDARY LINE ADJUSTMENT RECORDED UNDER AUDITOR'S FILE NO. 201512210159, BEING A RE-RECORDING OF AUDITOR'S FILE NO. 201510220121, AND AS DEPICTED ON SURVEY RECORDED UNDER AUDITOR'S FILE NO. 201510220120, IN VOLUME 81 OF SURVEYS, PAGES 166 - 168, RECORDS OF KITSAP COUNTY, WASHINGTON, BEING A PORTION OF LOTS 2, 5, 6, 12, 16, 17 AND 18, BLOCK 2, PLAT OF ORIGINAL TOWN OF POULSBO, ACCORDING TO THE PLAT RECORDED IN VOLUME 4 OF PLATS, PAGE 76, RECORDS OF KITSAP COUNTY, WASHINGTON, BEING A PORTION OF GOVERNMENT LOT 4, IN THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 26 NORTH, RANGE 1 EAST, W.M., IN KITSAP COUNTY, WASHINGTON.

The City staff responsible for the project are:

> Mr. Andrjez Kasiniak, Director of Engineering
> 200 Moe Street, 2nd Floor
> Poulsbo, WA 98370
> Telephone: 360-394-9720

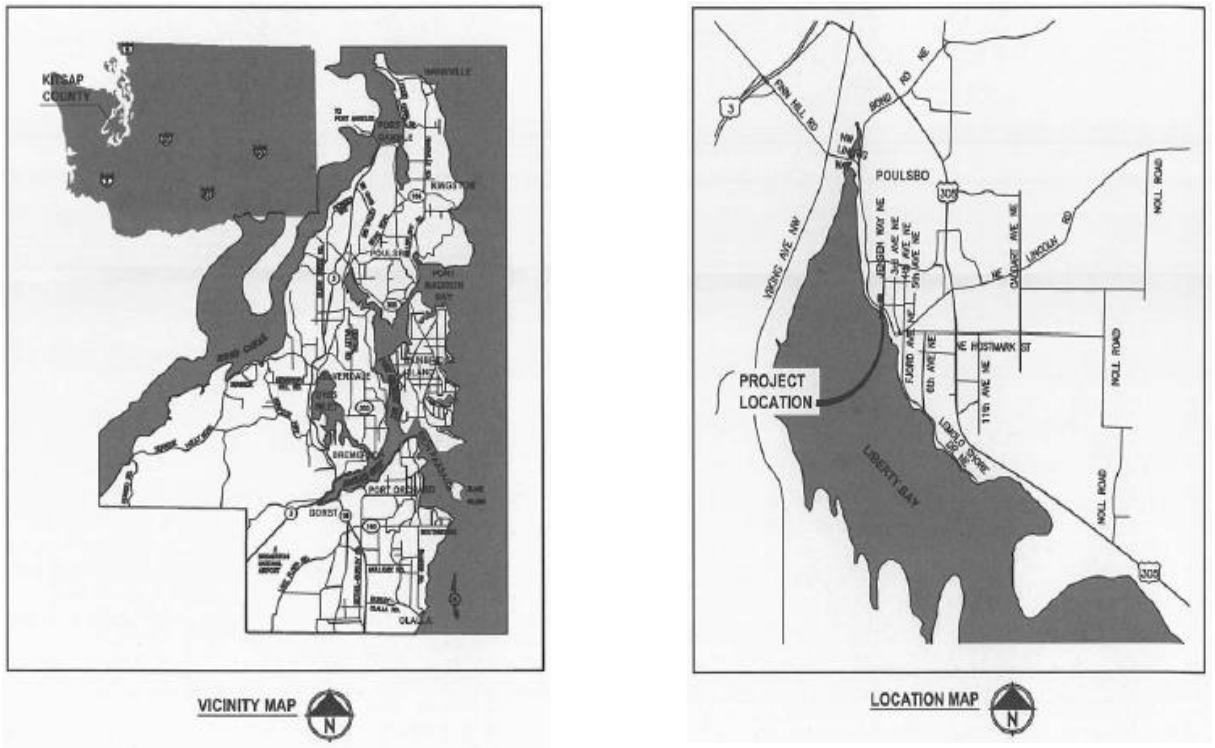


FIGURE 1 - VICINITY AND LOCATION OF THE POULSBO FORMER CITY HALL

3.0 SITE CONDITIONS

Since at least 1977, the former City Hall property has been completely covered with an approximately 17,500 sf concrete/timber building and asphalt parking areas. Prior to that, the site was partially covered with a concrete building and parking area. The southern 2/3 of the 1977 building contained a finished sub-grade basement that extended up to 14 feet below ground surface. The remainder of the building was constructed with a concrete slab foundation set on grade. A small (less than 250 square foot) landscape area was located on the north side of the building near one of two underground heating oil tanks.

Photograph 3 - Building Demolition Exposes Soil to 12 feet in Some Locations of the Property

The City zoning code identifies the property as being in the C-1 commercial district. This zoning code is intended to:

1. Encourage high quality and recreation amenities, tourist-oriented and commercial development which will enhance public access and the use of the shoreline.
2. Encourage a wide range of activities that make downtown Poulsbo the cultural, civic, heritage and waterfront heart of the community.
3. Provide a full range of commercial services, tourism, recreation and entertainment activities to support downtown visitors, residents and workers.
4. Ensure that projects are designed using consistent architectural design and consistent with the scale and design of downtown.

The property slopes gently from northeast to southwest with a maximum vertical elevation change of approximately 10 feet. It is surrounded by commercial buildings of the C1 Zone. The property is serviced by underground water, sewer, and stormwater utilities provided by the City of Poulsbo. Electricity is provided by overhead Puget Sound Energy through overhead power lines. Heat was formerly provided by fuel oil fired boiler.

4.0 DECOMMISSIONING OF UNDERGROUND STORAGE TANKS

Two underground heating oil storage tanks were present at the site (Figure 2). Prior to demolition activities, the tanks were measured and found to contain no product.

In 2010, the City commissioned a limited Phase II environmental site assessment of the 2 underground heating oil storage tanks. This assessment was performed by Mr. Robert Rodman, Certified Regulatory Compliance Specialist from Seabeck, WA. Mr. Rodman's assessment included soil sampling and analysis around both underground heating oil tanks. The results of the assessment identified no evidence of petroleum contamination in soils up to 11 feet below the ground surface. The Limited Phase II Environmental Site Assessment Report prepared by Mr. Rodman is included in Appendix A.

In July of 2016, the City commenced the abatement and demolition of the former City Hall building. This work included the complete removal of the former City Hall building, all foundations and utilities, and two underground storage tanks. The location of site features and the extent of demolition work is shown Figure 2. All work shown on Figure 2 was completed during July and August 2016. The limits of demolition shown on the figure represent the approximate extent of excavation completed during demolition of the building. This work allowed for a thorough assessment of subsurface conditions below the building and across most of the property because all foundations were excavated and removed. During demolition, City staff trained in environmental assessment procedures observed no visual or olfactory evidence of soil contamination. Because of the excavation City staff were able to observe soil conditions up to 14 feet below the surface of the property.

Soils observed during demolition were poorly sorted fine sand and gravel, typical of gravel borrow or pit run. The gravel borrow is thought to have been placed during construction of the former City Hall. Subsequent subsurface investigations (described in Sections 4 and 5) identified that groundwater occurs between 10.5 and 14 feet below the surface and is thought to flow with the

topography which is from north-northeast to south-southwest across toward Liberty Bay a saltwater inlet along downtown Poulsbo's western shore. The property is located approximately 400 feet from Liberty Bay.

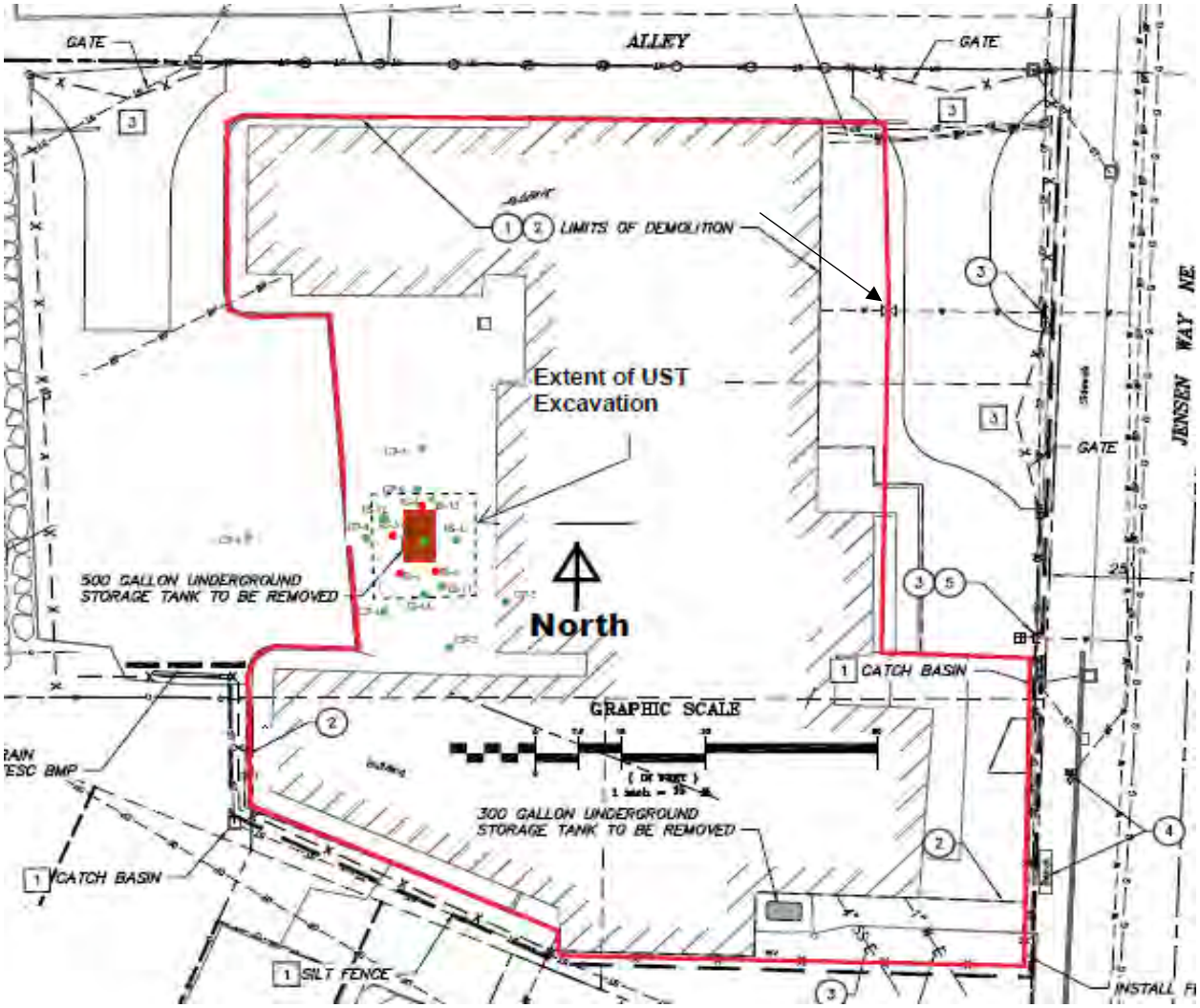


FIGURE 2 - DEMOLITION PLANS SHOWING KEY SITE FEATURES
(See Figure 3 for Sampling Details)

On the final day of demolition (August 12, 2016), the Rhine Demolition removed two underground heating oil storage tanks from the site. The first tank (Tank A) was removed from the southern edge of the demolition excavation (Figure 2). The tank was measured at three feet in diameter and six feet long (approximately 320 gallons). No odors or stained soil was observed during removal of this UST. Environmental Specialists of Puyallup, WA collected eight soil samples from the excavation and soil stockpile associated with Tank A. The results of laboratory testing showed no evidence of petroleum contaminated soil associated with Tank A. The results of the Environmental Specialists UST Site Assessment are presented in Appendix B. The second tank (Tank B) was reported to be 500 gallons. Upon removing the cover soil, the UST was found to be ten feet long and four feet in diameter (approximately 940 gallons). No evidence of soil

contamination was observed until the tank was lifted from the ground. At this point, several small (less than one-half inch) holes were observed in the bottom of the tank. Stained soil and strong diesel odors occurred in the soil immediately beneath the tank. Approximately 20 yards of petroleum contaminated soil was removed from beneath the former tank location and stockpiled on plastic on the property. Environmental Specialists collected six soil samples from the sidewalls and bottom of the excavation and four samples from the Tank B soil stockpile. The results of laboratory testing showed that four of the six excavation samples contained diesel range hydrocarbons at concentrations exceeding MTCA Method A cleanup levels. The results of the Environmental Specialists UST Site Assessment are presented in Appendix B.

The two underground heating oil storage tanks were cleaned on site by a certified marine chemist. Rinsate was sampled for characterization purposes and the cleaned USTs were removed from the site for disposal by Rhine Demolition. The excavation was backfilled with clean soil and the stockpile covered with plastic and secured with sand bags.

5.0 REMEDIAL INVESTIGATIONS

Four separate investigations were used to assess site conditions and the nature and extent of soil contamination. These included:

- Removal of the building and excavation of the building footprint (see Section 3 above). This included potholing and disconnecting all utilities.
- A geotechnical investigation by a prospective purchaser of the property. This investigation involved the installation of 5 soil borings to depths up to 35 feet below ground. These borings were performed after the removal of the building and prior to the remediation of petroleum contaminated soils.
- A Geoprobe investigation to assess the lateral and vertical extent of petroleum contaminated soil and groundwater. This investigation, performed by Sealaksa, Inc., installed seven Geoprobe borings to collect soil and groundwater from areas surrounding the leaking underground heating oil storage tank (Tank B).
- A UST Site Assessment, as prescribed in WAC 173-360. This assessment, performed by Environmental Specialists of Puyallup, WA collected samples from the original UST excavation and from sidewalls and the bottom of the excavation following the removal of contaminated soils. The assessment also characterized contaminated soil for transport and disposal at the Roosevelt Regional Landfill, near Roosevelt, WA.

The findings of these investigations are summarized below. Documents prepared by third party investigators describing these investigations are presented in Appendix B through D.

5.1 Building Demolition

Rhine Demolition of Tacoma, WA, performed the building demolition between July 18 and August 12, 2016. The removal of the building included the abatement and disposal of all hazardous materials (asbestos, lights, ballasts, etc..) and the complete removal of the building and its

utilities. After the building was removed, Rhine, under the direction a certified UST Decommissioning supervisor removed two underground heating oil storage tanks.

The results of this work identified an area of petroleum contaminated soil associated with Tank B, an approximately 940-gallon steel tank that was found to have leaked to soil. **No other evidence of soil contamination was observed anywhere else on the property.**

During excavation of Tank B, contaminated soil was not encountered until five and one-half feet below the surface. Shallower soil was not impacted by the release because the leak occurred through small holes in the bottom of the tank. Gray-stained soil between five and one-half feet and eight feet below the surface were excavated and placed on plastic. The excavation was also expanded to the west by approximately three feet. At the end of the day, the excavation was approximately 21 feet long by eight feet wide by eight feet deep. Stained soil was observed on the west, south, and north end of the Tank B excavation. The east and bottom samples were not stained. No groundwater was observed in the excavation.

Photograph 4 - Tank B Impacted Soils

Laboratory testing of the Tank B soil samples confirmed diesel range hydrocarbons were present in samples collected from gray-stained soil. Unstained soil samples showed no evidence of petroleum contamination. The analysis of the samples collected from the Tank B excavation are summarized in Table 1 and presented in the Environmental Specialists Site Assessment report presented in Appendix B.

5.2 Geotechnical Investigation

On August 30, 2016, EnviroSound Consulting, on behalf of a prospective purchaser of the property conducted a geotechnical investigation at the property. This investigation was performed to assess soil properties related to bearing pressures and constructability of a new building on the property; however, it did provide additional information regarding soils and groundwater beneath the site. The investigation involved installing 5 soil borings to a depth of between 19.5 and 37.5 feet below the surface. The location of the borings and corresponding boring logs are presented in Appendix C. No visual or odor evidence of petroleum contaminated soil or groundwater was observed in these borings.

As described on the boring logs in Appendix C, a brown, medium dense, silty, fine to medium grained sand occurs below the gravel borrow/pit run encountered during demolition. This material was consistently observed at depths between seven and one-half feet and twelve feet below the surface. Groundwater was encountered between nine and 23.5 feet below the surface.

5.3 Geoprobe Investigation

In response to the confirmed release of petroleum to soil beneath Tank B, the City retained Sealaska, Inc., of Poulsbo, WA to conduct a Geoprobe investigation to assess the vertical and lateral extent of soil contamination and to test whether groundwater had been impacted by the contaminants. On September 12, 2016, Sealaska directed the installation of seven Geoprobe borings near the Tank B excavation. All Geoprobe borings were advanced to approximately five feet below groundwater.

Soil samples were selected from each boring based on PID readings and their elevation relative to the zone of petroleum stained soil observed in the Tank B excavation. Groundwater samples were also collected from each boring. Testing of these samples yielded no reportable concentration of diesel-range petroleum hydrocarbons at the property. The laboratory analyses are summarized in Table 1. Sampling procedures and specific investigation results are presented in the Sealaska report presented in Appendix D.

The findings of this investigation were that the lateral extent of soil contamination surrounding Tank B was limited to an area extending approximately 25 feet north to south and twelve feet east to west. The zone of contamination occurred between five and one-half feet below the surface and nine feet below the surface.

5.4 UST Site Assessment

Environmental Specialists of Puyallup, WA performed a UST Site Assessment during decommissioning of the USTs. On August 12, 2016, Environmental Specialists collected six soil samples from the Tank A excavation and five samples from the Tank B excavation. Four additional soil samples were collected from the Tank A stock pile and three samples were collected from the Tank B stockpile. All samples from the Tank B excavation and stockpile were tested and confirmed to be below Method A cleanup levels. Four of the six samples collected on August 12, from the Tank A excavation yielded petroleum concentrations that exceed Method A cleanup levels. Stockpile samples from the Tank A excavation also exceeded cleanup levels.

Photograph 5 – Remedial Action Excavation – view to the northwest; Oct. 12, 2016

A UST Site Assessment report, prepared by Environmental Specialists is presented in Appendix B.

5.5 Summary of Remedial Investigations

Based on the investigations and associated sampling and analysis, the City concludes the following:

- The former 940-gallon underground heating oil tank at the former City of Poulsbo City Hall building leaked diesel fuel to the ground adjacent to the building. The release was discovered and reported to Ecology during the removal of the former City Hall building.
- The City's contractor, Rhine Demolition, removed approximately 58 cubic yards of petroleum contaminated soil from the site.
- Over the course of multiple investigations, 22 in-situ soil samples and seven stockpile soil samples were collected from UST excavations. Tank B was observed to have released diesel fuel to the ground. Four of seventeen soil samples yielded diesel range hydrocarbons above Method A cleanup levels.
- Confirmation sampling following the removal of contaminated soil confirmed all soil exceeding Method A cleanup levels for diesel fuel had been removed and disposed off site.
- The remaining thirteen soil samples and seven groundwater samples did not contain diesel contaminants at levels greater than Method A cleanup standards.

Sample locations are summarized in Table 1 and on Figure 3. Detailed presentations of the individual investigations performed at the site are presented in Appendix B through D.

Based on the results of testing and visual observations, the City concludes that all diesel-range petroleum in soil has been removed to levels that are below the Method A cleanup level established in WAC 173-340. Further, the absence of detectable groundwater contamination and the presence of clean soils between the bottom of the UST and the groundwater table indicate there has been no groundwater impact because of the release from Tank B.

TABLE 1 SUMMARY OF SAMPLING AND ANALYSIS

Sample No.	Date	Collected By	Matrix	Depth	WTPH-Dx mg/kg
ES-1A	8/12/2016	Environmental Specialists	Soil	7	**10,000**
ES-2A	8/12/2016	Environmental Specialists	Soil	8.5	ND
ES-3A	8/12/2016	Environmental Specialists	Soil	7.5	**7,300**
ES-4A	8/12/2016	Environmental Specialists	Soil	7	ND
ES-5A	8/12/2016	Environmental Specialists	Soil	7	**10,000**
ES-6A	8/12/2016	Environmental Specialists	Soil	7	**15,000**
ES-7A	8/12/2016	Environmental Specialists	Stockpile	0.5	ND
ES-8A	8/12/2016	Environmental Specialists	Stockpile	0.5	280
ES-9A	8/12/2016	Environmental Specialists	Stockpile	0.5	ND
ES-10A	8/12/2016	Environmental Specialists	Stockpile	0.5	ND
GP-1	9/7/2016	Sealaska	Soil	10 to 11	ND
GP-2	9/7/2016	Sealaska	Soil	6 to 9	ND
GP-3	9/7/2016	Sealaska	Soil	7 to 9	ND
GP-4	9/7/2016	Sealaska	Soil	10 to 13	ND
GP-5	9/7/2016	Sealaska	Soil	10 to 14	ND
GP-6	9/7/2016	Sealaska	Soil	11 to 14	ND
GP-7	9/7/2016	Sealaska	Soil	10 to 13	ND
GP-1W	9/7/2016	Sealaska	Groundwater	15	ND
GP-2W	9/7/2016	Sealaska	Groundwater	15	ND
GP-3W	9/7/2016	Sealaska	Groundwater	15	ND
GP-4W	9/7/2016	Sealaska	Groundwater	15	ND
GP-5W	9/7/2016	Sealaska	Groundwater	15	ND
GP-6W	9/7/2016	Sealaska	Groundwater	15	ND
GP-7W	9/7/2016	Sealaska	Groundwater	15	ND
ES-11A	10/12/2016	Environmental Specialists	Soil	7	1,400
ES-12A	10/12/2016	Environmental Specialists	Soil	7.5	68
ES-13A	10/12/2016	Environmental Specialists	Soil	7	1,400
ES-14A	10/12/2016	Environmental Specialists	Soil	9	620

NOTE: These data are to be entered into the Department of Ecology Environmental Information Management (EIM) System.

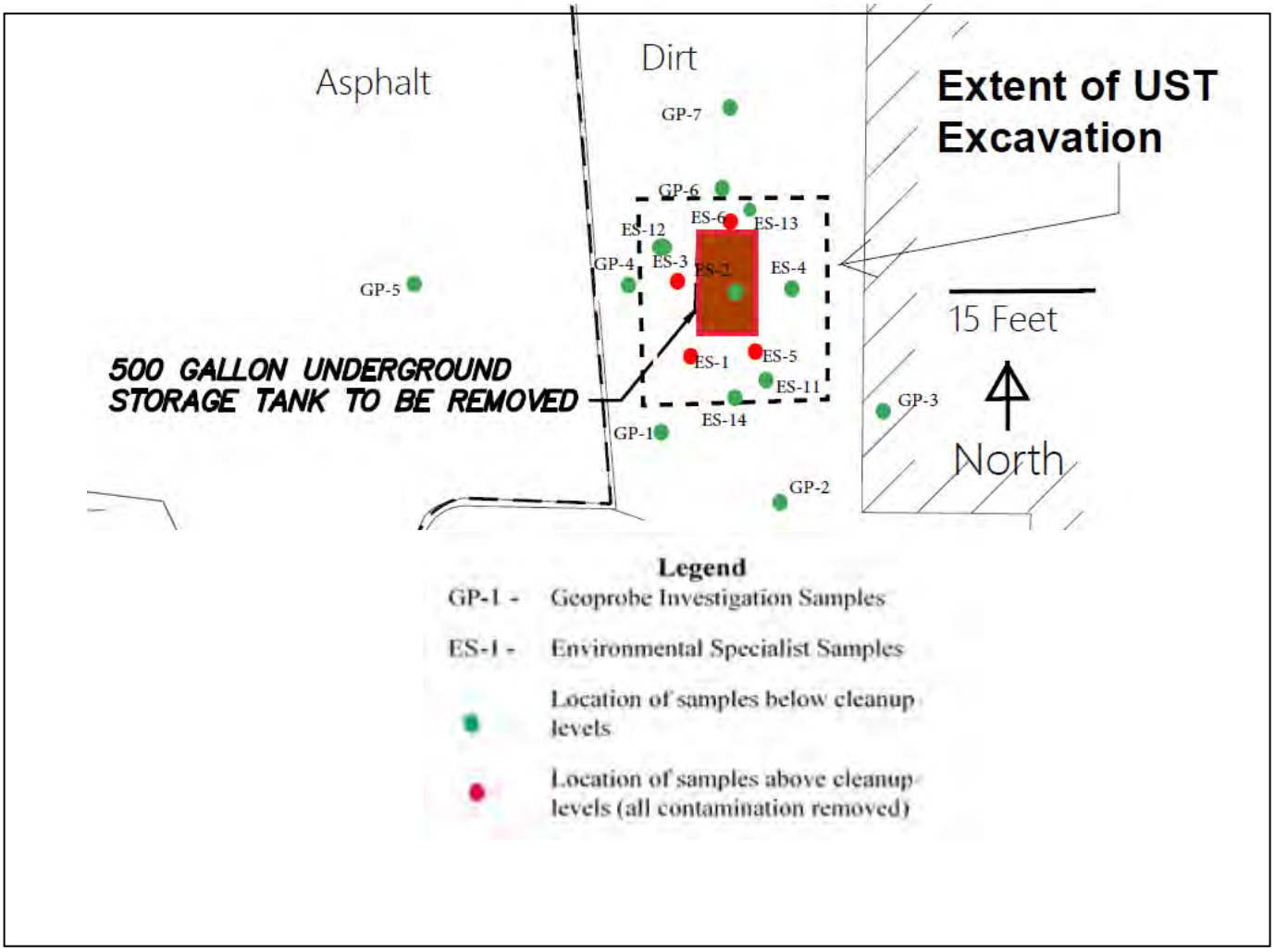


FIGURE 3- SAMPLING LOCATIONS – TANK A

6.0 INDEPENDENT REMEDIAL ACTION

Based on the findings of the remedial investigations, the City selected Model Remedy #1 to remediate soil contamination. Model Remedy #1 is described in Ecology's Model Remedies for Sites with Petroleum Contaminated Soils (ECY Publication 15-09-043, September 2015). Basically, Model Remedy #1 provides for the removal and off-site disposal of petroleum contaminated soils in situations where the soil is within the site and no groundwater impacts are present. The former City Hall property met these conditions and therefore, removal by excavation was selected as the preferred remedy.

The cleanup level selected for the remedial action was the Method A concentration for unrestricted land use. Per WAC 173-340, Table 740-1, this level is 2,000 mg/kg for soil containing diesel contaminants.

The City considered a Terrestrial Ecological Evaluation (TEE) for the property. Based on WAC 173-340-7492 (2) (ii) and Table 749-1, a TEE is not required for the property. The Table 749-1 calculation results in a because:

- the property is less than 1.0 acre
- there is no contiguous undeveloped land near the property
- it is a commercial property
- it provides low quality habitat
- it is unlikely to attract wildlife
- it is only impacted by diesel contamination

Based on these decisions, the City directed its contractor, Rhine Demolition, to remove additional contaminated soil and transport it for disposal at the Roosevelt regional landfill in Klickitat County, WA.

On October 12, 2016, Rhine Demolition removed an additional 36 cubic yards of petroleum contaminated soil from the area surrounding Tank A. **All visibly stained soil was removed from the excavation.** Environmental Specialists collected an additional four samples from the west, north and south edges and the bottom of the additional excavated area. Testing of these samples concluded that diesel-range hydrocarbons in soil were below the Method A cleanup level.

7.0 REQUEST FOR NO FURTHER ACTION

Based on the results of sampling and analysis conducted prior to and subsequent to remedial actions at the former City Hall Tank B location, the independent remedial action performed by the City has successfully removed diesel contamination from soil at the site. Further, groundwater sampling conducted during remedial investigations and soil sampling from below the Tank B location confirm there have been no groundwater impacts resulting from the release.

Therefore, the City is requesting a No Further Action Determination from the Department of Ecology.

APPENDIX A

Limited Phase II Environmental Site Assessment (Rodman, 2010)

Limited Phase II
Environmental Site Assessment
at the former

Poulsbo City Hall Building
19050 Jensen Way NE
Poulsbo, Washington 98370

PREPARED BY

ROBERT M. RODMAN
ENVIRONMENTAL CONSULTANT
BSME, Certified Environmental Site Assessor, Licensed UST Site Supervisor
Certified Regulatory Compliance Specialist
23611 W. Ludvick Lake Drive, Seabeck, Washington 98380
Phone/Fax: (360) 372-2449

August 2010

FORMER POULSBO CITY HALL BUILDING

INTRODUCTION

Robert M. Rodman, environmental consultant, was retained to perform a limited Phase II Environmental Site Assessment at the former Poulsbo City Hall building, located at 19050 Jensen Way NE in Poulsbo, Washington. (See **Figure 1**)

The scope of work for this site assessment included the following;

- Visual inspection of the site.
- Collection of soil samples using a decontaminated stainless steel trowel for each sample, placement of the samples in sterilized 8-ounce jars with Teflon lid seals, delivery of the properly labeled and sealed samples to an accredited laboratory in an insulated chest containing ice packs and, execution of a proper chain of custody, following all EPA established sample handling protocols.
- Comparison of laboratory analyses with cleanup standards contained in the Washington State Model Toxics Control Act (MTCA), Method A (Soil).
- Preparation of a report containing findings and conclusions

Procedures used were consistent with those outlined in the Washington Department of Ecology (WDOE) publication, *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*, revised edition, October, 1992.

BACKGROUND

The building on this site was constructed in 1940, and has, and will serve as the Poulsbo city hall until 2011. In 1960 an annex to the building was constructed and was occupied by the Poulsbo Fire Department until 1990.
The building is heated by two oil burning furnaces. Two underground storage tanks (UST's) store fuel oil for the furnaces. A 500 gallon steel tank is located at the back of the building (West side), and supplies fuel to the furnace in the main building, and a 300 gallon steel tank located in the alleyway on the South side of the building supplies fuel to the furnace in the building annex. These 2 UST's were the focus of this site assessment.

SITE ASSESSMENT ACTIVITIES

Utilizing a manual borer, 3 discrete soil samples were taken from the bottom of each boring and sent to ESN Northwest Laboratories in Lacy, Washington for analyses.
The soil samples were analyzed for diesel range hydrocarbons using test method WTPH-Dx.
Each 1 foot lift from the boring auger was analyzed with a photo-ionization detector (PID) which can detect volatile organic compounds in the soil.

The sample identified as **B1-11** was taken 6 inches, from the end of the 500 gallon heating oil UST where the fill riser for the UST is located.
The sample was taken at a depth of 11 feet which was 5 to 6 feet below the bottom of the UST.

The sample identified as **B2-8** was taken at a depth of 8 feet, 15 feet down gradient (East) from the 500 gallon UST.

The sample identified as **B3-10** was taken 2 feet down gradient (South) from the end of the 300 gallon heating oil UST where the fill riser for the UST is located.
The sample was taken at a depth of 10 feet which was 5 to 6 feet below the bottom of the UST.

No groundwater, discolored soils or, hydrocarbon odors were encountered during sampling activities.

Sample locations are shown by **Figure 2.**

FINDINGS and CONCLUSIONS

Field PID analyses and, laboratory analyses indicate there have been no detectable hydrocarbon releases from the heating oil UST's
All soil samples were Non Detect.

Laboratory Analytical Results and Chain of Custody can be found in **Appendix A**

Robert M. Rodman
Environmental Consultant

APPENDIX A

Laboratory Analytical Results
&
Chain of Custody

ESN NORTHWEST CHEMISTRY LABORATORY

Bob Rodman
POULSBO CITY HALL PROJECT
Poulsbo, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil by Method NWTPH-Dx/Dx Extended

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	8/27/2010	8/27/2010	103	nd	nd
B1-11	8/27/2010	8/27/2010	107	nd	nd
B2-8	8/27/2010	8/27/2010	94	nd	nd
B2-8 Dup	8/27/2010	8/27/2010	107	nd	nd
B3-10	8/27/2010	8/27/2010	96	nd	nd
Reporting Limits				50	100

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

ES.I NORTHWEST, INC. Environmental Services Network

CHAIN-OF-CUSTODY RECORD

CLIENT: [illegible]

ADDRESS: Bill T.

PHONE: email: FAX:

CLIENT PROJECT #: PROJECT MANAGER:

DATE: PAGE OF

PROJECT NAME:

LOCATION: Port City Hall

COLLECTOR: DATE OF COLLECTION

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES: TPH-HCID	TPH - DIESEL & OIL	TPH - GASOLINE	BTEX	VOC 8260CL	VOC 8260	SemiVol 8270	PAH's 8270	PCB's 8082	CL Pesticides 8081	RCRA 8 Metals	MTCA 5 Metals	Pb	Asbestos-PLM	GRO Suite	DRO Suite	WO Suite	NOTES	Total Number of Containers	Laboratory Note Number
1. B1-11			Soil		X																			
2. B2-8			"		X																			
3. B3 10			"		X																			
4.																								
5.																								
6.																								
7.																								
8.																								
9.																								
10.																								
11.																								
12.																								
13.																								
14.																								
15.																								
16.																								
17.																								
18.																								

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
[illegible]	8/2/10	[illegible]	8/2/10
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE DISPOSAL INSTRUCTIONS

☐ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR 5 DAY

APPENDIX B

UST Site Assessment Report

(Environmental Specialists, 2016)

Environmental Specialties
4227 S Meridian, STE C, #625 • Puyallup, WA 98373 • (253) 683-1144

Site Assessment
Underground Heating Oil Tank Removal
Poulsbo Fire Station Demolition

Project Date:	UST Removal, Two Tanks 8/12/16 Tank B Small 8/12/16 Tank A Large 10/11/16 Tank A Remediation
Site:	Old Poulsbo Fire Station 19050 Jensen Way NE Poulsbo, WA
Owner:	The City of Poulsbo 200 E Moe Street Poulsbo, WA 98370
Client:	Rhine Demolition 1124 112th Street East Tacoma, WA 98445-3710
Contact:	City of Poulsbo Planning 360-394-9748

This report is for the sole use of our Client. Heating oil tank removal at this site was performed as an independent remedial action under the Washington Model Toxic Control Act (MTCA).

Conclusions and recommendations prescribed by this analysis are predicated upon visual inspection, laboratory analysis, and the interview responses from involved parties.

Interpretation of these elements has been performed within the generally accepted scope of a petroleum site assessment investigation and the scope of work. These two underground storage tanks are regulated as per WAC 173-360 as a regulated heating oil tank (A) and an unregulated tank (B). Tanks under 1,100 gallons are considered by the regulation unregulated. The tanks are not in use and the building they served had been completely demolished at the time of tank removal.

This report documents the assessment of the soil around the heating oil tanks and the condition of the tanks located at the demolition site.

Discussion

Two heating oil tanks were located at the old Poulsbo Fire Station site. A large tank (A) in the 940-gallon tank was located at the back of the building next to the parking lot to the west. Towards the southwest corner of the building at the edge of the property a 320-gallon heating oil tank (B) was location. The larger tank was the primary fuel source for the building boiler and there were indications this was originally black heating oil that was converted to diesel. As part of the demolition of the building and systems Rhine Demolition was contracted to include the removal, decommissioning and site assessment of the tanks and surrounding soil. The City of Poulsbo had a representative present during the removals and remediation.

On August 12, 2016 Environmental Specialties and Rhine demolition decommissioned the tanks. They were cleaned and inerted prior to removal. During the sampling of the larger Tank A blue-gray soil that is generally contaminated above the MTCA A-Level was encountered. No suspect soil was encountered with the smaller Tank B. The bulk of the contamination under Tank A appeared to be inside the tank excavation boundary and move a short distance to the west under the parking lot slab still in place.

Laboratory samples indicated the soil and stockpile associated with Tank B showed no heating oil above the detection limit. This site was backfilled with the stockpiled soil and new clean materials. Tank A did show heating oil across the bottom and to the west in excess of the MTCA- A level of 2,000 mg/kg. Dig and haul was the remediation method chosen by the Owner to bring the Tank A site into compliance. Rhine Demolition coordinated with the company that would accept the contaminated soil for two dumpsters so the contaminated soil could be directly loaded. Environmental Specialties and Rhine were both onsite October 11, 2016 for the remediation of the soil. Prior to that soil borings have been done by the City of Poulsbo to investigate the plume to the west under the parking lot. They indicated the plume did not go far to the west. Digging commenced and the plume went down two feet over the footprint of the tank with a four-foot diameter section moving down another two feet at the south end of the tank. The plume did move two feet west and north under the parking lot asphalt in a 12-inch thick seam. Eventually 57.56 tons of contaminated soil was placed in dumpsters. The gray material was removed and odor from the remaining soil was minimal. Sample analysis

showed some heating oil but less than the MTCA-A level of 2000 mg/kg. No further remediation work is planned.

Tanks

There were two tanks at this site. Both tanks had the remaining liquids/heating oil removed and a cleaning performed by Certified Tank Cleaning of Tacoma, WA.

Tank A was a 940 gallon steel tank. It likely held black heating oil originally. The latest fuel was diesel. Condition was fair with some black asphalt showing but a rust pit hole was found at the south end of the tank. That is the end where the contamination was the deepest. There was a layer of contamination over the entire bottom of the tank suggesting another leak or significant overfill in the past. The tank was cleaned and inerted with CO2 prior to removal and transported to a steel recycler.

Tank B was a 320 gallon steel tank in aged worn condition with heavy surface rust. It appeared not to have leaked with this being verified by soil analysis.

Soil

Soil at the site is classified on the Unified Soil Classification System as GC that consists of sand and silt. In general the sandy soil was brown and had no odor. A diesel odor was noted emitting from the bottom of the larger Tank A. Analysis indicated some diesel range petroleum above the MTCA – A Standard of 2000 mg/kg. Remediation using the dig and haul method was used to remove soil above MTCA-A. Remaining soil was sampled with some heating oil indicated but it is below the MTCA-A level of 2000 mg/kg. 57.56 tons of heating oil impacted soil was hauled to the Roosevelt Landfill for disposal.

No diesel range petroleum was found around Tank B.

Groundwater

No groundwater was encountered during the excavation of the tank.

Sampling

All appropriate sampling protocols were followed. Samples were kept cool or refrigerated until delivery to Friedman and Bruya Laboratory, 3012 16th Avenue W, Seattle, WA 98119. Samples was analyzed using the NWTPH – DX method.

An initial sample of the product remaining in the tanks was analyzed by Spectra Laboratories of Tacoma, WA. The analysis methods used were 8260, BTEX and PCB's.

These analyses were used to designate the type of disposal for the rinsate and liquids in the tanks.

Ten soil samples associated with Tank A were collected and analyzed: Six from the excavation and four from the presumed clean stockpile. Results showed the excavation to contain soil above the MTCA A- limit of 2000 mg/kg. When remediation was complete the impacted soil from the original excavating was placed directly into dumpsters along with new material from areas of the excavation shown to still be impacted with petroleum. Closure sampling after remediation showed the excavation soil to be below MTCA – A.

Eight soil samples were collected from the excavation and stockpiled soil associated with Tank B, the smaller tank. No samples had values above the detection limit of 50 mg/kg. This site was considered closed after the tank removal.

Sample Definitions:

Characterization (CH)
A sample collected to provide information about the level of contamination, the type of contamination and information regarding plume location. This sample can be converted to a confirmation sample if the level of contamination is lower than the MTCA limit or the project limit with a low contaminate value generally representing the boundary of the contamination plume.

Confirmation (C)
This sample is collected to show that the level of contamination is below MTCA or project limits or to define the outer limits of a plume. Values below MTCA or project limits could be used for closure. A high value sample originally collected as confirmation would be reclassified as Characterization and would generally be used to show contamination is still present, the plume boundary and that the plume boundary had not been reached.

Confirmation/Closure (CC)
These samples are collected to confirm the level of contamination at the boundaries of an excavation during a site assessment or at the end of a remediation project. Media type, proximity to the contamination and field screening are all considered when selecting the location for these samples. A worst-case sample strategy is applied to provide the highest possible statistical accuracy for the sample analytical results.

ES

Summary & Conclusions

One 940 gallon heating oil tank (Tank A) and another 320 gallon heating oil tank (Tank B) were removed from this site. Tank A was found to have leaked. 57.56 tons of petroleum contaminate soil was removed and transported to the Roosevelt Landfill. Tank B was found not to have leaked. No further action is recommended at these sites.

Site Assessor: Robert F. Simons

Robert F. Simons
Environmental Specialties
4227 Meridian S, Ste C, #625
Puyallup, WA 98374
WA Site Assessor ICC-32000769

Reviewed by: JLS

Enclosures

Table 1 – Sample Analysis Summary
Locations Map
Laboratory Data
Permit-City of Poulsbo
Cleaning Certification
Soil Receipts
Pictures

Poulsbo Old City Hall/Fire Station

UST Removal,Site Assessment, Remediation

Soil Sampling Data Summary

Site Assessment 8-12-16

Remediation 10-12-16

Project #	Sample	Other #	Type	WTPH-D	WDPH-DX	8260C	PCB	Depth	Notes
Tank A lrg	Date	Lab		mg/kg	mg/kg			feet B/G	
1A	8/12/16	1	CH	10,000	<250			7	gray, end, south west corner
2A	8/12/16	2	CC	<50	<250			8.5	gray, bottom ctr
3A	8/12/16	3	CH	7,300	<250			7.5	gray, wall, west
4A	8/12/16	4	CC	<50	<250			7	gray, east wall
5A	8/12/16	5	CH	10,000	<250			7	gray, end, south corner
6A	8/12/16	6	CH	15,000	<250			7	gray, end north
7A	8/12/16	7	CC	<50	<250			0.5	brown, stockpile
8A	8/12/16	8	CC	<50	280			0.5	brown, stockpile
9A	8/12/16	9	CC	<50	<250			0.5	brown, stockpile
10A	8/12/16	10	CC	<50	<250			0.5	
11A	10/11/16	11	CC	1,400	<250			7	
12A	10/11/16	12	CC	68	<250			7.5	
13A	10/11/16	13	CC	1,400	<250			7	
14A	10/11/16	14	CC	620	<250			9	
1	8/9/16	15	CH			< det	<det		Product characterization for cleaning
Tank B sml									
1B	8/12/16	16	CC	<50	<250			6.5	Brown
2B	8/12/16	17	CC	<50	<250			5.5	Brown
3B	8/12/16	18	CC	<50	<250			6	Brown
4B	8/12/16	19	CC	<50	<250			5.5	Brown
5B	8/12/16	20	CC	<50	<250			5.5	Brown
6B	8/12/16	21	CC	<50	<250			5.5	Brown
7B	8/12/16	22	CC	<50	<250			0.5	Brown
8B	8/12/16	23	CC	<50	<250			0.5	Brown
2	8/9/16	24	Ch			<det	<det		Product characterization for cleaning

Definitions

MTCA - A WTPH-D & DX limit = 2000 mg/kg

SA-Site Assessment

CH-Characterization

CC-Confirmation/Closure

C- Confirmation

SB-Soil Boring

SP-Stockpiled Soil

NA-Not Applicable

DEPARTMENT OF ECOLOGY
State of Washington

PERMANENT CLOSURE NOTICE
FOR UNDERGROUND STORAGE TANKS

This notice certifies that permanent closure activities were performed and conducted in accordance with Chapter 173-360 WAC. Instructions are found on the back page.

UST ID #: _____

County: _____

I. UST FACILITY

Facility Compliance Tag #: NA

UST ID #: NA

Site Name: Old Poulsbo City Hall/FS

Site Address: 19050 Jensen Way NE

City: Poulsbo, WA

Phone: Planning 360-394-9748

II. OWNER/OPERATOR INFORMATION

Owner/Operator Name: City of Poulsbo

Business Name: City Hall/Five Station

Address: 19050 Jensen Way NE

City: Poulsbo State: WA Zip:

Phone:

Email:

III. CERTIFIED UST DECOMMISSIONER

Company Name: Environmental Specialties

Service Provider Name: Robert Simons

Address: 4225 S. Meridian STE #625

Certification Type: ICC D SA

City: Puyallup State: WA Zip: 98373

Cert. No.: 32000769 Exp. Date: 5/17 7/18

Provider Phone: 253-683-1141

Provider Email: roemsi@hotmail.com

Provider Signature: Robert F. Simons ***Date:*** 8/18/16

IV. TANK INFORMATION

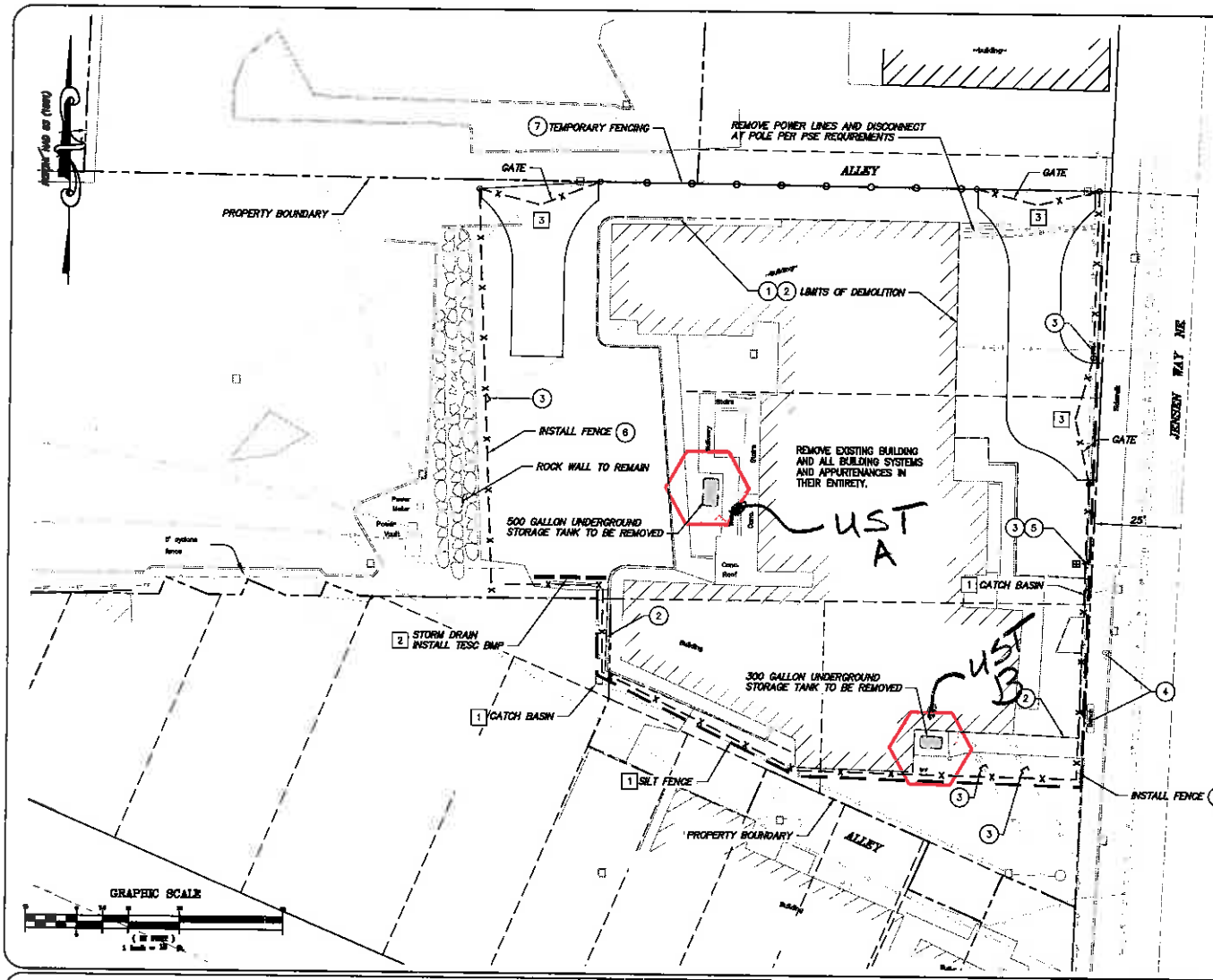
TANK ID	TANK CAPACITY	LAST SUBSTANCE STORED	CLOSURE METHOD: removal	CLOSURE METHOD: closed-in-place	CLOSURE METHOD: change-in-service	CLOSURE DATE
A	2000g	HO diesel	☒	☐	☐	8/12/16
B	500	HO diesel	☒	☐	☐	8/12/16
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	
			☐	☐	☐	

V. REQUIRED SIGNATURE

Signature acknowledges UST(s) comply with UST regulation WAC 173-360-380 Permanent Closure Requirements.

Date	Signature of Tank Owner/Operator or Authorized Representative	Print or Type Name
8/18/16	Robert F. Simons	Robert F. Simons

ECY 020-94 (October 2015)



GENERAL NOTES:

1. CONTRACTOR TO APPLY ADDITIONAL STORM WATER PROTECTION DOWN-STREAM FROM THE SITE AS NECESSARY TO PREVENT SEDIMENT FROM ENTERING THE STORM SYSTEM.
2. CONTRACTOR TO PREVENT SILT LADEN WATER FROM ENTERING THE STORM SYSTEM AND WATERS OF THE STATE.
3. ALL STOCK PILES SHALL HAVE SEDIMENT CONTROL. PLASTIC SHEETING, COMPOST BERMS, AND SILT FENCE AS DIRECTED BY THE CITY.
4. CONTRACTOR SHALL COMPLY WITH THE CITY OF POULSBO CONSTRUCTION STANDARDS.

TESC NOTES:

1. STORM DRAIN PROTECTION PER WSDOT STANDARD PLAN 1-40.20-00.
2. STORM DRAIN PROTECTION PER WSDOT STANDARD PLAN 1-40.10-00.
3. USE EXISTING PAVEMENT AS CONSTRUCTION.
4. SILT FENCE ON OUTWARD SLOPES PER WSDOT STANDARD PLAN 1-30.15-02 OR APPROVED EQUIVALENT.

DEMOLITION NOTES:

1. GROUND DISTURBANCE SHALL BE EXTENDED NO GREATER THAN 3.0 FEET FROM THE LIMITS OF DEMOLITION
2. LIMITS OF DEMOLITION AND ASSOCIATED GROUND DISTURBANCE SHALL BE ESTABLISHED BY SAW CUTTING EXISTING ASPHALT CONCRETE SURFACES.
3. UTILITIES TO BE CUT AT THE PROJECT FENCE LINE. CONTRACTOR SHALL INSTALL STUB-OUT OR GROUT 5 FEET INTO THE END OF THE REMAINING PIPE, AS APPROVED BY THE ENGINEER. ALL DISCONNECT LOCATIONS SHALL BE PERMANENTLY MARKED AT THE SURFACE
4. MOVE APPURTENANCES AS DIRECTED BY THE ENGINEER.
5. CONTRACTOR SHALL COORDINATE WITH THE CITY UTILITIES DEPARTMENT TO INSTALL A TEMPORARY WATER METER FOR WATER USE DURING ABATEMENT AND DEMOLITION.
6. FENCE SHALL BE CHAIN LINK DRILLED/DRIVEN POSTS WITH CHAIN LINK. FENCE TO REMAIN AT PROJECT COMPLETION
7. CONTRACTOR SHALL USE TEMPORARY FENCING IN THE ALLEY DURING ABATEMENT AND DEMOLITION. CONTRACTOR SHALL INSTALL PERMANENT FENCE AT THE EDGE OF THE DISTURBANCE PRIOR TO PROJECT COMPLETION PER DEMOLITION NOTE 6.

LEGEND:

- CATCH BASIN
- MANHOLE
- POWER POLE
- WATER GATE VALVE
- WATER METER
- LUMINAIRE
- WATER LINE
- BURIED POWER
- NATURAL GAS
- OVERHEAD POWER
- STORM DRAIN
- PROPOSED SILT FENCE
- EXISTING PROPERTY LINE

BID SET

CITY OF POULSBO

200 NE MOE STREET · POULSBO, WA. 98370 · (360)779-4078

FORMER CITY HALL ABATEMENT AND DEMOLITION PROJECT

JENSEN WAY NE
POULSBO, WASHINGTON

SITE PREP, DEMOLITION AND TESC PLAN

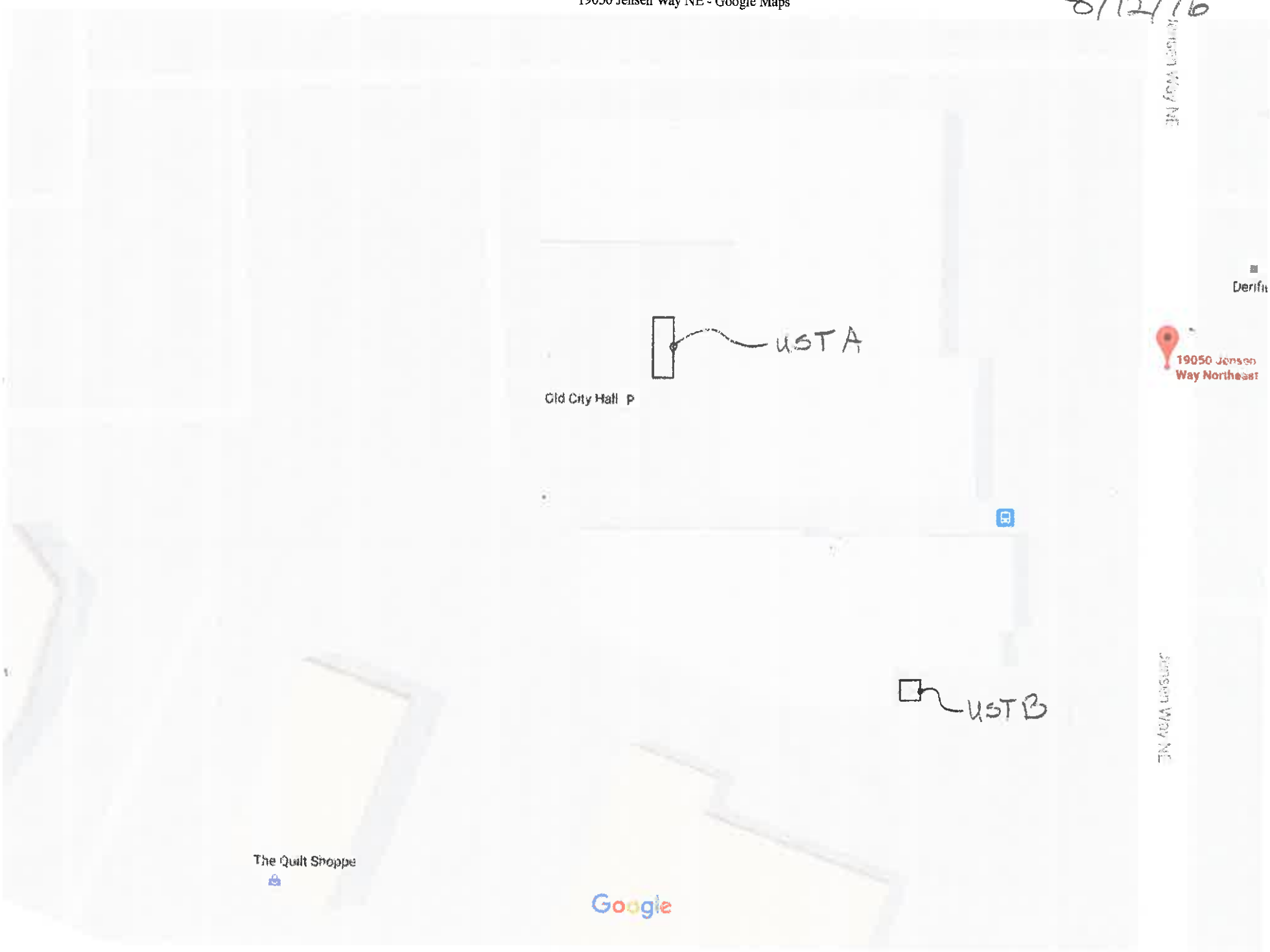
DESIGNED	P.B.
DRAWN	B.S.B.
APPROVED	D.L.
DATE	5/23/2016

DRAWING NO. 2 OF 2

SHEET C-1

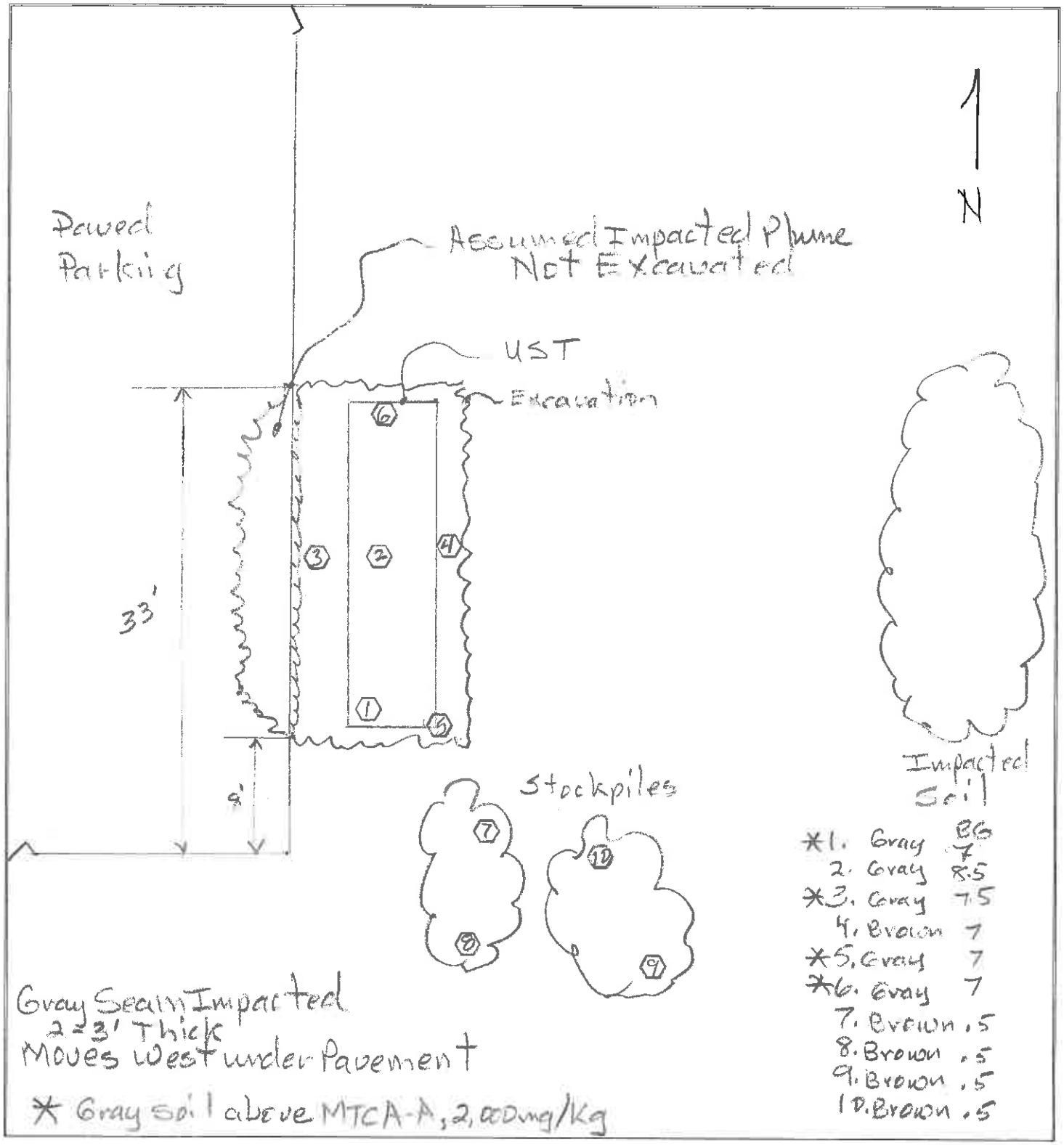
Imagery ©2016 Google, Map data ©2016 Google 50 ft

8/12/16


UST A
Old City Hall
19050 Jensen Way Northeast
UST B
The Quilt Shoppe
Google
Map data ©2016 Google
20 ft

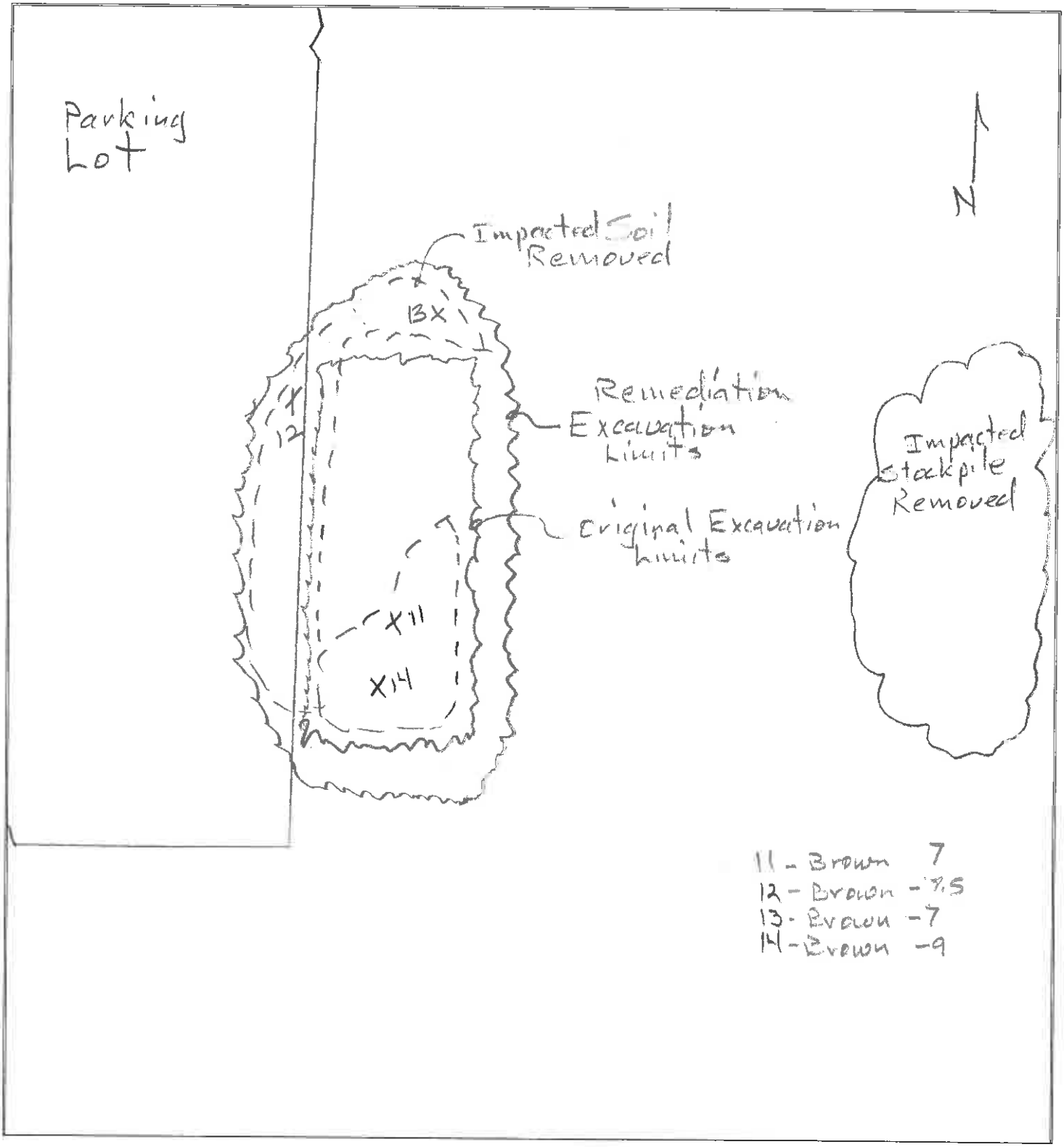
Rhine Demolition
Poulsbo Demolition, Old City Hall
UST, Tank A, Large Tank
Sketch, Sample Locations

Date: 8/12/16



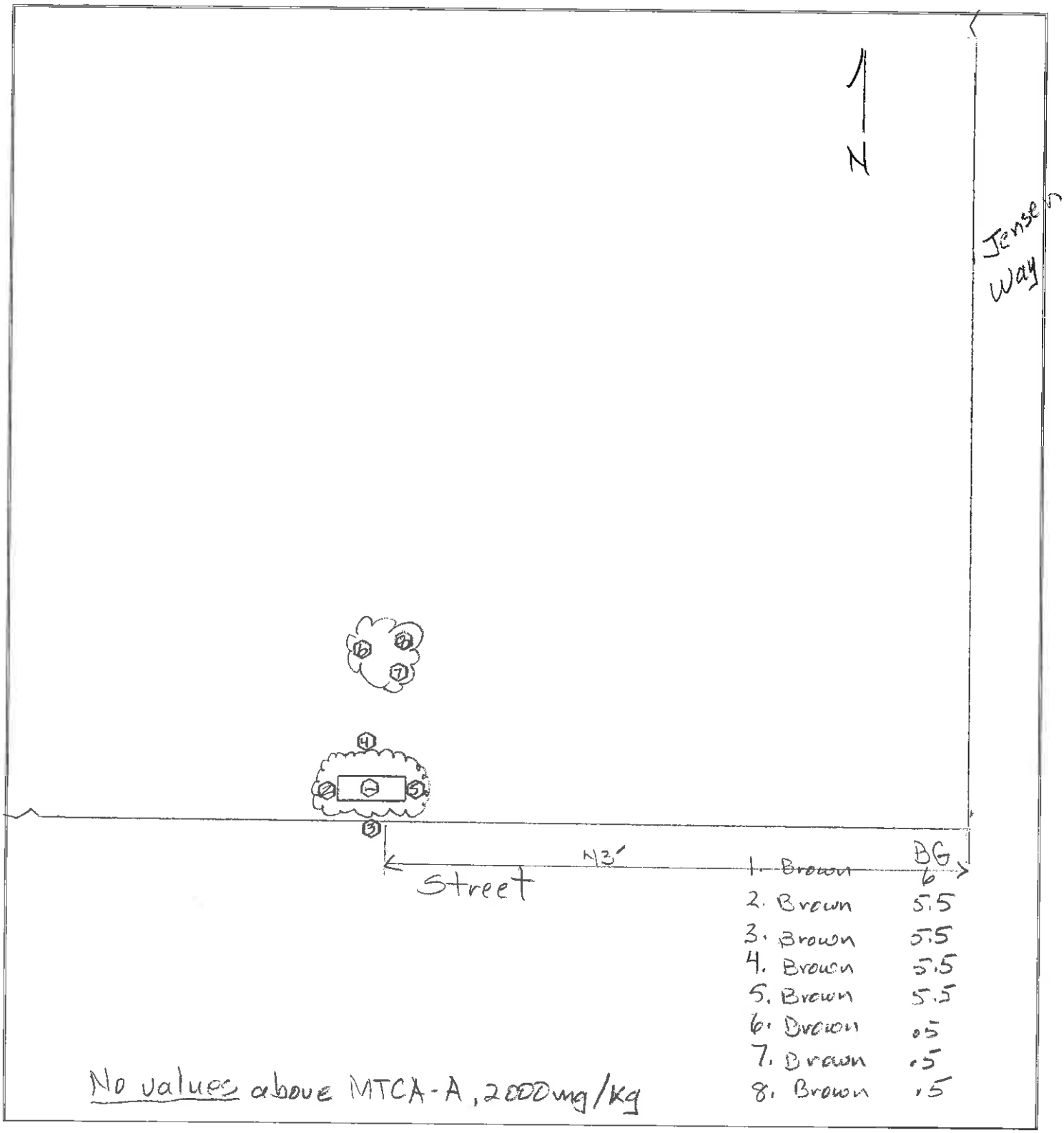
Rhine Demolition
Old City Hall Demolition
Heating Oil Tank Remediation, Tank A #2
Sketch, Locations,

Date: 10/11/16



Rhine Demolition
Poulsbo Demolition, Old City Hall
UST, Tank B, Small Tank
Sketch, Sample Locations

Date: 8/12/16



Tank A-1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 19, 2016

Bob Simons, Project Manager
CMSI
4227 S Meridian, Ste C, No. 625
Puyallup, WA 98373

Dear Mr Simons:

Included are the results from the testing of material submitted on August 15, 2016 from the Rhine-Poulsbo Demo, F&BI 608250 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
CMS0819R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 15, 2016 by Friedman & Bruya, Inc. from the CMSI Rhine-Poulsbo Demo, F&BI 608250 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	CMSI
608250 -01	1-A
608250 -02	2-A
608250 -03	3-A
608250 -04	4-A
608250 -05	5-A
608250 -06	6-A
608250 -07	7-A
608250 -08	8-A
608250 -09	9-A
608250 -10	10-A

The 8021B extraction of sample 6-A was performed from a 4 ounce glass jar. The data were qualified accordingly.

All quality control requirements were acceptable.

Date of Report: 08/19/16
Date Received: 08/15/16
Project: Rhine-Poulsbo Demo, F&BI 608250
Date Extracted: 08/16/16
Date Analyzed: 08/16/16

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES USING METHOD 8021B

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Surrogate (% Recovery) (Limit 50-132)
6-A pc 608250-06 1/5	0.04 j	<0.1	2.0	7.2	120
Method Blank 06-1611 MB2	<0.02	<0.02	<0.02	<0.06	102

Date of Report: 08/19/16
Date Received: 08/15/16
Project: Rhine-Poulsbo Demo, F&BI 608250
Date Extracted: 08/15/16
Date Analyzed: 08/15/16 and 08/16/16

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
1-A 608250-01	10,000	<250	115
2-A 608250-02	<50	<250	104
3-A 608250-03	7,300	<250	111
4-A 608250-04	<50	<250	105
5-A 608250-05	10,000	<250	106
6-A 608250-06	15,000	<250	132
7-A 608250-07	<50	<250	105
8-A 608250-08	<50	280	115
9-A 608250-09	<50	<250	109
10-A 608250-10	<50	<250	106
Method Blank 06-1667 MB	<50	<250	102

Date of Report: 08/19/16
Date Received: 08/15/16
Project: Rhine-Poulsbo Demo, F&BI 608250

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES USING EPA METHOD 8021B

Laboratory Code: 608259-02 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	0.028	0.028	0
Xylenes	mg/kg (ppm)	0.072	0.071	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	84	66-121
Toluene	mg/kg (ppm)	0.5	91	72-128
Ethylbenzene	mg/kg (ppm)	0.5	89	69-132
Xylenes	mg/kg (ppm)	1.5	90	69-131

Date of Report: 08/19/16
Date Received: 08/15/16
Project: Rhine-Poulsbo Demo, F&BI 608250

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

Laboratory Code: 608250-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	100	94	63-146	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	96	79-144

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

608250

SAMPLE CHAIN OF CUSTODY

ME 08/15/16 EDY

Send Report To ~~CRSI Environmental Specialties~~
Company ~~4227 Meridian S. Ste C #625~~
Address ~~Puyallup, WA 98373~~
City, State, ZIP
Phone #253 863-1414 Fax #

SAMPLERS (signature) Robert F. Simons

PROJECT NAME/NO. Rhue-Poulsbo Demo PO#

REMARKS HO Tank A large

Page # 1 of 1

TURNAROUND TIME
☑ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by

SAMPLE DISPOSAL
☐ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
																		One BTEX Highest Value Q-per RS 8/15/16 MG
1-A	01	8/12/16	11:50	Soil	1-4oz Jar	X												Gray O
2-A	02		12:10															Gray/Brn NO
3-A	03		12:12															Gray O
4-A	04		12:13															Brown NO
5-A	05		12:20															Gray O
6-A	06		12:27					X										Gray O
7-A	07		12:10															Brown NO
8-A	08		12:11															Brown NO
9-A	09		12:13															Brown NO
10-A	10		12:14															Brown NO

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

FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Robert F. Simons	Robert F. Simons	CRSI ES	8/12/16	6:00
Received by: Khan Phan	Khan Phan	FEBT	8/15/16	1035
Relinquished by:				
Received by:		Samples received at 20 °C		

Tank A-2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

October 19, 2016

Bob Simons, Project Manager
CMSI
4227 S Meridian, Ste C, No. 625
Puyallup, WA 98373

Dear Mr Simons:

Included are the results from the testing of material submitted on October 13, 2016 from the Rhine Poulsbo Demo, F&BI 610189 project. There are 4 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
CMS1019R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on October 13, 2016 by Friedman & Bruya, Inc. from the CMSI Rhine Poulsbo Demo, F&BI 610189 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	CMSI
610189 -01	11
610189 -02	12
610189 -03	13
610189 -04	14

All quality control requirements were acceptable.

Date of Report: 10/19/16
Date Received: 10/13/16
Project: Rhine Poulsbo Demo, F&BI 610189
Date Extracted: 10/14/16
Date Analyzed: 10/14/16 and 10/17/16

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
11 610189-01	1,400	<250	96
12 610189-02	68	<250	88
13 610189-03	1,400	<250	100
14 610189-04	620	<250	93
Method Blank 06-2138 MB2	<50	<250	111

Date of Report: 10/19/16
Date Received: 10/13/16
Project: Rhine Poulsbo Demo, F&BI 610189

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

Laboratory Code: 610018-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	97	108	63-146	11

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	95	79-144

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE CHAIN OF CUSTODY ME 10/13/16

610189

Report To [redacted]
Company CMSI-Environmetal Specialties
Address 4227 Meridian S. Ste C #625
City, State, ZIP Puyallup, WA 98373
Phone 253-683-1414 Email

SAMPLERS (signature) Robert F. Simmons
PROJECT NAME Rhine Pearlsbo Demo
PO #
REMARKS HO Tank A Rem
INVOICE TO

TURNAROUND TIME
☑ Standard Turnaround
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☑ Dispose after 30 days
☐ Archive Samples
☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: TPH-HCID	TPH-Diesel X	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM					Notes
11	01	10/11/16	1:00	Soil	4 Jar 02		X										Gray Brn Sand
12	02	〃	1:10	〃	〃		X										〃
13	03	〃	1:15	〃	〃		X										〃
14	04	〃	1:23	〃	〃		X										〃

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Robert F. Simmons	Robert F Simmons	CMSI	10/11/16	8:00 PM
Received by:	E Young	FED	10/13/16	10:20
Relinquished by:			received at 17	°C
Received by:				

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

Tank B

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 19, 2016

Bob Simons, Project Manager
CMSI
4227 S Meridian, Ste C, No. 625
Puyallup, WA 98373

Dear Mr Simons:

Included are the results from the testing of material submitted on August 15, 2016 from the Rhine-Poulsbo Demo, F&BI 608251 project. There are 4 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
CMS0819R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 15, 2016 by Friedman & Bruya, Inc. from the CMSI Rhine-Poulsbo Demo, F&BI 608251 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	CMSI
608251 -01	1-B
608251 -02	2-B
608251 -03	3-B
608251 -04	4-B
608251 -05	5-B
608251 -06	6-B
608251 -07	7-B
608251 -08	8-B

All quality control requirements were acceptable.

Date of Report: 08/19/16
Date Received: 08/15/16
Project: Rhine-Poulsbo Demo, F&BI 608251
Date Extracted: 08/15/16
Date Analyzed: 08/15/16

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
1-B 608251-01	<50	<250	106
2-B 608251-02	<50	<250	106
3-B 608251-03	<50	<250	108
4-B 608251-04	<50	<250	107
5-B 608251-05	<50	<250	112
6-B 608251-06	<50	<250	108
7-B 608251-07	<50	<250	118
8-B 608251-08	<50	<250	112
Method Blank 06-1667 MB	<50	<250	102

Date of Report: 08/19/16
Date Received: 08/15/16
Project: Rhine-Poulsbo Demo, F&BI 608251

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

Laboratory Code: 608250-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	100	94	63-146	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	96	79-144

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

608251

SAMPLE CHAIN OF CUSTODY

ME 08/15/16 EDY

Send Report To CMSI-Environmetal Specialties
4227 Meridian S. Ste C #625
Company Puyallup, WA 98373
Address
City, State, ZIP
Phone 253-683-1141 Fax #

SAMPLERS (signature) Robert F. Simmons
PROJECT NAME/NO. Rhine-Poulsbo Demo
PO#
REMARKS No Tank B small

Page # of

TURNAROUND TIME
☐ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by

SAMPLE DISPOSAL
☑ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							BTEX on highest Value Notes
						ANALYSES REQUESTED												
1-B	01	8/12/16	11:22	soil	1 40Z Jar	X		⊗				⊗	per COC					BTM - Brn-b
2-B	02		11:23										8/15/16					SW - Brn, -5.5
3-B	03		11:25										MS					end - Brn 5.5
4-B	04		11:31															end - Brn-5.5
5-B	05		11:32															SW - Brn - 5.5
6-B	06		11:35															sp - Brn -
7-B	07		11:36															sp - Brn -
8-B	08	"	11:37	"	"	"												sp - Brn -

⊗ - hold BTEX per Bob ML 8/16/16

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Robert F. Simmons	Robert F. Simmons	CMSIES	8/12/16	16:15
Received by:	Nhan Phan	FCBT	8/15/16	1035
Relinquished by:				
Received by:		Samples received at 20 °C		

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

FORMS\COC\COC.DOC

REPUBLIC SERVICES — EXPRESS WASTE PROFILE

Requested Disposal Facility: 4178 Roosevelt Regional MSW LF WA

Waste Profile #
Sales Rep #.

Saveable fill in form. Restricted printing until all required (yellow) fields are completed.

I. Generator Information

Generator Name: City of Poulsbo			
Generator Site Address: 19050 NE Jensen Way			
City: Poulsbo	County: Kitsap	State: Washington	Zip: 98370
State ID/Reg No:	State Approval/Waste Code: (if applicable)		NAICS #.
Generator Mailing Address (if different): 200 NE Moe Street			
City: Poulsbo	County: Kitsap	State: Washington	Zip: 98370
Generator Contact Name: Peter Battuello		Email:	
Phone Number: (425) 999-5938 Ext:		Fax Number:	

II. Billing Information

Bill To: Rhine Demolition, LLC		Contact Name: Deanna Peters	
Billing Address: 1124 112th Street E		Email: deannap@rhinedemolition.com	
City: Tacoma	State: WA	Zip: 98445	Phone: (253) 537-5852

III. Waste Stream Information

Name of Waste: (Petroleum products-applies only to contaminated media and debris).			
☑ Diesel Fuel	☐ Weathered Wood	☐ Friable Asbestos	
☐ Home Heating Fuel #1-6	☐ RCRA Empty Containers	☐ Non Friable Asbestos	
☐ Kerosene	☐ Treated Medical Waste	☐ Cured Asphalt	
☐ Aviation Fuel	☐ Animal Carcass (non infectious)	☐ Tires	
☐ Hydraulic Fluid	☐ Plant Trash	☐ Food Products (Including Animal Food)	
☐ Unleaded Gasoline (UST Corrective Action)	☐ Meth Contaminated Debris		

Process Generating Waste: leaking storage tank

Method of Shipment: ☑ BULK ☐ DRUM ☐ BAGGED ☐ OTHER:

Estimated Annual Volume: 150 Tons

Frequency: ☑ ONE TIME ☐ ONGOING

IV. Certification

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true and accurate description of the waste material being offered for disposal. I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic waste, hazardous waste or infectious waste, or any other waste material this facility is prohibited from accepting by law. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inaccurate or untrue. I further certify that the company has not altered the form or content of this profile sheet as provided by Republic Services, Inc.

Authorized Representative Name/Title (Type or Print)	City of Poulsbo — Company Name
PETER BATTUELLO — Authorized Representative Signature	10/5/16 — Date

REV 2

SITE **Roosevelt Landfill-Tacoma (MSW) --**
500 Roosevelt Grade Road -ROOSEVELT, WA

CUSTOMER ~~010385~~
Rhine Demolition LLC
1124 112th St. E.
Tacoma, WA 98445
Contract:TB-17620 PO:4349

SITE/A	TICKET # 272340	CELL
WEIGHMASTER	Janice F.	
DATE/TIME IN	10/21/16 6:10 am	DATE/TIME OUT /16 6:47 am
VEHICLE	1452	CONTAINER RBSU200394
REFERENCE		
BILL OF LADING	BNSF231028	

SCALE IN GROSS WEIGHT 109,780 NET TONS 33.23 INBOUND
SCALE OUT TARE WEIGHT 43,320 NET WEIGHT 66,460 INVOICE

QTY	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
~~28.00~~	~~TO~~	~~Tracking QTY~~				
33.23	tn	PCS 34 Origin:Poulsbo 100%				
1.00		CONTAINER/CHASIS RENTAL				

NET AMOUNT
TENDERED
CHANGE
CHECK#

The undersigned individual signing this document on behalf of Customer acknowledges that he or she has read and understands the terms and conditions on the reverse side and that he or she has the authority to sign this document on behalf of the customer.

RS-F042UPR (07/12)

SIGNATURE _____

SITE
Roosevelt Landfill-Tacoma (MSW) --
500 Roosevelt Grade Road ROOSEVELT, WA

CUSTOMER
010385
Rhine Demolition LLC
1124 112th St. E.
Tacoma, WA 98445
Contract:TB-17620 PO:4349

SITE	TICKET #	CELL
7A	272342	

WEIGHMASTER Janice F.

DATE/TIME IN	DATE/TIME OUT
10/21/16 6:12 am	10/21/16 6:49 am

VEHICLE	CONTAINER
2786	TOLU457345

REFERENCE

BILL OF LADING BNSF231028

SCALE IN GROSS WEIGHT 88,300 NET TONS 24.33 INBOUND
SCALE OUT TARE WEIGHT 39,640 NET WEIGHT 48,660 INVOICE

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
28.00	YD	Tracking QTY				
24.33	tn	PCS 34 Origin:Poulsbo 100%				
1.00		CONTAINER/CHASIS RENTAL				

NET AMOUNT
TENDERED
CHANGE
CHECK#

The undersigned individual signing this document on behalf of Customer acknowledges that he or she has read and understands the terms and conditions on the reverse side and that he or she has the authority to sign this document on behalf of the customer.

RS-F042UPR (07/12)

SIGNATURE _____

title Small tank Pouslbo
date August 12, 2016 at 10:11:17 AM

title small Tank Poulsbo btm
date August 12, 2016 at 10:23:48 AM

title small tank Poulsbo
date August 12, 2016 at 10:24:17 AM

title LT first contamination
date August 12, 2016 at 10:53:51 AM

title LT contamination
date August 12, 2016 at 11:07:16 AM

title LT out
date August 12, 2016 at 11:51:29 AM

title LT Inside
date August 12, 2016 at 11:51:43 AM

title Lt Not quite finished
date October 11, 2016 at 12:04:19 PM

title Lt Contaminated Stockpile
date October 11, 2016 at 12:04:50 PM

title Finished
date October 11, 2016 at 12:51:16 PM

title Finished
date October 11, 2016 at 1:31:11 PM

APPENDIX C

Geotechnical Boring Logs

(EnviroSound Consulting, 2016)

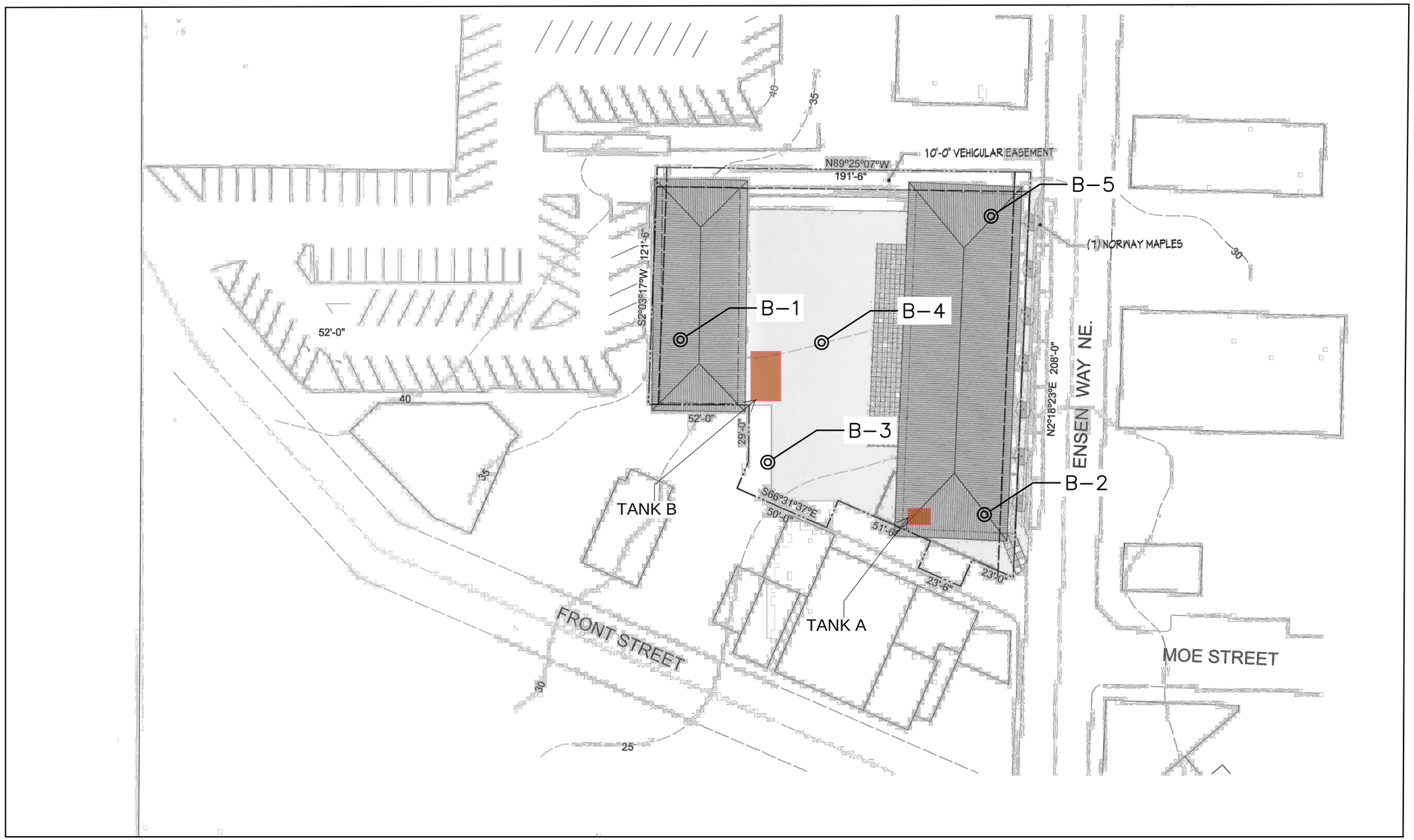


Figure generated from drawing provided by client.

EnviroSound Consulting

FIGURE 2. Site Plan
Project Name: Madison Avenue Development LLC
Location: Poulsbo, WA
Project: ESC16-G066
Client: Mr. Jim Laughlin
Date: September, 2016

N.T.S.

Legend

B-1 — Approximate ESC boring locations (2016).

Log of Test Boring B-1

Project Name: Poulsbo City Hall
Client: Madison Avenue Development Inc.
Project Number: ESC16-G066

Boring Elevation: 34.0'
Boring Location: See Site Plan
Depth to Groundwater: @23.5'

DEPTH (FT.)	USCS Classification	VISUAL PHYSICAL DESCRIPTION	SAMPLE NO.	DEPTH (FEET)	SAMPLE TYPE	BLOW COUNTS PER 6 INCHES	N VALUE	RECOVERY (INCHE)	LAB TESTING RESULTS FOR SAMPLE
0		Asphalt							
	SM	2.5'-7.5' Brown-tan, medium dense, SILT, trace clay, (FILL?) with gravels, moist.	S-1	2.5	SPT	3,8,15	23	10	
5	SP	7.5'-17.5' Brown, medium dense, silty, fine to medium grained SAND, moist.	S-2	7.5	SPT	5,12,14	26	16	
10		Dense	S-3	12.5	SPT	9,15,19	34	18	M. C.= 7.0% Sand = 86.8% Silt/Clay = 13.2% Gravel = 0.0%
15	SP	17.5'- 37.5' Dark brown, dense, medium to coarse grained SAND, wet.	S-4	17.5	SPT	16,20,21	41	14	M.C. = 22.5% 8.0 % passing 75 micron

Drill Contractor: EDI
Equipment: B-61 Mobile
Sampling Method: SPT
Driller: Tom

Excavation Date: 08/31/16
ESC Representative: Shawn Williams

Log of Test Boring B-1

Project Name: Poulsbo City Hall
Client: Madison Avenue Development Inc.
Project Number: ESC16-G066

Boring Elevation: 34.0'
Boring Location: See Site Plan
Depth to Groundwater: @23.5'

DEPTH (FT.)	USCS Classification	VISUAL PHYSICAL DESCRIPTION	SAMPLE NO.	DEPTH (FEET)	SAMPLE TYPE	BLOW COUNTS PER 6 INCHES	N VALUE	RECOVERY (INCH)	LAB TESTING RESULTS FOR SAMPLE
20	SP	Very dense	S-5	22.5	SPT	16,23,35	58	16	
25		Dense	S-6	27.5	SPT	10,18,26	44	18	
30			S-7	32.5	SPT	5,9,25	34	16	
35		Very dense	S-8	37.5	SPT	11,37,50/3	50+	10	
		Total depth: 37.5' Groundwater encountered at @23.5'							

Drill Contractor: EDI
Equipment: B-61 Mobile
Sampling Method: SPT
Driller: Tom

Excavation Date: 08/31/16
ESC Representative: Shawn Williams

Log of Test Boring B-2

Project Name: Poulsbo City Hall
Client: Madison Avenue Development Inc.
Project Number: ESC16-G066

Boring Elevation: 26.0'
Boring Location: See Site Plan
Depth to Groundwater: @10.0'

DEPTH (FT.)	USCS Classification	VISUAL PHYSICAL DESCRIPTION	SAMPLE NO.	DEPTH (FEET)	SAMPLE TYPE	BLOW COUNTS PER 6 INCHES	N VALUE	RECOVERY (INCHE)	LAB TESTING RESULTS FOR SAMPLE
0		Gravelly topsoil.							
	SM	2.5'-7.5' Brown, medium dense, medium grain, silty SAND-sandy SILT, moist.	S-1	2.5	SPT	1,5,8	13	18	
5									
	SP	7.5'-12.5' Brown, medium dense, fine to medium grained SAND, wet.	S-2	7.5	SPT	3,5,7	12	16	M.C. = 22.0% 16% passing 75 micron
10									
	SM	12.5'-17.5' Brown, dense, fine to medium grain SAND trace silt, wet.	S-3	12.5	SPT	8,14,21	35	18	
15									
	SP	17.5'- 24.5' Dark brown, medium dense, medium to fine grain SAND, wet.	S-4	17.5	SPT	6,7,11	18	18	M. C. = 25.0% 9.0% passing 75 micron

Drill Contractor: EDI
Equipment: B-61 Mobile
Sampling Method: SPT
Driller: Tom

Excavation Date: 08/31/16
ESC Representative: Shawn Williams

Log of Test Boring B-2

Project Name: Poulsbo City Hall
Client: Madison Avenue Development Inc.
Project Number: ESC16-G066

Boring Elevation: 26.0'
Boring Location: See Site Plan
Depth to Groundwater: @10.0'

DEPTH (FT.)	USCS Classification	VISUAL PHYSICAL DESCRIPTION	SAMPLE NO.	DEPTH (FEET)	SAMPLE TYPE	BLOW COUNTS PER 6 INCHES	N VALUE	RECOVERY (INCH)	LAB TESTING RESULTS FOR SAMPLE
20	SP	Dense	S-5	24.5	SPT	4,14,26	40	18	
25		Total depth: 24.5' Groundwater encountered at @10.0'							
30									
35									

Drill Contractor: EDI
Equipment: B-61 Mobile
Sampling Method: SPT
Driller: Tom

Excavation Date: 08/31/16
ESC Representative: Shawn Williams

Log of Test Boring B-3

Project Name: Poulsbo City Hall
Client: Madison Avenue Development Inc.
Project Number: ESC16-G066

Boring Elevation: 28.0'
Boring Location: See Site Plan
Depth to Groundwater: @9.0'

DEPTH (FT.)	USCS Classification	VISUAL PHYSICAL DESCRIPTION	SAMPLE NO.	DEPTH (FEET)	SAMPLE TYPE	BLOW COUNTS PER 6 INCHES	N VALUE	RECOVERY (INCHE)	LAB TESTING RESULTS FOR SAMPLE
0		Gravelly topsoil, sandy-silt.							
	SP	2.5'-7.5' Gray, medium dense, fine to medium SAND with iron staining, moist.	S-1	2.5	SPT	4,5,10	15	18	M. C. = 7.0% 10% passing 75 micron
5	SP	7.5'-19.5' Gray, medium dense, fine to medium SAND, wet.	S-2	7.5	SPT	6,11,11	22	18	
10			S-3	12.5	SPT	9,12,18	30	18	
15			S-4	17.5	SPT	9,18,30	48	18	
		Total depth: 19.5' Groundwater encountered at 9.0'							

Drill Contractor: EDI
Equipment: B-61 Mobile
Sampling Method: SPT
Driller: Tom

Excavation Date: 08/31/16
ESC Representative: Shawn Williams

Log of Test Boring B-4

Project Name: Poulsbo City Hall
Client: Madison Avenue Development Inc.
Project Number: ESC16-G066

Boring Elevation: 32.0'
Boring Location: See Site Plan
Depth to Groundwater: @15.5'

DEPTH (FT.)	USCS Classification	VISUAL PHYSICAL DESCRIPTION	SAMPLE NO.	DEPTH (FEET)	SAMPLE TYPE	BLOW COUNTS PER 6 INCHES	N VALUE	RECOVERY (INCHE)	LAB TESTING RESULTS FOR SAMPLE
0		Topsoil, gravelly loose tan silty sand.							
		Dark brown, loose, silty SAND, trace gravels, dry.							
5									
10	SM	10.0'-15.0' Brown, medium dense, silty SAND, trace gravels, moist.	S-1	10.0	SPT	6,10,14	24	18	M.C. = 16.0% 30% passing 75 micron
15	SP	15.0'-20.0' Dark brown, medium dense, medium grain SAND, wet.	S-2	15.0	SPT	9,4,17	21	18	

Drill Contractor: EDI
Equipment: B-61 Mobile
Sampling Method: SPT
Driller: Tom

Excavation Date: 08/31/16
ESC Representative: Shawn Williams

Log of Test Boring B-4

Project Name: Poulsbo City Hall
Client: Madison Avenue Development Inc.
Project Number: ESC16-G066

Boring Elevation: 32.0'
Boring Location: See Site Plan
Depth to Groundwater: @15.5'

DEPTH (FT.)	USCS Classification	VISUAL PHYSICAL DESCRIPTION	SAMPLE NO.	DEPTH (FEET)	SAMPLE TYPE	BLOW COUNTS PER 6 INCHES	N VALUE	RECOVERY (INCH)	LAB TESTING RESULTS FOR SAMPLE
20	-	20.0'- 25.0' No recovery	S-3	20.0	SPT	9,15,25	40	18	
25	SP	25.0'-32.0' Dark gray, medium dense, fine to medium SAND, wet.	S-4	25.0	SPT	5,6,12	18	18	
30			S-5	30.0	SPT	3,12,24	36	18	
35		Total depth: 32.0' Groundwater encountered at @15.5'							

Drill Contractor: EDI
Equipment: B-61 Mobile
Sampling Method: SPT
Driller: Tom

Excavation Date: 08/31/16
ESC Representative: Shawn Williams

Log of Test Boring B-5

Project Name: Poulsbo City Hall
Client: Madison Avenue Development Inc.
Project Number: ESC16-G066

Boring Elevation: 31.0'
Boring Location: See Site Plan
Depth to Groundwater: @15.0'

DEPTH (FT.)	USCS Classification	VISUAL PHYSICAL DESCRIPTION	SAMPLE NO.	DEPTH (FEET)	SAMPLE TYPE	BLOW COUNTS PER 6 INCHES	N VALUE	RECOVERY (INCHE)	LAB TESTING RESULTS FOR SAMPLE
0		Asphalt							
	SM	2.5'-7.5' Upper 3 inches organic layer (Topsoil?) underlain with gray, soft SILT, dry to moist. Medium stiff.	S-1	2.5	SPT	3,2,3	5	18	
5	SM	7.5'-12.5' Grayish tan, very stiff, SILT, trace clay, trace gravels with oxidation present.	S-2	7.5	SPT	3,6,14	20	18	M. C.=13.0% 32% passing 75 micron
10	SP	12.5'-24.5' Brown, medium dense, medium grained SAND, wet.	S-3	12.5	SPT	4,5,8	13	16	
15		Dense	S-4	17.5	SPT	8,14,20	34	18	

Drill Contractor: EDI
Equipment: B-61 Mobile
Sampling Method: SPT
Driller: Tom

Excavation Date: 08/31/16
ESC Representative: Shawn Williams

Log of Test Boring B-5

Project Name: Poulsbo City Hall
Client: Madison Avenue Development Inc.
Project Number: ESC16-G066

Boring Elevation: 31.0'
Boring Location: See Site Plan
Depth to Groundwater: @15.0'

DEPTH (FT.)	USCS Classification	VISUAL PHYSICAL DESCRIPTION	SAMPLE NO.	DEPTH (FEET)	SAMPLE TYPE	BLOW COUNTS PER 6 INCHES	N VALUE	RECOVERY (INCH)	LAB TESTING RESULTS FOR SAMPLE
20		Dense	S-5	24.5	SPT	9,14,23	37	18	
25		Total depth: 24.5' Groundwater encountered at @15.0'							
30									
35									

Drill Contractor: EDI
Equipment: B-61 Mobile
Sampling Method: SPT
Driller: Tom

Excavation Date: 08/31/16
ESC Representative: Shawn Williams

APPENDIX D

Geoprobe Investigation Report

(Sealaksa, 2016)

SEALASKA ENVIRONMENTAL

FINAL
23 SEPTEMBER 2016

UST Soil and Groundwater Delineation Field Report

Former City of Poulsbo City Hall
19050 Jensen Way
Poulsbo, Washington

Prepared by:

Mindy Graddon, LG
Field Manager
(360-626-3145)

Reviewed by:

Scott Elkind, PE, PMP
Technical Manager
(360-626-3991)

CONTENTS

APPENDICES

FIGURES

TABLES

1. INTRODUCTION

This Field Report presents the field activities and results for the soil and groundwater sampling completed to assess the potential extent of fuel oil contamination encountered during the demolition of the former City Hall at 19050 Jensen Way in Poulsbo, Washington (Figure 1).

On August 12, 2016, the City of Poulsbo (City) removed an approximately 1,000-gallon underground fuel oil tank (UST) from the property. The UST was found to have several small holes and fill material immediately below the UST was visibly stained. The City directed the over-excavation of approximately 10 cubic yards of contaminated soil to a depth of approximately 9 feet. At this level, stained soil was observed to extend to the west and south of the tank location. Three of five samples collected by the City's contractor were found to have diesel range petroleum hydrocarbon concentrations between 7,000 and 15,000 milligrams per kilogram (mg/kg).

Section 2 of this field report describes the field activities associated with Sealaska Environmental Services (SES) work activities. Section 3 describes analytical results. Completed field forms are provided in Appendix A. The laboratory analytical report is provided in Appendix B.

2. FIELD ACTIVITIES

The scope of field activities was to assess the potential extent of diesel contamination in soil and groundwater in the vicinity of the former UST. The following subsections summarize the field methods and equipment used.

2.1 FIELD METHODS

On September 16, 2016, a Washington State licensed driller from ESN Northwest (ESN) advanced seven borings labeled as GP-1 through GP-7 using a direct push drilling rig. Locations of the borings were based on field observations provided by the City, previous boring locations, and direction from the City of Poulsbo personnel. Borings were advanced and abandoned according to Washington Administrative Code 173-160. Approximate locations are shown on Figure 2. All soil was logged at each location using the United Soil Classification System from a 5-foot long acetate liner that was pushed into the subsurface soil and extracted.

Soil was placed in a ziplock bag using a stainless steel spoon or other clean item, and screened using a photoionization detector (PID). Soil samples submitted for analysis were

based on visual observation and PID results. One soil sample was submitted for chemical analysis per boring.

Borings were advanced below the groundwater table approximately 5 feet. Temporary wells were installed in each boring and groundwater samples were collected using a peristaltic pump. The water was purged until it ran clear and a sample was then collected for analysis. Periodic groundwater level measurements were obtained from GP-1, GP-2, and GP-3 to determine if tidal fluctuations were occurring. The periodic groundwater level measurements are provided in Table 3.

Boring locations GP-4 through GP-7 were also advanced to groundwater and temporary wells were installed. After a groundwater sample was collected, the temporary well was properly abandoned using bentonite chips. After collection of a final round of water levels, GP-1 through GP-3 were also abandoned using bentonite chips.

All samples were analyzed using method NWTPH-Dx with silica gel cleanup. In addition, groundwater samples from GP-1 and GP-2 were also analyzed for pH, salinity, and total dissolved solids. One duplicate soil and groundwater sample for analysis of NWTPH-Dx was collected for quality control. Samples were packed with bubble wrap and ice, and sent with the ESN driller under standard chain of custody protocol. Chemical analysis was completed using a 48-hour turnaround time.

2.2 DECONTAMINATION

All sampling equipment was decontaminated using Liquinox and distilled water. ESN decontaminated all drilling rods between boring locations using a pressure washer. All decontamination water was containerized in a 15-gallon drum labeled as, “pending analysis.” The drum is stored on the northeast corner of the site within the fence. All soil generated from drilling was added to the existing soil stockpile for the August 12 over-excavation. All general waste was removed from the site by ESN and disposed of as general solid waste.

3. RESULTS

3.1 SOIL ANALYTICAL RESULTS

A summary of the field measurements of soil using the PID and the depth range of each soil sample is in Table 1. The field observations and boring logs are provided in Appendix A. Soil samples were labeled as GP-#-S-TD-BD, where:

GP-# is the boring number,

S is for soil,

TD is the top depth of the soil sample in feet and
BD is the bottom depth of the soil sample in feet.

The Model Toxics Control Act (MTCA) Method A cleanup level for unrestricted land use for diesel and heavy oil (lube oil range) in soil is 2,000 mg/kg. All soil analytical results were below the MTCA Method A cleanup level. The laboratory analytical report is provided in Appendix B.

Table 1. Soil Analytical Results

Location	Depth Interval (feet bgs)	Depth to Water During Drilling (feet bgs)	PID (ppb)	Diesel Range Organics Results (mg/kg)	Lube Oil Range Organics Results (mg/kg)
GP-1	6 - 10	12	509	--	--
	10 – 11		3,889	ND (50)	ND (100)
GP-100 (duplicate of GP-1)	10 – 11			ND (50)	ND (100)
GP-2	3 – 5	9	409	--	--
	6 - 9		512	ND (50)	ND (100)
GP-3	4 – 5	9	647	--	--
	7 – 9		579	ND (50)	ND (100)
GP-4	3 – 5	15	271	--	--
	6 – 10		16	--	--
	10 – 13		1,525	ND (50)	ND (100)
	13 – 14.5		484	--	--
GP-5	3 – 5	15	43	--	--
	6 – 10		13	--	--
	10 – 14		86	ND (50)	ND (100)
GP-6	3- 5	14	77	--	--
	6 – 10		730	--	--
	11 – 14		3,977	ND (50)	ND (100)
GP-7	3 – 5	13	0	--	--
	6 – 10		6	--	--
	10 – 13		0	ND (50)	ND (100)

bgs = below ground surface
ppb = parts per billion
mg/kg = milligrams per kilogram
ND (50) = not detected above the reporting limit in parentheses
-- = not analyzed or not detected

3.2 GROUNDWATER FINDINGS

3.2.1 Groundwater Analytical Results

Water samples were collected from each boring and labeled as GP-#-W-MMYY, where:

GP-# is the boring location,

W is for groundwater, and

MMYY is for the month and year of collection.

The MTCA Method A cleanup level for groundwater for diesel and heavy oil (lube oil) range hydrocarbons is 5,000 micrograms per liter. All groundwater samples were below the MTCA Method A cleanup level as seen in Table 2. General chemistry analysis was performed at two locations to assess the potable quality of groundwater. Results for pH, salinity, and total dissolved solids collected at GP-1 and GP-2 are also provided in Table 2. The laboratory analytical report is provided in Appendix B.

Table 2. Groundwater Analytical Results

Location	Diesel Range Results (µg/L)	Lube Oil Range Results (µg/L)	TDS Results (mg/L)	Salinity Results (PSS)	pH Results
GP-1-W-0916	ND (250)	ND (500)	173	0.17 fresh water range	5.90
GP-2-W-0916	ND (250)	ND (500)	173	0.14 fresh water range	5.89
GP-200-W-0916 (Duplicate of GP-2)	ND (250)	ND (500)	--	--	--
GP-3-W-0916	ND (250)	ND (500)	--	--	--
GP-4-W-0916	ND (250)	ND (500)	--	--	--
GP-5-W-0916	ND (250)	ND (500)	--	--	--
GP-6-W-0916	ND (250)	ND (500)	--	--	--
GP-7-W-0916	ND (250)	ND (500)	--	--	--

µg/L = micrograms per liter
PSS = practical salinity scale
-- = not analyzed
ND (250) = not detected above the reporting limit in parentheses

3.2.2 Groundwater Level Measurements

Periodic groundwater level measurements were collected throughout the day from boring locations GP-1, GP-2, and GP-3 to be compared to the tidal fluctuations within Liberty Bay. The preliminary tidal data for high and low tide on September 16, 2016 is presented in

Table 3 and depicted on the graph below. The tidal data is provided in mean lower low water (MLLW). The depth to water measurements obtained from GP-1, GP-2, and GP-3 were measured in feet from the top of the casing and documented on the corresponding boring logs presented in Appendix A.

No tidal influence was observed on the groundwater table.

Periodic Groundwater Elevations

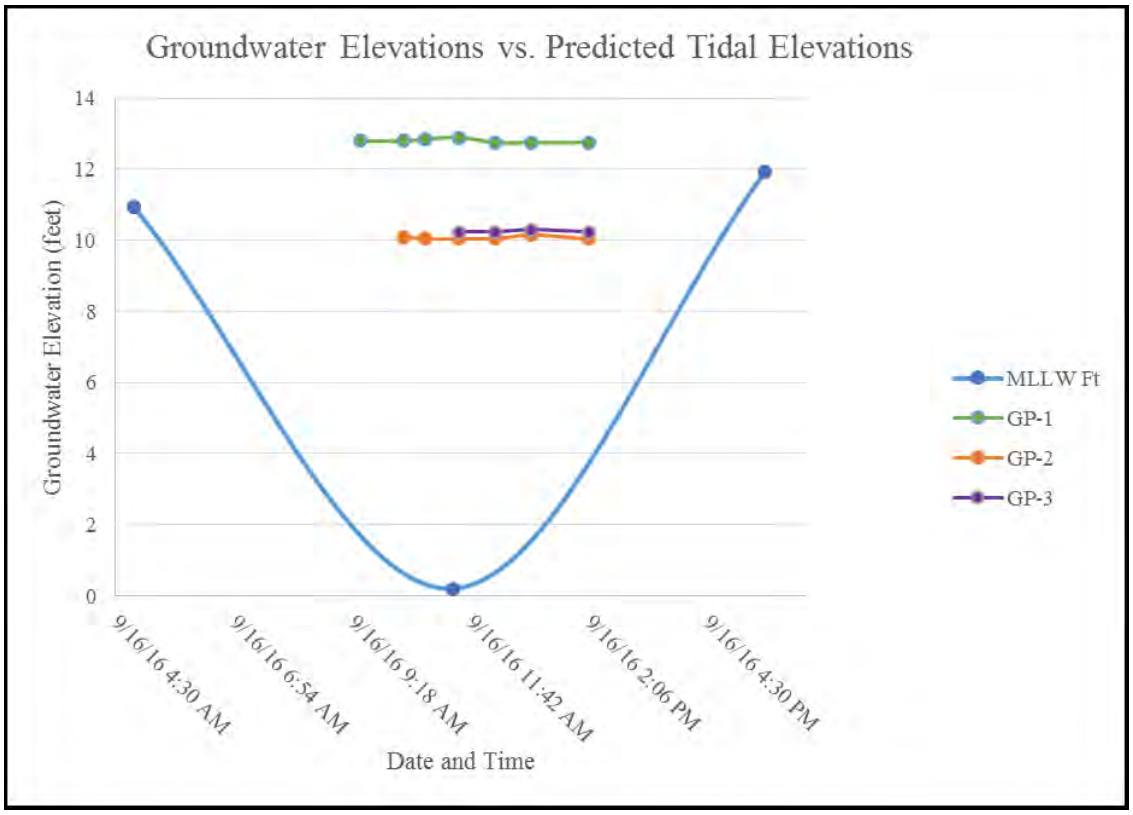


Table 3. Periodic Groundwater Measurements

Groundwater Measurements			Tidal Information	
Location	**Time**	**DTW from Top of Casing (feet)**	**Time**	**Predicted (feet MLLW)**
GP-1	9/16/2016 9:28	12.8	9/16/2016 4:52	10.94
GP-1	9/16/2016 10:20	12.8	9/16/2016 11:20	0.2
GP-1	9/16/2016 10:47	12.85	9/16/2016 17:40	11.93
GP-1	9/16/2016 11:27	12.9	9/16/2016 23:53	2.33
GP-1	9/16/2016 12:12	12.76		
GP-1	9/16/2016 12:55	12.75		
GP-1	9/16/2016 14:05	12.76		
GP-2	9/16/2016 10:20	10.1		
GP-2	9/16/2016 10:47	10.05		
GP-2	9/16/2016 11:27	10.05		
GP-2	9/16/2016 12:12	10.05		
GP-2	9/16/2016 12:55	10.17		
GP-2	9/16/2016 14:05	10.05		
GP-3	9/16/2016 11:27	10.23		
GP-3	9/16/2016 12:12	10.23		
GP-3	9/16/2016 12:55	10.3		
GP-3	9/16/2016 14:05	10.23		

DTW = depth to water
MLLW = mean lower low water

3.3 CONCLUSIONS

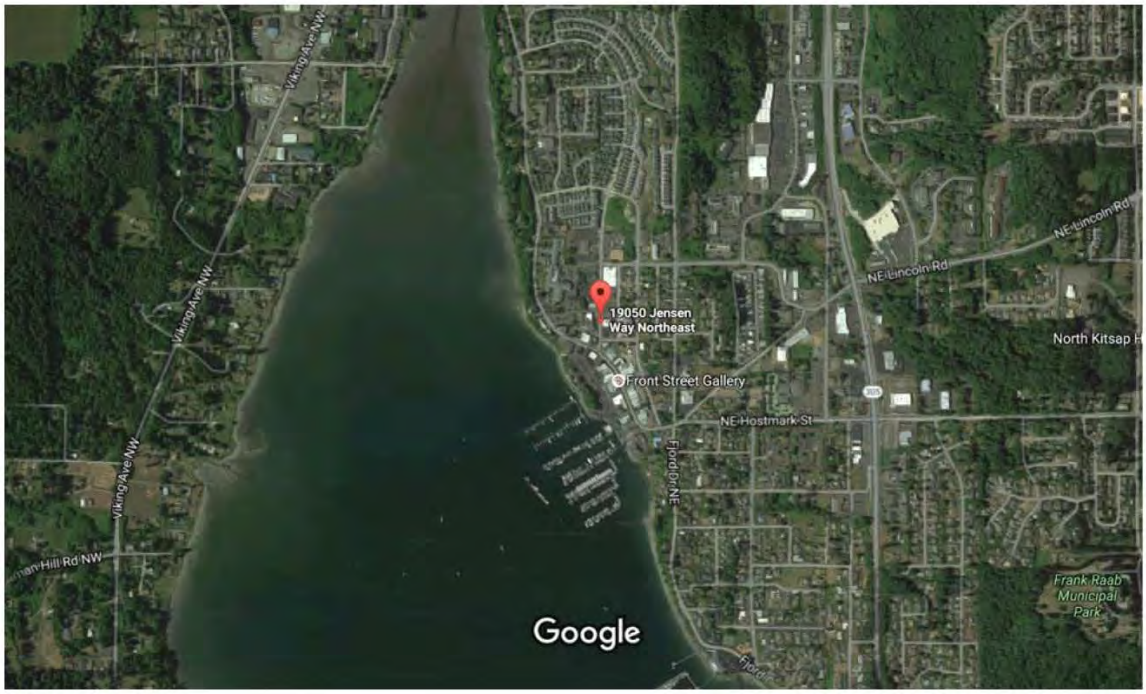
Soil and groundwater samples collected around the former UST location (see Figure 2) were all below the MTCA Method A cleanup levels. Residual soil contamination appears to be localized immediately around the former UST location. Residual contamination in soil does not appear to have migrated to groundwater.

FIGURES

19050 Jensen Way NE - Google Maps

Figure 1. Former City Hall Vicinity Map

Google Maps 19050 Jensen Way NE



Imagery ©2016 Google, Map data ©2016 Google 1000 ft

19050 Jensen Way NE
Poulsbo, WA 98370

At this location

Figure 2
Soil and Groundwater Sample Locations
Old City Hall
Contaminated Soil Assessment

Path: E:\PMX-TMDL\Old City Hall Contaminated Soil Assessment\Soil Sampling Locations.mxd
Date: 9/21/2016

SES-PSA-16-0013

APPENDIX A

COMPLETED FIELD FORMS

SEALASKA ENVIRONMENTAL

Date: 9/14/16

Project: City of Poulsbo UST

Field Personnel: M. Graddon, S. Elkind, Peter Battuello, ESN-Marty

Weather: Sunny 70°F

Daily Log

0800 Safety Meeting by M. Graddon Attendees signatures Review of work plan safety & hospital route and AHAs: Mindy Graddon,

0815 Calibrate PID. Background is 0 ppb. Zero cal reading 0 ppb Cal gas reading ~~9880~~ 9977 ppb and 10.0 ppm.

0823 Set up at boring 1 to install temp well for gw level checks throughout the day. See boring logs for details.

0920 DTW 12.8 from TOC ~6" above ground surface at GP1 See log.

1100 City of Poulsbo personnel onsite to discuss poject with P. Battuello, DNR.

1415 Completed drilling, begin clean up. (1) 16 gallon drum in corner, pending analysis labeled.

1445 ESN offsite P. Battuello offsite at 1400.

1445 Sealaska offsite.

Mindy Graddon

Sealaska Environmental Services

Marine Science Center, P.O. Box 869
18743 Front Street, NE, Suite 201
Poulsbo, WA 98370

Boring Log

Borehole ID: ~~SB-1~~ (MW) GP-1

CLIENT: City Of Poulsbo
PROJECT: Poulsbo UST
SITE: Former City Hall
LOGGED BY: Mindy Graddon
DATE/TIME START: 9/16/16 0834
DATE/TIME END: 9/16/16 0940

DRILLING CO.: ESN
DRILLER: Marty
RIG TYPE: 7800
DRILL METHOD: Direct-Push
CASING DIAMETER (inches): 1 3/4"
SAMPLER TYPE: direct push 5' Acetate liner

TOTAL BOREHOLE DEPTH (ft-bgs): 15' ground surface
DTW (DRILLING; ft-btoc): 12' (MW)
GROUND ELEVATION (ft-MLLW): N/A
COORDINATES: N/A
NORTHING:
EASTING:

▼ Water level during drilling ▼ Water level in completed well

Background PID = 0 ppb.

DEPTH (FT-BGS)	INTERVAL	RECOVERY	SAMPLE ID	GRAPHIC LOG	USCS SYMBOL	LITHOLOGY/DESCRIPTION	COMMENTS/NOTES
0						0-0.5 Trace straw from ground cover and 100% F Sand	
						0.5-5' 90% f sand. Trace to 5% silt. 5-10% Medium sand. Trace coarse sand. Dry, brown No odor @ 2' brown staining (iron)	
5	4.9'				SP	5-10' Slight diesel odor 100% f brown Sand. Trace Medium sand.	PID 6-10' 509 ppb
	4.7'			See below			
10	5'					10-15' 100% f sand, brown. Trace Medium Sand. Trace SR, equant gravel 3/4". @ 10.5' 1.5" of 40% silt and iron staining @ 10-11' slight diesel odor @ 12' ground water	10-11' 3889 PID ppb
15						Water sample Hemp well installed for ground water sample (purge via peristaltic pump Screen at 10-15'. TDS, Salinity, ph, and NWTPH-Dx. No parameters	GP-1 water levels TD = 14.9' TOC Stick up 9" 0928 12.8 1020 12.8 1047 12.85 1127 12.9 1212 12.76 1255 12.75 1405 12.76
20						GP-1-W-091116 @ 0900 GP-1-S-10-11 @ 0920 Duplicate Soil: GP-100-S-10-11 @0925	

Sealaska Environmental Services

Marine Science Center, P.O. Box 869
18743 Front Street, NE, Suite 201
Poulsbo, WA 98370

Boring Log

Borehole ID: GP-2

CLIENT: City Of Poulsbo
PROJECT: Poulsbo UST
SITE: Former City Hall
LOGGED BY: Mindy Graddon
DATE/TIME START: 9/16/16 0920
DATE/TIME END: 9/16/16 0945

DRILLING CO.: ESN
DRILLER: Marty
RIG TYPE: 7800
DRILL METHOD: Direct-Push
CASING DIAMETER (inches): 1 3/4"
SAMPLER TYPE: 5' Acetate liner

TOTAL BOREHOLE DEPTH (ft-bgs): 15'
DTW (DRILLING; ft-btoc): 9'
GROUND ELEVATION (ft-MLLW): N/A
COORDINATES: N/A
NORTHING:
EASTING:

⧗ Water level during drilling ⧗ Water level in completed well

Background PID reading @ 330ppb

DEPTH (FT-BGS)	INTERVAL	RECOVERY	SAMPLE ID	GRAPHIC LOG	USCS SYMBOL	LITHOLOGY/DESCRIPTION	COMMENTS/NOTES
0	4'	See below			SP	0-15' 100% f brown sand. Trace SR; equant gravel up to 3/4", Trace m-c Sand. No odor @ 2' silt and iron staining 1.5" long @ 9' water encountered @ 10' increase silt content to 40% Temp well installed screen 10-15' GP-2-W-0916 Sample water quality + diesel. @0945 Duplicate water sample for diesel @ 0950 labeled as GP-200-W-0916 GP-2-S-6-9 @ 0955	PID @ 3-5' 409 ppb PID @ 6-9' 512 ppb GP-2 water levels from TOC (1' above ground) 1020 10.1 1047 10.05 1127 10.05 1212 10.05 1255 10.17 1405 10.05 TD = 14.10
5	5'						
10	5'						
15							
20							

Sealaska Environmental Services

SEALASKA ENVIRONMENTAL
Marine Science Center, P.O. Box 869
18743 Front Street, NE, Suite 201
Poulsbo, WA 98370

Boring Log

Borehole ID: GP-3

CLIENT: City Of Poulsbo
PROJECT: Poulsbo UST
SITE: Former City Hall
LOGGED BY: Mindy Graddon
DATE/TIME START: 9/16/16 1004
DATE/TIME END: 9/16/16 1035

DRILLING CO.: ESN
DRILLER: Marty
RIG TYPE: 7800
DRILL METHOD: Direct-Push
CASING DIAMETER (inches): 1 3/4"
SAMPLER TYPE: 5' Acetate Sleeve

TOTAL BOREHOLE DEPTH (ft-bgs): 15'
DTW (DRILLING; ft-btoc): 9'
GROUND ELEVATION (ft-MLLW): N/A
COORDINATES: N/A
NORTHING:
EASTING:

▼ Water level during drilling ▼ Water level in completed well

Background PID = 220 ppb

DEPTH (FT-BGS)	INTERVAL	RECOVERY	SAMPLE ID	GRAPHIC LOG	USCS SYMBOL	LITHOLOGY/DESCRIPTION	COMMENTS/NOTES
0	2'	2'			SP	0-5' organics (wood debris) and gravel pieces w/ 75% f sand. 20% m-c sand and 5% wood. No odor. @ 4' 1" layer of wood @ 9' water encountered	PID from 4-5' = 647 ppb.
5	5'	4'				5-15' 100% f sand. Trace m-c (w) sand. Trace silt @ 9'-10.5' @ 7' Trace to 10% coarse sand for 1.5" No odor	PID from 7-9' = 579 ppb
10	5'					Temp well installed screen @ 10-15' GW sample for NW TPH-Dx labeled as GP-3-W-0916 @ 1030	GP-3 water levels TOC stickup 9" 1127 10.23 1212 10.23 1255 10.30 1405 10.23
15						Soil sample for NW TPH-Dx labeled as GP-3-S-7-9 @ 1020	
20							TD 14.75' from TOC

Sealaska Environmental Services

SEALASKA ENVIRONMENTAL
Marine Science Center, P.O. Box 869
18743 Front Street, NE, Suite 201
Poulsbo, WA 98370

Boring Log

Borehole ID: GP-4

CLIENT: City Of Poulsbo
PROJECT: Poulsbo UST
SITE: Former City Hall
LOGGED BY: Mindy Graddon
DATE/TIME START: 9/16/16 1050
DATE/TIME END: 9/16/16 1140

DRILLING CO.: ESN
DRILLER: Marty
RIG TYPE: 7800
DRILL METHOD: Direct-Push
CASING DIAMETER (inches): 1 3/4"
SAMPLER TYPE: 5' acetate liner

TOTAL BOREHOLE DEPTH (ft-bgs): 20'
DTW (DRILLING; ft-btoc): 15'
GROUND ELEVATION (ft-MLLW): N/A
COORDINATES: N/A
NORTHING:
EASTING:

⧗ Water level during drilling ⧗ Water level in completed well

Background PID = 0 ppb

DEPTH (FT-BGS)	INTERVAL	RECOVERY	SAMPLE ID	GRAPHIC LOG	USCS SYMBOL	LITHOLOGY/DESCRIPTION	COMMENTS/NOTES
0	4'	See below			SM	0-5' 20% silt lessens with depth 80% f sand. Brown. Trace m-c Sand. Trace gravel SR-SA, equant up to 3/4" long. Straw @ top. lessens to trace silt @ 5'. Dry. No odor	PID for 3-5' = 271 ppb
5	5'				SP	5-10' 100% f sand, Trace m-c Sand, Trace SA-SR, equant gravel up to 3/4" long. Brown. dry. No odor	PID for 6-10' = 16 ppb.
10	5'				SP	5-10' Same as above ~~12' Slight diesel odor~~	PID for 10-13 = 1525 ppb
15	5'				SP	10-15' Same as above @12' Slight diesel odor @ 14.5' moist	PID 13-14.5' = 484 ppb.
20					SP	15-20' Same as above wet @ 15' GP-4 is approximately 3' above the ground surface of the top of ground @ the tank excavation. Bottom of tank ~~5~~ 6-7 feet below ground surface correlates higher PID reading at 10-13 feet bgs. Soil sample GP-4-S-10-13@1125 GW sample GP-4-W-0916 @ 1130	

Sealaska Environmental Services

SEALASKA ENVIRONMENTAL

Marine Science Center, P.O. Box 869
18743 Front Street, NE, Suite 201
Poulsbo, WA 98370

Boring Log

Borehole ID: GP-5

CLIENT: City Of Poulsbo
PROJECT: Poulsbo UST
SITE: Former City Hall
LOGGED BY: Mindy Graddon
DATE/TIME START: 9/16/10 1150
DATE/TIME END: 9/16/10 1225

DRILLING CO.: ESN
DRILLER: Marty
RIG TYPE: 7800
DRILL METHOD: Direct-Push
CASING DIAMETER (inches): 1 3/4"
SAMPLER TYPE: 5' acetate liner

TOTAL BOREHOLE DEPTH (ft-bgs): 20'
DTW (DRILLING; ft-btoc): 15'
GROUND ELEVATION (ft-MLLW): N/A
COORDINATES: N/A
NORTHING:
EASTING:

Water level during drilling ▼ Water level in completed well

Background PID reading = 0.0 ppb

DEPTH (FT-BGS)	INTERVAL	RECOVERY	SAMPLE ID	GRAPHIC LOG	USCS SYMBOL	LITHOLOGY/DESCRIPTION	COMMENTS/NOTES
0	5'	see below			SM	0-2' Asphalt and sand (F-C) moisture	PID 3-5' = 43 ppb
						2-3 30% silt, 70% F sand. Trace m-c 4.5' sand. Brown, dry. Trace gravel, SR, elongated, equant up to 1/2" long	PID 6-10' = 13 ppb.
5	5'				SP	~~4.5-5' 25 mg~~ 100% F sand, brown Trace m-c sand.	
						4.5'-20 Same as above. No odor	PID 10-14' = 86 ppb
10	5'					Moist @ 14'	
						wet @ 15'	
15	5'					Groundwater sample GP-5-W-0916@1220	
						Soil sample GP-5-S-10-14 @ 1225.	
20							

Sealaska Environmental Services

SEALASKA ENVIRONMENTAL
Marine Science Center, P.O. Box 869
18743 Front Street, NE, Suite 201
Poulsbo, WA 98370

Boring Log

Borehole ID: GP-6

CLIENT: City Of Poulsbo
PROJECT: Poulsbo UST
SITE: Former City Hall
LOGGED BY: Mindy Graddon
DATE/TIME START: 9/16/14 1245
DATE/TIME END: 9/16/14 1315

DRILLING CO.: ESN
DRILLER: Marty
RIG TYPE: 7800
DRILL METHOD: Direct-Push
CASING DIAMETER (inches): 1 3/4"
SAMPLER TYPE: 5' acetate liner

TOTAL BOREHOLE DEPTH (ft-bgs): 20'
DTW (DRILLING;ft-btoc): 14'
GROUND ELEVATION(ft-MLLW): N/A
COORDINATES: N/A
NORTHING:
EASTING:

⧗ Water level during drilling ⧗ Water level in completed well

Background pid @ 0 ppb

DEPTH (FT-BGS)	INTERVAL	RECOVERY	SAMPLE ID	GRAPHIC LOG	USCS SYMBOL	LITHOLOGY/DESCRIPTION	COMMENTS/NOTES
0	5'	4'			SM	0-5' 10-20% silt, 80% f sand @ 4' Iron staining. Trace M-C sand Trace gravel, SR, SA, equant up to 1/4". No odor. brown, dry	PID @ 3-5' = 77 ppb
5	5'	3'			SP	5-10 Silt decreases to trace by 10' 100% F sand, brown, dry. Trace M-C sand, Trace 1/4" gravel. SR, equant, Slight diesel odor	PID @ 6-10' = 730 ppb
10	5'	4'				10-15 Same as above 100% F sand Trace M-C sand & gravel SR, equant up to 1/4". Slight diesel odor wet @ 14"	PID 11-14' = 3977 ppb
15	5'	4'				15-20' Same as above	
20						Collect groundwater sample GP-6-W-091614@1315	
						Soil sample GP-6-S-11-14@1310	

Sealaska Environmental Services

Marine Science Center, P.O. Box 869
18743 Front Street, NE, Suite 201
Poulsbo, WA 98370

Boring Log

Borehole ID: GP-7

CLIENT: City Of Poulsbo
PROJECT: Poulsbo UST
SITE: Former City Hall
LOGGED BY: Mindy Graddon
DATE/TIME START: 9/16/16 1345
DATE/TIME END: 9/16/16 1415

DRILLING CO.: ESN
DRILLER: Marty
RIG TYPE: 7800
DRILL METHOD: Direct-Push
CASING DIAMETER (inches): 1 3/4"
SAMPLER TYPE: 5' acetate liner

TOTAL BOREHOLE DEPTH (ft-bgs): 20'
DTW (DRILLING; ft-btoc): 13'
GROUND ELEVATION (ft-MLLW): N/A
COORDINATES: N/A
NORTHING:
EASTING:

⧗ Water level during drilling ⧗ Water level in completed well

Background PID reading - 0 ppb

DEPTH (FT-BGS)	INTERVAL	RECOVERY	SAMPLE ID	GRAPHIC LOG	USCS SYMBOL	LITHOLOGY/DESCRIPTION	COMMENTS/NOTES
0	3'	see below			SP	0-5 100% F sand, brown, dry, no odor. @3.5' 2" layer of 75% silt, 25% F sand. Trace M-C sand and SR, equant gravel up to 1/2" throughout. @2' Iron staining, 2" long.	PID @ 3-5' = 0 ppb
5	5'				SP	5-10 100% F sand. Trace M-C sand. No odor @ 12.5' 2" layer of Silt. wet @ 13'	PID @ 6-10' = 6 ppb
10	5'					10-15 Same as above, no silt layer. 15-20 Same as above	PID @ 10-13' = 0 ppb.
15	5'					Soil sample GP-7-S-10-13 @ 1400 GW sample GP-7-W-0916 @ 1415	
20							

SEALASKA ENVIRONMENTAL

Date: 9/16/16

Project: City of Poulsbo UST

Field Personnel: M. Gradolen, S. Elkind

Sampling Assessment Log

Boring Location	Depth (feet)	PID (ppm)	Soil Sample ID	Sample Time
GP-1	15'		water sample GP-1-W-0916	0900 + WQ
			GP-1-S-10-11	0920
			DUP GP-100-S-10-11	0925
GP-2			GP-2-W-0916	0945 + WQ
			DUP GP-200-W-0916	0950
			GP-2-S-6-9	0955
GP-3			GP-3-W-0916	1030
			GP-3-S-7-9	1020
GP-4			GP-4-W-0916	1130
			GP-4-S-10-13	1125
GP-5			GP-5-W-0916	1220
			GP-5-S-10-14	1225
GP-6			GP-6-W-0916	1315
			GP-6-S-11-14	1310
GP-7			GP-6-W-0916	1415
			GP-7-~~W-09~~ S-10-13	1400
			(DUP)	

All analyzed for NWTPH-Dx with silica gel cleanup
Samples above marked WQ also analyzed for pH, salinity and Total dissolved solids.

APPENDIX B

LABORATORY ANALYTICAL REPORT

ESN NORTHWEST, INC. | Environmental Services Network

CHAIN-OF-CUSTODY RECORD

48-hr TAT

PO-01490

CLIENT: Sealaska Environmental Services

ADDRESS: 18743 Front St. NE P Suite 201 Poulsbo, WA 98370

PHONE: 360-626-3145 FAX:

CLIENT PROJECT #: 53212.002.001.101 PROJECT MANAGER: Scott.Elking@Sealaskacorp.com Mindy.graddon@Sealaskacorp.com

DATE: 9/16/16 PAGE 1 OF 1

PROJECT NAME: City of Poulsbo UST

LOCATION: Poulsbo, WA

COLLECTOR: M. Graddon DATE OF COLLECTION: 9/16/16

Sample Number	Depth	Time	Sample Type	Container Type	TPH - HCID	TPH - Diesel & Oil	TPH - Gasoline	BTEX	VOC 8260CL	VOC 8260	SemiVol 8270	PAH's 8270	PCB's 8082	CL Pesticides 8081	RCRA 8 Metals	MTCA 5 Metals	Pb	Asbestos - PLM	GRO Suite	DRO Suite	WO Suite	pH	TDS	Salinity	NOTES	Total Number of Containers	Laboratory Note Number
1. GP-1-W-0916		0900	W	Amber, poly		X															X	X	X		w/ SGCU*	3	
2. GP-1-S-10-11		0920	S	4oz		X																			w/ SGCU	2	
3. GP-100-S-10-11		0925	S	4oz		X																				2 ~~1~~	
4. GP-2-W-0916		0945	W	Amber, poly		X															X	X	X			3	
5. GP-200-W-0916		0950	W	Amber, poly		X																				1	
6. GP-2-S-~~0911~~ 9		0955	S	4oz		X																				2	
7. GP-3-W-0916		1030	W	Amber		X																				1	
8. GP-3-S-7-9		1020	S	4oz		X																				2	
9. GP-4-W-0916		1130	W	Amber		X																				1	
10. GP-4-S-10-13		1125	S	4oz		X																				2	
11. GP-5-W-0916		1220	W	Amber		X																				1	
12. GP-5-S-10-14		1225	S	4oz		X																				2	
13. GP-6-W-0916		1315	W	Amber		X																				1	
14. GP-6-S-11-14		1310	S	4oz		X																				2	
15. GP-7-W-0916		1415	W	Amber		X																				1	
16. GP-7-S-10-13		1400	S	4oz		X																				2	
17.																											
18.																											

SGCU = Silica gel cleanup

TDS = total dissolved solids

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
Mindy Graddon	9/16/16 1440		1445
			9/16/16
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
			9-19-16 0830

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR 5 DAY

1210 Eastside Street SE, Suite 200
Olympia, Washington 98501
Phone: 360-459-4670
Fax: 360-459-3432
Website: www.esnnw.com
E-Mail: info@esnnw.com

ESN NORTHWEST CHEMISTRY LABORATORY

Sealaska Environmental Services
PROJECT CITY OF POUSLBO UST
PROJECT #53212.002
Pouslbo, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil by Method NWTPH-Dx Extended with Silica Gel Clean Up

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	9/19/2016	9/19/2016	106	nd	nd
LCS	9/19/2016	9/19/2016	124	94%	---
GP-1-S-10-11	9/19/2016	9/19/2016	111	nd	nd
GP-100-S-10-11	9/19/2016	9/19/2016	108	nd	nd
GP-2-S-6-9	9/19/2016	9/19/2016	114	nd	nd
GP-3-S-7-9	9/19/2016	9/19/2016	109	nd	nd
GP-4-S-10-13	9/19/2016	9/19/2016	107	nd	nd
GP-5-S-10-14	9/19/2016	9/19/2016	108	nd	nd
GP-6-S-11-14	9/19/2016	9/19/2016	108	nd	nd
GP-7-S-10-13	9/19/2016	9/19/2016	108	nd	nd
Reporting Limits				50	100

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

Sealaska Environmental Services
PROJECT CITY OF POUSLBO UST
PROJECT #53212.002
Pouslbo, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Diesel Range Organics & Lube Oil Range Organics in Water by Method NWTPH-Dx Extended with Silica Gel Clean Up

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (ug/L)	Lube Oil Range Organics (ug/L)
Method Blank	9/19/2016	9/19/2016	124	nd	nd
LCS	9/19/2016	9/19/2016	106	84%	---
GP-1-W-0916	9/19/2016	9/19/2016	96	nd	nd
GP-2-W-0916	9/19/2016	9/19/2016	112	nd	nd
GP-200-W-0916	9/19/2016	9/19/2016	109	nd	nd
GP-3-W-0916	9/19/2016	9/19/2016	110	nd	nd
GP-4-W-0916	9/19/2016	9/20/2016	94	nd	nd
GP-5-W-0916	9/19/2016	9/20/2016	102	nd	nd
GP-6-W-0916	9/19/2016	9/20/2016	103	nd	nd
GP-7-W-0916	9/19/2016	9/20/2016	93	nd	nd
Reporting Limits				250	500

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

SPECTRA Laboratories ...*Where experience matters*

2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com

09/21/2016

ESN Northwest
1210 Eastside St SE
Suite 200
Olympia, WA 98501
Attn: Julie Woods

Project:	City of Poulsbo
Client ID:	GP-1-W-0916
Sample Matrix:	Water
Date Sampled:	09/16/2016
Date Received:	09/19/2016
Spectra Project:	2016090466
Spectra Number:	1
	Rush

Analyte	Result	Units	Method
Salinity	0.17	PSS	SM 2520 B
Total Dissolved Solids	173	mg/L	SM 2540 C
pH	5.90	pH Units	SM 4500-H+ B

SPECTRA LABORATORIES

Steve Hibbs, Laboratory Manager
a6/sgh

SPECTRA Laboratories ...*Where experience matters*

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09/21/2016

ESN Northwest
1210 Eastside St SE
Suite 200
Olympia, WA 98501
Attn: Julie Woods

Project:	City of Poulsbo
Client ID:	GP-2-W-0916
Sample Matrix:	Water
Date Sampled:	09/16/2016
Date Received:	09/19/2016
Spectra Project:	2016090466
Spectra Number:	2
	Rush

Analyte	Result	Units	Method
Salinity	0.14	PSS	SM 2520 B
Total Dissolved Solids	174	mg/L	SM 2540 C
pH	5.89	pH Units	SM 4500-H+ B

SPECTRA LABORATORIES

Steve Hibbs, Laboratory Manager
a6/sgh