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**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222
DEQ File #03-20-0393
UST Site ID: #9355**

April 13, 2023

Owner:

Murphy Company
c/o Dan Hollingshead
2350 Prairie Road
Eugene, Oregon 97402

Prepared for:

Oregon Department of Environmental Quality
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1.0 INTRODUCTION

This report summarizes the activities conducted by Soil Solutions Environmental Services, Inc. (SSES) at 3063 SE Harrison Street in Milwaukie, Oregon (Site).

Site activities included decommissioning by removal of three underground storage tanks (USTs), soil, and groundwater sampling and analysis. This report describes our activities, summarizes the results of the work and recommends closure of the site based on findings.

Per Oregon Department of Environmental Quality (DEQ) these USTs are regulated because they are commercial diesel/gasoline tanks and are larger than 1,100 gallons in capacity. These USTs are presumed to be associated with a gasoline station formerly located on site. Additionally, there were reportedly three gasoline tanks previously decommissioned by removal and one heating oil tank decommissioned in place (#03-92-0137). The present USTs were discovered by another contractor while installing shoring for a new stormwater pipe for the City of Milwaukie in the area of what is designated as tank 1.

2.0 SITE DESCRIPTION

As shown on the Vicinity Map, Figure 1, the site is located in an urban business area of Milwaukie, Oregon in Clackamas County. The site is a commercial property located north of SE Harrison Street and west of SE 31st Avenue. A railroad is located approximately 50-feet west of the property. As shown on Figures 2 through 4, the USTs were located in the west portion of the property. Tank 1 was approximately 7,500-gallons in capacity, located west of tanks 2 and 3. Tank 2, was approximately 9,000-gallons and tank 3 approximately 6,000-gallons, were located side by side east of tank 1.

According to the United States Geological Survey (USGS) Topographic 7.5-minute map for the Lake Oswego, Oregon Quadrangle the site is relatively flat at an elevation of approximately 105-feet above mean sea level. The site is located at Township 1S Range 1E Section 36 of the Willamette Meridian. The geology at the site is mapped as coarse-grained sediments of the Missoula flood deposits (Ma et al., 2012). Snyder (2008) indicates groundwater in the vicinity is expected at approximately 28-feet below the ground surface. During the initial field work activities in 2020, Groundwater was not observed at the site. During follow up activities in 2023, groundwater was encountered at a depth of 15-feet. Groundwater is assumed to follow topography and flow to the northwest toward Crystal Lake and Johnson Creek before it flows into the Willamette River.

3.0 FIELD ACTIVITIES

Field activities were completed between May 13 and June 29, 2020. Field activities included inerting, cleaning, and removing the USTs, removal of petroleum contaminated soil (PCS), and collection of soil grab samples. Photographs of field activities are included in Appendix A. Site features and sample locations are shown on Figures 2 through 4. All equipment was decontaminated between sample locations. New nitrile gloves were donned by the sampler prior

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to each sample collected. Samples collected during field activities were placed in laboratory-supplied clean glass jars, labeled and placed in a cooler with ice. Samples were then transported under chain-of-custody documentation to Friedman & Bruya, Inc. laboratory in Seattle, Washington. Following sample collection each boring location was backfilled with bentonite chips to ground surface.

3.1 UST Decommissioning and Site Assessment Activities

On May 13, 2020 SSES collected one soil sample (SG1@4.0) from the area above tank 1 where diesel stained soil was encountered by another contractor. The sample was collected at a depth of approximately 4-feet bgs. The depth and location of the contamination suggested the potential release was from a product line. Laboratory analysis revealed detections of gasoline and diesel.

On May 15, 2020 tank 1 was further exposed and a portion of the top was cut open. The tank was found partially filled with lightly contaminated concrete slurry. The PCS excavated from above and around the tank was stockpiled on plastic for temporary storage on site. One grab sample, identified as SP, was collected from stockpiled spoils pile of PCS. The tank contents were probed, a sample of the tank contents (tankcontents@9) was collected at a depth of 9-feet.

On May 18, 2020 the contents of tank 1 were removed, and the interior was thoroughly cleaned. The tank contents were temporarily stockpiled on site and later transported to Hillsboro Landfill. On May 19, 2020 the entire tank 1 and associated piping were removed under SSES oversight. The tank and piping were disposed by Murphy Company. Contaminated soil beneath tank 1 was then removed to a depth of approximately 16-feet below ground surface at the north and south excavation ends. Six soil samples (SG4 through SG9) were collected from the excavation.

On May 21, 2020 SSES oversaw additional soil excavation to a depth of 17.5-feet at the north and south ends of the excavation beneath tank 1. Two soil samples were collected from the north and south pit ends at depths of 17.5-feet using the excavator grab method (SG10 and SG11). Visual and olfactory indications of contamination with possible free product was observed in the excavation at a depth of approximately 17 to 18-feet. DEQ was notified via email. No further indications of free product or groundwater was observed during the remainder of field activities. At this time, the west excavation sidewall, located approximately 25-feet from the railroad, began to cave in and it was determined that additional removal of soil could not be completed safely so the excavation was partially backfilled. The final dimensions of the excavation were roughly 25-feet in length and 17-feet in width. Approximately 100 tons of contaminated fill material and PCS was temporarily stock piled on site for future disposal at Hillsboro Landfill. After consultation with the DEQ project manager, Robert Hood, the remaining portion of the excavation beneath tank 1 was backfilled with compacted gravel.

Underground product lines located between tanks 1 and 2 were removed and disposed of by Murphy Company. On June 8, 2020 SSES collected three soil grab samples (SG12 through SG14) from below the former product lines.

On June 11 and 12, 2020 tank 2 was exposed and cut open. The tank was found to be partially filled with concrete slurry. The tank contents were removed, and the interior was thoroughly

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cleaned. The solid tank contents were temporarily stockpiled on site and later transported to Hillsboro Landfill. Approximately 758 gallons of emulsified fuel and water was removed and transported by Oil Re-Refining Company (ORRCO) for proper disposal. On June 18, 2020 tank 2 and associated piping were removed under SSES oversight and were disposed by Murphy Company. There were no visual or olfactory indications of contamination below tank 2. SSES collected six soil samples (T2SG16 and T2SG17) from below the former location of tank 2.

On June 20 and 29, 2020 tank 3 was exposed and cut open. The tank was found to be partially filled with contaminated concrete slurry. The tank contents were removed, and the interior was thoroughly cleaned. The solid tank contents were temporarily stockpiled on site and later transported to Hillsboro Landfill. Approximately 242 gallons of emulsified fuel and water was removed and transported by ORRCO for proper disposal. Tank 3 and associated piping were removed under SSES oversight and were disposed by Murphy Company. SSES collected six soil samples (SG222 through SG27) from below tank 3.

Following receipt of all laboratory reports, the former tank excavations were backfilled with gravel by Murphy Company and restored to grade.

A total of three USTs and approximately 196.02 tons of contaminated soil and fill material were removed from the former UST areas. Photographs of field activities are included in Appendix A. Laboratory results and chains of custody are included in Appendix B. Disposal receipts are included in Appendix C.

On March 21, 2023, SSES completed three borings, designated 28 through 30. Boring 28 was completed within the north portion of UST-1 through the former excavation. A soil sample was collected at 22 to 24-foot bgs from native soil located beneath the backfill to determine the vertical extent of soil contamination. Borings 29 and 30 were placed northwest and north of former UST-1. Soil samples were collected at a depth of 14 to 16-foot bgs to determine the lateral extent of soil contamination. Groundwater was encountered at approximately 15-foot bgs and samples were collected in borings 29 and 30. Boring 28 collapsed before a groundwater sample could be collected.

4.0 ANALYTICAL RESULTS

Samples were transported under chain of custody documentation to Friedman & Bruya, Inc. (FB) laboratory in Seattle, Washington. Laboratory analysis included identification of gasoline, diesel and heavy oil hydrocarbons using Northwest Total Petroleum Hydrocarbon Analytical Method NWTPH-Dx, NWTPH-HCID, NWTPH-Gx, NWTPH-Dx, Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), Volatile organic compounds (VOCs), and Polycyclic Aromatic Hydrocarbons (PAHs). Select laboratory analytical results of are shown on Figures 2 through 4 and tabulated on Tables 2 and 3. Laboratory analytical reports and chains of custody are included in Appendix B.

After contaminated soil was removed, gasoline remained at a maximum concentration of 1,700 ppm and Diesel and heavy oil remained at a maximum concentration of 720 ppm in sample

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SG10@17.5 at Tank 1. This sample was sent for additional BTEX+N. Laboratory results revealed detections of BTEX and PAHs.

The lateral extent of the soil contamination around tank 1 was bounded by samples SG6@13, SG9@13, SG8@13, and borings 29 and 30. borings 4, 5, and 6. Gasoline, diesel and heavy oil were not detected above the laboratory reporting limit in soil samples from these borings. The vertical extent of the soil contamination was identified in boring 28. Gasoline, diesel, and heavy oil were not detected above laboratory reporting limits in a soil sample collected at 22 to 24-foot bgs. Assuming diesel and heavy oil contamination migrated downward and out in an inverted cone shape, the total volume of contaminated soil at the site was calculated at approximately 87 cubic yards. Approximately 100 tons or 75-cubic yards of contaminated soil was removed from the area of tank 1, indicating 12 cubic yards of contaminated soil remains present. The estimated area of contaminated soil is shown on Figure 2.

Groundwater from boring 29, located west of tank 1, initially revealed a low diesel and heavy oil concentration of 150 ppb. This samples was “X” flagged by the laboratory, indicating the sample chromatographs did not resemble fuel standard used for quantitation. Communication with the laboratory indicated the sample might contain a significant amount of organic material that may be interfering with the analysis. A silica gel cleanup method was subsequently used for this groundwater sample to reduce this interference and produce an appropriately quantified result for the diesel and heavy oil analysis. Following the silica gel cleanup, laboratory analysis revealed diesel and heavy oil were not detected above laboratory reporting limits in this groundwater sample. Diesel and heavy oil were not detected above laboratory reporting limits in groundwater from borings 30.

Groundwater samples from borings 29 and 30 were also analyzed for VOCs and PAHs. VOCs were not detected above laboratory reporting limits with the exception of the following:

- Groundwater sample W29@18
 - Pyrene at a concentration of 0.058 ppm
- Groundwater sample W30@18
 - Methylene chloride at a concentration of 5.2 ppm
 - 1,2-Dichloroethane (EDC) at a concentration of 0.36 ppm
 - Pyrene at a concentration of 0.044 ppm
 - Benzo(a)pyrene at a concentration of 0.047 ppm
 - Benzo(b)fluoranthene at a concentration of 0.04 ppm
 - Ideno(1,2,3-cd)pyrene at a concentration of 0.04 ppm

5.0 RISK BASED CORRECTIVE ACTION EVALUATION

SSES conducted an Oregon DEQ Risk Based Corrective Action (RBCA) evaluation for the site. The extent of the contaminated soil and groundwater has been delineated.

5.1 Source

A release from two of the three USTs included in this report resulted in diesel-range petroleum hydrocarbon impact to soil. The potential contaminants of concern include gasoline, diesel, BTEX and PAHs.

5.2 Conceptual Site Model

SSES developed a Conceptual Site Model (CSM) for the site. The complete CSM is included in Table 1 and includes site-specific information supporting the inclusion or exclusions of all pathways and receptor scenarios.

Additional site-specific information includes that shallow groundwater at the site was encountered at a depth of 15-feet bgs.

Drinking water in the area is provided by the City of Milwaukie. The Oregon Drinking Water Protection Program drinking water source area map was consulted for the site. This map was produced by Oregon DEQ in partnership with the Oregon Health Authority to help public water systems and their communities identify and protect sources of drinking water. The site is not located within a drinking water protection zone. Letters were sent out to the adjacent property owners notifying them of the cleanup activity at this site and requesting they contact SSES within 5 business days if they have a well. No responses have been received.

Oregon Water Resources Department (ORWD) well logs in the vicinity of the site were reviewed. A total of 10 water wells were identified within ¼-mile of the site. Of these 10 wells, only five are beneficial use (drinking water, irrigation, etc.) wells. All five wells appear to be City of Milwaukie municipal water supply wells. All five wells are in the assumed upgradient direction of the site, however two well logs (CLAC_319 & CLAC_60520) appear to be located close the site, approximately 850-feet to the southeast. CLAC_60520 appears to be an alteration of well CLAC_319. Construction details on the well logs indicate construction with a solid casing to a depth of 304-feet. Copies of the well logs consulted are attached in Appendix D. Given the construction details of these wells, and their location in the apparent upgradient direction, it is unlikely the groundwater at this site will complete a pathway for ingestion or inhalation of contaminants as tap water or other use where exposure may occur.

5.3 Generic Cleanup Levels

Based on the CSM, risk based concentrations (RBCs) were selected for the site. The RBCs selected are tabulated below.

Contaminated Medium	Exposure Pathway	Receptor Scenario	RBC
Soil	Soil Ingestion, Dermal Contact, and Inhalation	Occupational	RBC _{ss}
		Construction Worker	
		Excavation Worker	
	Volatilization to Outdoor Air	Occupational	RBC _{so}
	Vapor Intrusion into Buildings	Occupational	RBC _{si}
Groundwater	Volatilization to Outdoor Air	Occupational	RBC _{wo}
	Vapor Intrusion into Buildings	Occupational	RBC _{wi}
Soil Gas	Vapor Intrusion into Buildings	Occupational	RBC _{sv}

The analytical results from soil, groundwater and soil gas samples are compared to the applicable generic RBCs in Tables 2 to 4.

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5.4 Free Product

On May 21, 2020 while excavation around former tank 1 was being conducted, visual and olfactory indications of contamination with possible free product was observed in the excavation at a depth of approximately 17 to 18-feet. SSES notified DEQ via email. Recovery of the possible free product could not be conducted by excavation due to safety concerns. A portion of the excavation had begun to cave in, and it was determined that additional removal of soil could not be completed safely. No further indications of free product or groundwater was observed during the remainder of field activities. After consultation with the DEQ project manager, Robert Hood, the remaining portion of the excavation beneath tank 1 was backfilled with compacted gravel and SSES proceeded with the risk-based assessment.

6.0 DISCUSSION AND CONCLUSIONS

SSES has completed the decommissioning and removal of three regulated USTs at 3063 SE Harrison Street in Milwaukie, Oregon. Tanks 1 and 3 leaked and released petroleum hydrocarbons into the environment. The tanks, associated piping, tank contents, and PCS were removed from the site. Following discussion with DEQ it was determined additional excavation around tank 1 was not advisable due to safety concerns and proceeding with a Risk-Based Assessment was acceptable.

The project site is in a commercial area and drinking water is supplied by the City of Milwaukie.

A total of approximately 1,250 gallons of emulsified fuel and water were removed from the USTs. The tanks and approximately 196.02 tons of soil were removed from the site. The excavation was backfilled by another contractor. Thirty soil samples and two groundwater samples were collected for analysis.

An RBCA evaluation for the site was completed and a CSM was developed. Measured concentrations were compared to the applicable RBCs. Eight potentially complete exposure pathways were identified for the project site in soil, groundwater, and soil gas. As shown in Table 1, of potentially complete exposure pathways identified for the project site in soil, groundwater, and soil gas, there are no remaining complete pathways. The following tables show the measured concentrations of contaminants of concern compared to applicable RBCs:

- As listed in Table 2, concentrations of contaminants of concern remaining in soil did not exceed any applicable RBCs.
- As listed in Tables 3 and 4, concentrations of contaminants of concern in groundwater did not exceed any applicable RBCs

7.0 RECOMMENDATION

Remaining gasoline, diesel and associated constituents present in soil do not appear to present a threat to human health or the environment. SSES requests a finding of No Further Action and file closure for the above referenced site, DEQ file #03-20-0393.

8.0 LIMITATIONS

This report was prepared by SSES for property owner Dan Hollingshead and summarizes the progress of our work at 3063 SE Harrison Street, Milwaukie, Oregon. We have performed our services in accordance with our agreement and understanding with the client. The scope of work was limited to the specific project, location, and activities described herein. The material in it reflects our best judgment in light of the information available at the time of preparation.

This report may not be used or relied upon by any other party without the written consent of SSES. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. SSES is not responsible for the independent conclusions, opinions or recommendations made by others based on this report and accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations is at the risk of said user.

SSES performed this work in accordance with generally accepted professional practices related to the nature of the work accomplished, in the same or similar localities, at the time the services were performed. The conclusions presented in this report are, in part, based upon subsurface sampling performed at selected locations and depths. There may be conditions between sample points or samples that differ significantly from those presented in this report and which cannot be predicted by this study. For these types of evaluations, it is often necessary to use information prepared by others and SSES cannot be responsible for the accuracy of such information. Additionally, the passage of time may result in a change in the environmental characteristics at this site and surrounding properties. This report does not warrant against future operations or conditions, nor does this warrant operations or conditions present of a type or at a location not investigated. This report is not a regulatory compliance audit and is not intended to satisfy the requirements of any state, federal, or local real estate transfer laws.

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FIGURES

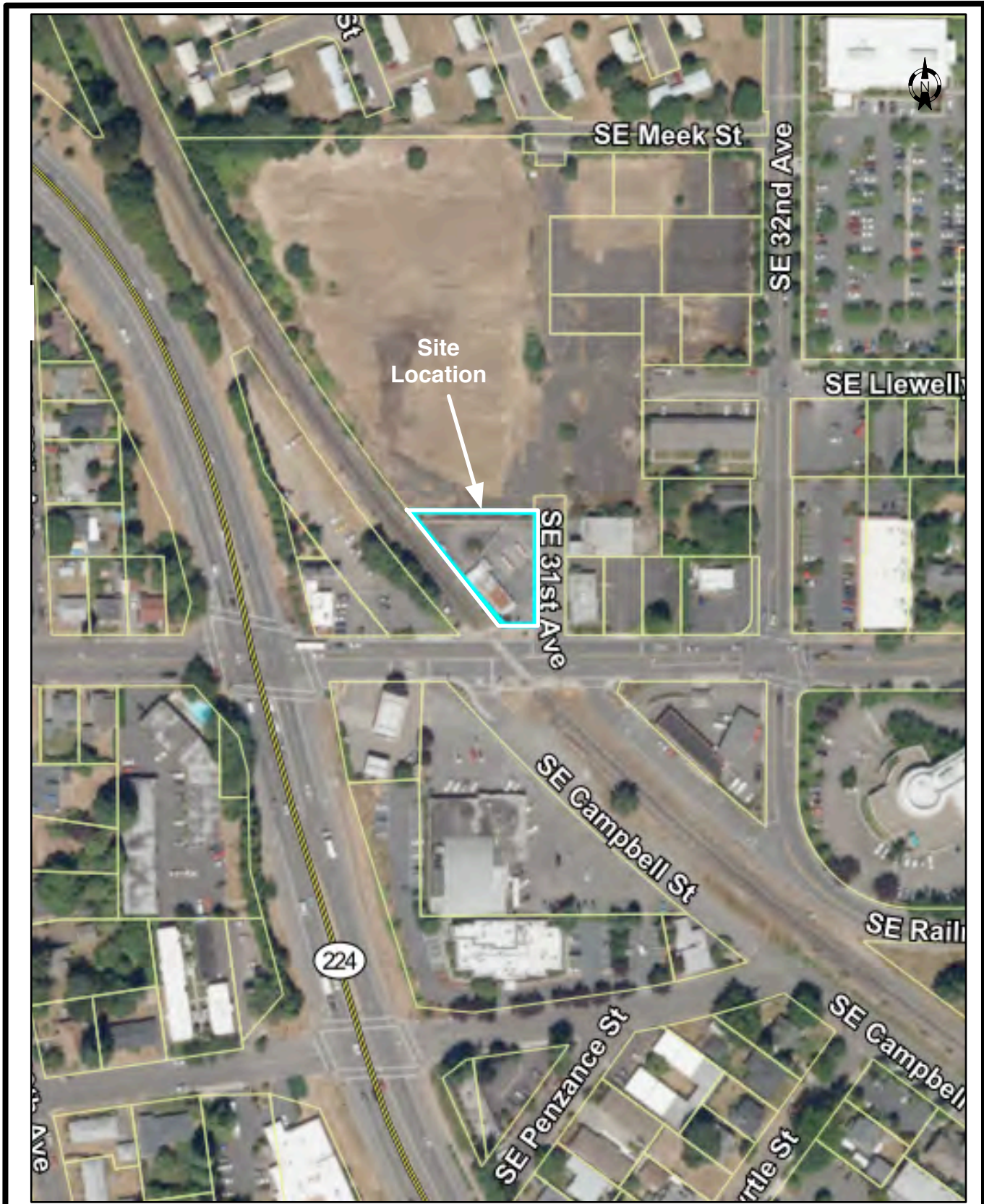
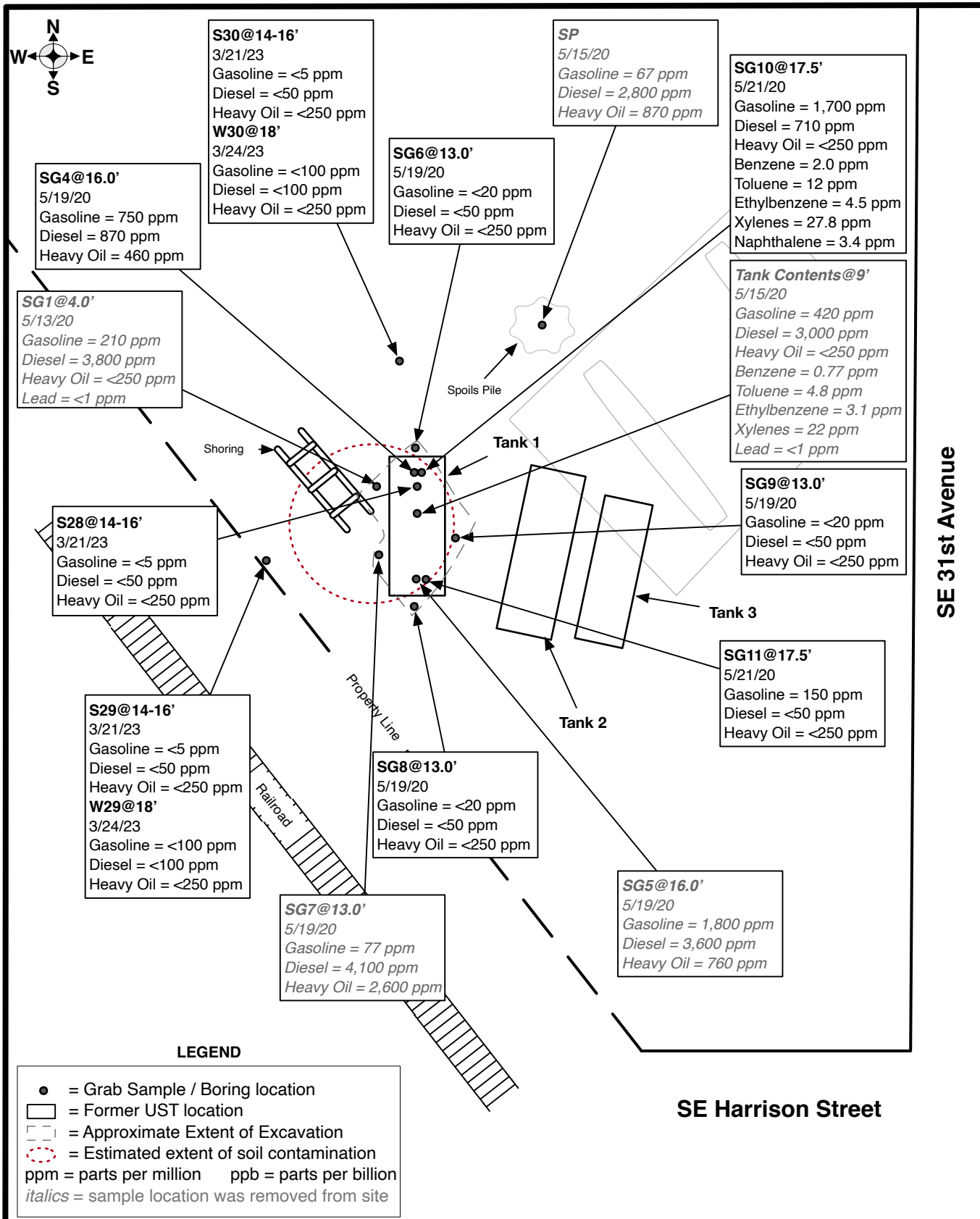


Figure 2: Site Location Map
 3063 SE Harrison Street
 Milwaukie, OR 97222
 DEQ #03-20-0393
 UST Site ID #9355

PROJECT: UST


DATE: 4/13/23

0 |—————| 500 feet



SE 31st Avenue

SE Harrison Street

	<p>Figure 2: Site Map - Tank 1 3063 SE Harrison Street Milwaukie, OR 97222 DEQ #03-20-0393 UST Site ID #9355</p>	<p>PROJECT: UST</p>
		<p>DATE: 4/13/23</p>
		<p>SCALE: 1" = 20'</p>

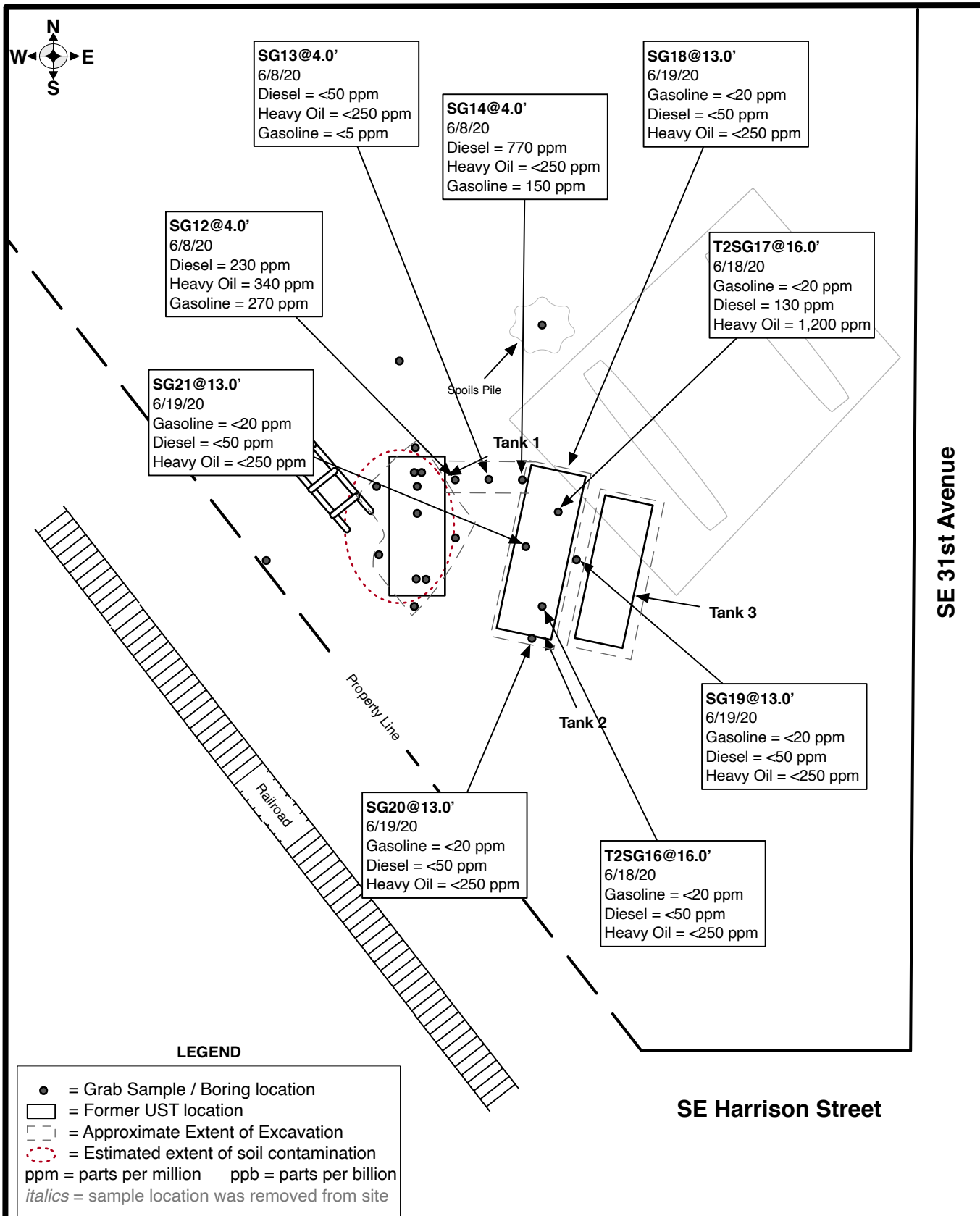
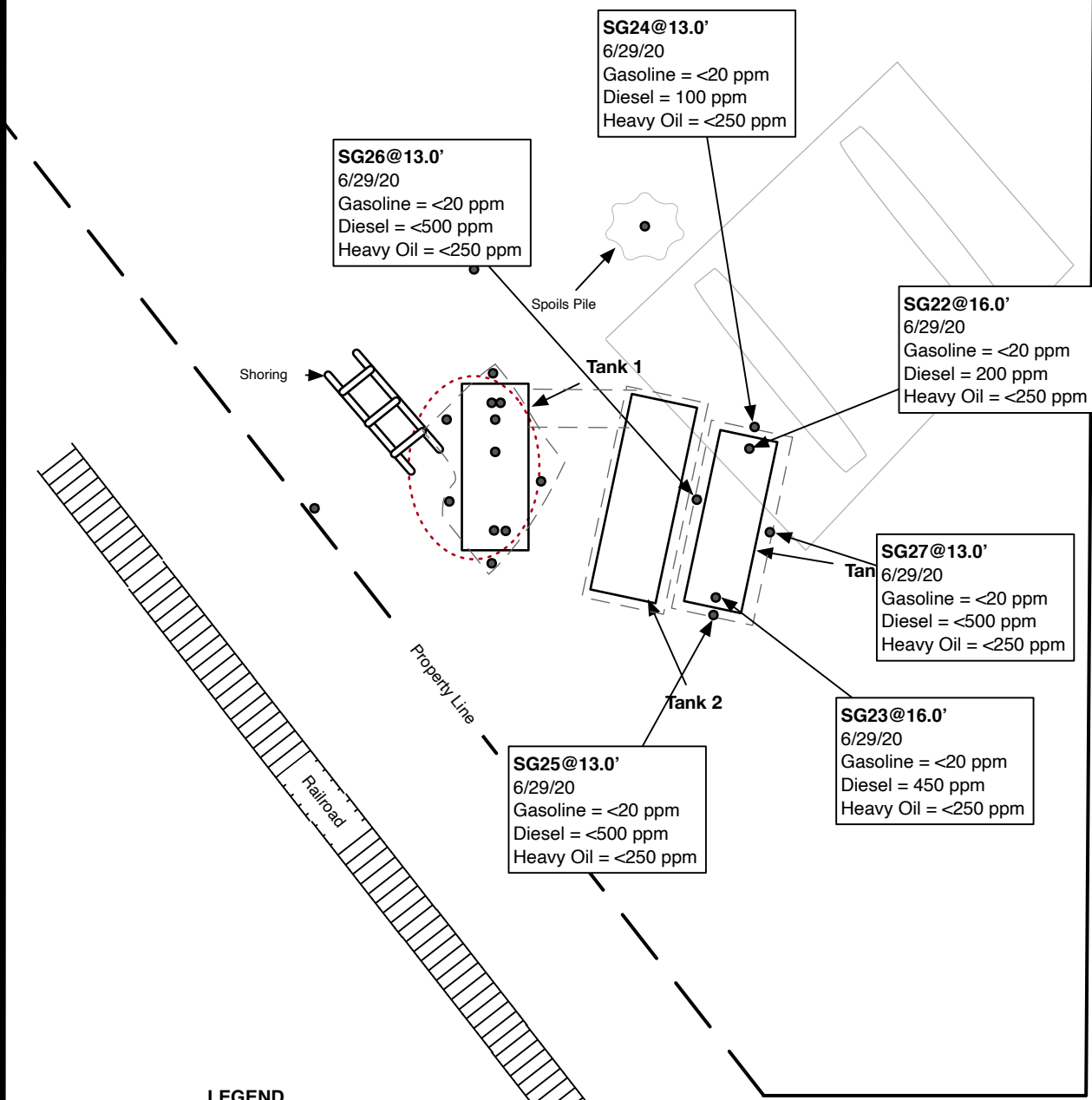
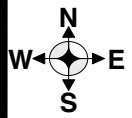


Figure 3: Site Map - Tank 2
3063 SE Harrison Street
Milwaukie, OR 97222
DEQ #03-20-0393
UST Site ID #9355

PROJECT: UST
DATE: 4/13/23
SCALE: 1" = 20'





LEGEND

- = Grab Sample / Boring location
- = Former UST location
- (dashed) = Approximate Extent of Excavation
- (dashed red) = Estimated extent of soil contamination
- ppm = parts per million ppb = parts per billion
- italics* = sample location was removed from site



Figure 4: Site Map - Tank 3
 3063 SE Harrison Street
 Milwaukie, OR 97222
 DEQ #03-20-0393
 UST Site ID #9355

PROJECT: UST
 DATE: 4/13/23
 SCALE: 1" = 20'

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TABLES

Table 1
Conceptual Site Model

Contaminated Medium	Exposure Pathway	Receptor Scenario	Was Pathway Selected?	Reason for Selection or Exclusion	Is Pathway Complete?
Soil	Soil Ingestion, Dermal Contact, and Inhalation (RBC _{ss})	Residential	No	Residential receptors are not present at the site.	No - Pathway Not Selected
		Urban Residential	No	Residential receptors are not present at the site.	No - Pathway Not Selected
		Occupational	Yes	Occupational receptors may be present at the site in the future.	No - RBCs not Exceeded
		Construction Worker	Yes	Construction Workers are assumed to be in contact with soil for up to 250 days, possible for the site.	No - RBCs not Exceeded
	Volatilization to Outdoor Air (RBC _{so})	Excavation Worker	Yes	Excavation Workers are assumed to be in contact with soil for up to 9 days, possible for the site.	No - RBCs not Exceeded
		Residential	No	Residential receptors are not present at the site.	No - Pathway Not Selected
		Urban Residential	No	Residential receptors are not present at the site.	No - Pathway Not Selected
	Vapor Intrusion into Buildings (RBC _{vi})	Occupational	Yes	Occupational receptors may be present at the site in the future.	No - RBCs not Exceeded
		Residential	No	Residential buildings are not present within 100-feet of the site	No - Pathway Not Selected
		Urban Residential	No	Residential buildings are not present within 100-feet of the site	No - Pathway Not Selected
		Occupational	Yes	Occupational buildings are present within 100-feet of the site.	No - RBCs not Exceeded
	Leaching to Groundwater (RBC _{gw})	Residential	No	Beneficial use water wells in the area are located upgradient and screened at significantly deeper depths than the shallow groundwater encountered at the site.	No - Pathway Not Selected
		Urban Residential	No	Beneficial use water wells in the area are located upgradient and screened at significantly deeper depths than the shallow groundwater encountered at the site.	No - Pathway Not Selected
		Occupational	No	Beneficial use water wells in the area are located upgradient and screened at significantly deeper depths than the shallow groundwater encountered at the site.	No - Pathway Not Selected
	Groundwater	Ingestion & Inhalation from Tapwater (RBC _{tw})	Residential	No	Beneficial use water wells in the area are located upgradient and screened at significantly deeper depths than the shallow groundwater encountered at the site.
Urban Residential			No	Beneficial use water wells in the area are located upgradient and screened at significantly deeper depths than the shallow groundwater encountered at the site.	No - Pathway Not Selected
Occupational			No	Beneficial use water wells in the area are located upgradient and screened at significantly deeper depths than the shallow groundwater encountered at the site.	No - Pathway Not Selected
Volatilization to Outdoor Air (RBC _{vo})		Residential	No	Residential buildings are not present within 100-feet of the site	No - Pathway Not Selected
		Urban Residential	No	Residential buildings are not present within 100-feet of the site	No - Pathway Not Selected
		Occupational	Yes	Occupational receptors may be present at the site in the future.	No - RBCs not Exceeded
Vapor Intrusion into Buildings (RBC _{vi})		Residential	No	Residential buildings are not present within 100-feet of the site	No - Pathway Not Selected
		Urban Residential	No	Residential buildings are not present within 100-feet of the site	No - Pathway Not Selected
		Occupational	Yes	Occupational buildings are present within 100-feet of the site.	No - RBCs not Exceeded
Groundwater in Excavation (RBC _{we})		Construction & Excavation Worker	No	Groundwater is greater than 10-feet below ground surface.	No - Pathway Not Selected
Soil Gas	Vapor Intrusion into Buildings (RBC _{vi})	Residential	No	Residential buildings are not present within 100-feet of the site	No - Pathway Not Selected
		Urban Residential	No	Residential buildings are not present within 100-feet of the site	No - Pathway Not Selected
		Occupational	Yes	Occupational buildings are present within 100-feet of the site.	No - concentrations of soil and groundwater did not exceed vapor intrusion RBCs.

Table 3
Groundwater Sample
Analytical Results

Sample Identification	Depth ¹	Date	Analytical Results (ug/l) ²																							
			Total Petroleum Hydrocarbons (TPH)			Polycyclic Aromatic Hydrocarbons (PAHs) by EPA Method 8270E SIM																				
			Gasoline Range (C ₂ -C ₅) by NWTPH-Gx	Diesel Range (C ₁₀ -C ₂₅) by NWTPH-Dx	Residual Range (C ₂₅ -C ₃₆) by NWTPH-Dx	Benzene ⁽⁵⁾	Toluene ⁽⁵⁾	Ethyl-benzene ⁽⁵⁾	Total Xylenes ⁽⁵⁾	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benz(a)anthracene	Chrysene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Ideno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene	
W29@18	18	3/24/23	<100	<100*	<250*	<0.35	<1	<1	<3	<1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.058	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.08
W30@18	18	3/24/23	<100	<100	<300	<0.35	<1	<1	<1	<1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.044	<0.04	<0.04	0.047	0.04	<0.04	0.04	<0.04	<0.08	
DEQ Risk-Based Concentrations																										
Pathway	Receptor	RBCs																								
Volatilization to Outdoor Air	Occupational	>S	>S	>S	1400	>S	4300	>S	16000	NE	>S	>S	NE	>S	NV	>S	>S	NV	NV	NV	NV	NV	NV	NV	NV	NE
Vapor Intrusion into Buildings	Occupational	>S	>S	>S	2800	>S	8200	>S	11000	NE	>S	>S	NE	>S	NV	>S	>S	NV	NV	NV	NV	NV	NV	NV	NV	NE

Notes:

Grey highlighted cells indicate that detected value remaining on site exceeds one or more of the referenced RBCs.

RBCs for Diesel Range and Residual Range Organics are given as Generic Diesel/Heating Oil.

1 – Depth in feet below ground surface

2 – Results reported in micrograms per liter (ug/l)

>S - The groundwater RBC exceeds the solubility limit for this compound

NE - An RBC has not been established for this compound

NV - Compound is considered non-volatile for purposes of exposure calculations

* sample passed through silica gel cleanup prior to analysis

-- - Not analyzed

Table 4
Volatile Organic Compounds in
Groundwater Analytical Results

Sample Identification	Depth ¹	Date	Analytical Results (ug/l) ²																										
			Volatile Organic Carbons (VOCs) by EPA Method 8260C or EPA Method 8021B																										
			Dichlorodifluoromethane	Chloromethane	Vinyl chloride	Bromomethane	Chloroethane (ethyl chloride)	Trichloroethane (Freon 11)	Acetone	1,1-Dichloroethene (DCE, 1,1-Dichloroethylene)	Hexane (n-hexane)	Methylene chloride (Dichloromethane)	Methyl t-butyl ether (MTBE)	trans-1,2-Dichloroethene (trans-1,2-Dichloroethylene)	1,1-Dichloroethane	2,2-Dichloropropane	cis-1,2-Dichloroethene (cis-1,2-Dichloroethene)	Chloroform	2-Butanone (MEK, methyl ethyl ketone)	1,2-Dichloroethane (EDC)	1,1,1-Trichloroethane	1,1-Dichloropropane	Carbon tetrachloride	Benzene	Trichloroethene (TCE, Trichloroethylene)	1,2-Dichloropropane	Bromodichloromethane	Dibromomethane (methylene bromide)	4-Methyl-2-pentanone (Methyl isobutyl ketone)
W29@18	18	3/24/23	<1	<10	<0.02	<5	<1	<1	<50	<1	<5	<5	<1	<1	<1	<1	<20	<0.2	<1	<1	<0.5	<0.35	<0.5	<1	<0.5	<1	<10	<0.4	
W30@18	18	3/24/23	<1	<10	<0.2	<5	<1	<1	<50	<1	<5	5.2 lc	<1	<1	<1	<1	<20	0.36	<1	<1	<0.5	<0.35	<0.5	<1	<0.5	<1	<10	<0.4	
DEQ Risk-Based Concentrations																													
Pathway	Receptor	RBCs																											
Volatilization to Outdoor Air	Occupational	NE	1,800,000	5,900	17,000	>S	>S	NE	2,400,000	NE	12,581,128	1,500,000	>S	68,000	NE	>S	6,300	NE	9,000	>S	NE	7,700	14,000	20,000	NE	6,000	17,000	NE	NE
Vapor Intrusion into Buildings	Occupational	NE	330,000	880	13,000	>S	>S	NE	360,000	NE	3,300,000	870,000	>S	14,000	NE	>S	1,600	NE	3,900	>S	NE	1,200	2,800	3,700	NE	2,300	13,000	NE	NE

Notes:

Grey highlighted cells indicate that detected value remaining on site exceeds one or more of the referenced RBCs for Diesel Range and Residual Range Organics are given as Generic Diesel/Heating Oil.

1 - Depth in feet below ground surface

2 - Results reported in micrograms per liter (ug/l)

>S - The groundwater RBC exceeds the solubility limit for this compound

NE - An RBC has not been established for this compound

NV - Compound is considered non-volatile for purposes of exposure calculations

* sample passed through silica gel cleanup and qualified by the laboratory as sample chromatographic pattern not resembling the fuel standard used for quantitation

-- - Not analyzed

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

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

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

Table 4
Volatle Oganic Compounds in
Groundwater Analytical Results

Sample Identification	Depth ¹	Date	Laboratory Analytical Results (mg/kg)																													
			Volatle Organic Carbons (VOCs) by EPA Method 8260C or EPA Method 8021B																													
			Toluene	trans-1,3-Dichloropropene	1,1,2-Trichloroethane	2-Hexanone	1,3-Dichloropropane	Tetrachloroethene (PCE, perchloroethylene, tetrachloroethylene)	Dibromochloromethane	1,2-Dibromoethane (EDB, ethylene dibromide)	Chlorobenzene	Ethylbenzene	1,1,1,2-Tetrachloroethane	m,p-Xylene	o-Xylene	Styrene	Isopropylbenzene (Cumene)	Bromofor m	n-Propylbenzene	Bromobenzene	1,3,5-Trimethylbenzene	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	2-Chlorotoluene (o-Chlorotoluene)	4-Chlorotoluene (p,p,a,a,tetrachlorotoluene)	tert-Butylbenzene	1,2,4-Trimethylbenzene	sec-Butylbenzene	p-Isopropyltoluene (p-cymene)	1,3-Dichlorobenzene	1,4-Dichlorobenzene	
W29@18	18	3/24/23	<1	<0.4	<0.5	<10	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
W30@18	18	3/24/23	<1	<0.4	<0.5	<10	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
DEQ Risk-Based Concentrations																																
Pathway	Receptor	RBCs																														
Volatilization to Outdoor Air	Occupational	>S	NE	21,000	NE	NE	>S	17,000	790	>S	43,000	NE	>S	>S	NE	550,000	>S	NE	>S	NE	NE	NE	NE	NE	NE	>S	NE	NE	NE	NE	21,000	
Vapor Intrusion into Buildings	Occupational	>S	NE	11,000	NE	NE	48,000	13,000	590	>S	8,200	NE	>S	>S	NE	470,000	>S	NE	>S	NE	NE	NE	NE	NE	NE	NE	>S	NE	NE	NE	7,100	

Notes:

Grey highlighted cells indicate that detected value remaining on site exceeds one or more of the referenced RBCs for Diesel Range and Residual Range Organics are given as Generic Diesel/Heating Oil.

1 – Depth in feet below ground surface

2 – Results reported in micrograms per liter (ug/l)

>S - The groundwater RBC exceeds the solubility limit for this compound

NE - An RBC has not been established for this compound

NV - Compound is considered non-volatile for purposes of exposure calculations

* sample passed through silica gel cleanup and qualified by the laboratory as sample chromatographic pattern not resembling the fuel standard used for quantitation

-- Not analyzed

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

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

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

Table 4
Volatle Oganic Compounds in
Groundwater Analytical Results

Sample Identification	Depth ¹	Date	Laboratory Analytical Results (mg/kg)						
			Volatile Organic Carbons (VOCs) by EPA Method 8260C						
			1,2-Dichlorobenzene	1,2-Dibromo-3-chloropropane (DBCP, dibromochloropropane)	1,2,4-Trichlorobenzene	Hexachlorobutadiene	Naphthalene	1,2,3-Trichlorobenzene	
W29@18	18	3/24/23	<1	<10	<1	<0.5	<1	<1	
W30@18	18	3/24/23	<1	<10	<1	<0.5	<1	<1	
DEQ Risk-Based Concentrations									
Pathway	Receptor	RBCs							
Volatilization to Outdoor Air	Occupational	>S	NE	NE	NE	NE	16,000	NE	
Vapor Intrusion into Buildings	Occupational	>S	NE	NE	NE	NE	11,000	NE	

Notes:

Grey highlighted cells indicate that detected value remaining on site exceeds one or more of the referenced RBCs for Diesel Range and Residual Range Organics are given as Generic Diesel/Heating Oil.
 1 – Depth in feet below ground surface
 2 – Results reported in micrograms per liter (ug/l)
 >S - The groundwater RBC exceeds the solubility limit for this compound
 NE - An RBC has not been established for this compound
 NV - Compound is considered non-volatile for purposes of exposure calculations
 * sample passed through silica gel cleanup and qualified by the laboratory as sample chromatographic pattern not resembling the fuel standard used for quantitation
 -- - Not analyzed
 jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
 ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
 lc - The presence of the analyte is likely due to laboratory contamination.

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**

APPENDICES

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**

Appendix A

Photographs of Field Activities

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**



Project site at 3063 SE Harrison Street in Milwaukie, Oregon.



Tank 1 was located towards the west portion of the site.

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**



PCS was excavated from above the tank top and stockpiled on site.

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**



A portion of the top of the tank was exposed and cut open.



The tank was found filled with concrete slurry.

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**



All of the tank contents were removed and the tank interior was thoroughly cleaned.

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**



Tank 1 and associated piping were removed from the ground.



An estimated 100 tons of PCS was removed from the former area of tank 1.

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**



The west pit wall sloughed into the excavation. The excavation was later backfilled with gravel by Murphy Company.



Soil samples were collected below removed product lines.

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**



Tank 2 was cut open and found filled with concrete slurry.

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**



All of the tank contents were removed and the tank interior was thoroughly cleaned.



Tank 2 was removed from the ground.

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**



Tank 3 was cut open and found filled with concrete slurry.



Tank contents were removed and interior thoroughly cleaned.

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**



Tank 3 was removed from the ground.



USTs were disposed by Murphy Company.

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**

Appendix B

Certified Analytical Reports, Chain of Custody Documents

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

May 22, 2020

Paul Tate, Project Manager
Soil Solutions
3540 SE 28th Ave
Portland, OR 97202

Dear Mr Tate:

Included are the results from the testing of material submitted on May 14, 2020 from the 3063 SE Harrison St, F&BI 005170 project. There are 8 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Soil Solutions Reports
SSI0522R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/22/20

Date Received: 05/14/20

Project: 3063 SE Harrison St, F&BI 005170

Date Extracted: 05/14/20

Date Analyzed: 05/14/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES AND TPH AS GASOLINE
USING METHODS 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
SG1@4.0 005170-01	<0.02	<0.02	0.053	<0.06	210	96
Method Blank 00-885 MB	<0.02	<0.02	<0.02	<0.06	<5	89

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/22/20
Date Received: 05/14/20
Project: 3063 SE Harrison St, F&BI 005170
Date Extracted: 05/14/20
Date Analyzed: 05/14/20

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

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Residual Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 48-168)
SG1@4.0 005170-01	3,800	<250	94
Method Blank 00-1089 MB	<50	<250	86

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 6020B and 1311

Client ID:	SG1@4.0	Client:	Soil Solutions
Date Received:	05/14/20	Project:	3063 SE Harrison St
Date Extracted:	05/20/20	Lab ID:	005170-01
Date Analyzed:	05/21/20	Data File:	005170-01.035
Matrix:	Soil/Solid	Instrument:	ICPMS2
Units:	mg/L (ppm)	Operator:	SP

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 6020B and 1311

Client ID:	Method Blank	Client:	Soil Solutions
Date Received:	NA	Project:	3063 SE Harrison St
Date Extracted:	05/20/20	Lab ID:	I0-290 mb
Date Analyzed:	05/21/20	Data File:	I0-290 mb.033
Matrix:	Soil/Solid	Instrument:	ICPMS2
Units:	mg/L (ppm)	Operator:	SP

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/22/20

Date Received: 05/14/20

Project: 3063 SE Harrison St, F&BI 005170

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES, AND TPH AS GASOLINE
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benzene	mg/kg (ppm)	0.5	94	92	69-120	2
Toluene	mg/kg (ppm)	0.5	91	90	70-117	1
Ethylbenzene	mg/kg (ppm)	0.5	90	90	65-123	0
Xylenes	mg/kg (ppm)	1.5	94	94	66-120	0
Gasoline	mg/kg (ppm)	20	100	100	71-131	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/22/20

Date Received: 05/14/20

Project: 3063 SE Harrison St, F&BI 005170

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

Laboratory Code: 005168-01 (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	114	106	64-133	7

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	106	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/22/20

Date Received: 05/14/20

Project: 3063 SE Harrison St, F&BI 005170

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL/SOLID SAMPLES
FOR TCLP METALS USING
EPA METHODS 6020B AND 1311**

Laboratory Code: 005170-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/L (ppm)	1.0	<1	90	89	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/L (ppm)	1.0	91	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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 analyte 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 due to sample matrix effects.

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.

005170

Paul Tate

SAMPLE CHAIN OF CUSTODY

ME 05/14/20

US4/A-01

Send Report To Nick Phornhor
 Company Soil Solutions
 Address 3540 SE 28th Avenue
 City, State, Zip Portland, OR 97202
 Phone # (503) 234-2118 Fax # (503) 331-7133

SAMPLES (signature) Paul Tate
 PROJECT NAME/NO. 3063 SE Harrison St PO #
 REMARKS

Page # _____ of _____
 TURNAROUND TIME
 Standard
 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	ANALYSES REQUESTED										Notes		
						NWTPH-Dx	NWTPH-HCID	NWTPH-Gx	BTEX 8021B	BTEXN 8260C	PAHs (No N) 8270CCIM	PAHs 8270C SIM	Lead by 200.8	TCLP-lead				
SG1@4.0	01A-45113120			Soil	2 NOAS 1 TARE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									

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

RECEIVED BY	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Received by: <u>Colin Varian</u>	<u>[Signature]</u>	Colin Varian	S.S.	5/13/20	
Relinquished by: <u>Nhan Phan</u>	<u>[Signature]</u>	Nhan Phan	FE BT	5/14/20	1035
Received by:					

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

May 26, 2020

Nick Thornton, Project Manager
Soil Solutions
3540 SE 28th Ave
Portland, OR 97202

Dear Mr Thornton:

Included are the results from the testing of material submitted on May 16, 2020 from the 3063 SE Harrison St, F&BI 005208 project. There are 9 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Soil Solutions Reports
SSI0526R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/26/20
Date Received: 05/16/20
Project: 3063 SE Harrison St, F&BI 005208
Date Extracted: 05/18/20
Date Analyzed: 05/18/20

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

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

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
SP 005208-01 1/5	67	102
Method Blank 00-1094 MB	<5	97

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/26/20

Date Received: 05/16/20

Project: 3063 SE Harrison St, F&BI 005208

Date Extracted: 05/18/20

Date Analyzed: 05/18/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES AND TPH AS GASOLINE
USING METHODS 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
Tank Contents@9' 005208-02 1/50	0.77	4.8	3.1	22	420	88
Method Blank 00-1094 MB	<0.02	<0.02	<0.02	<0.06	<5	87

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/26/20
Date Received: 05/16/20
Project: 3063 SE Harrison St, F&BI 005208
Date Extracted: 05/18/20
Date Analyzed: 05/18/20

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

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Residual Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
SP 005208-01	2,800	870	93
Tank Contents@9' 005208-02	3,000	<250	94
Method Blank 00-1132 MB	<50	<250	92

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 6020B and 1311

Client ID:	Tank Contents@9'	Client:	Soil Solutions
Date Received:	05/16/20	Project:	3063 SE Harrison St, F&BI 005208
Date Extracted:	05/20/20	Lab ID:	005208-02
Date Analyzed:	05/21/20	Data File:	005208-02.096
Matrix:	Soil/Solid	Instrument:	ICPMS2
Units:	mg/L (ppm)	Operator:	SP

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 6020B and 1311

Client ID:	Method Blank	Client:	Soil Solutions
Date Received:	NA	Project:	3063 SE Harrison St, F&BI 005208
Date Extracted:	05/20/20	Lab ID:	I0-290 mb
Date Analyzed:	05/21/20	Data File:	I0-290 mb.033
Matrix:	Soil/Solid	Instrument:	ICPMS2
Units:	mg/L (ppm)	Operator:	SP

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/26/20

Date Received: 05/16/20

Project: 3063 SE Harrison St, F&BI 005208

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES, AND TPH AS GASOLINE
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 005203-01 (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)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	94	69-120
Toluene	mg/kg (ppm)	0.5	90	70-117
Ethylbenzene	mg/kg (ppm)	0.5	90	65-123
Xylenes	mg/kg (ppm)	1.5	94	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/26/20

Date Received: 05/16/20

Project: 3063 SE Harrison St, F&BI 005208

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

Laboratory Code: 005203-01 (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	370	111	113	64-133	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	108	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/26/20

Date Received: 05/16/20

Project: 3063 SE Harrison St, F&BI 005208

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL/SOLID SAMPLES
FOR TCLP METALS USING
EPA METHODS 6020B AND 1311**

Laboratory Code: 005170-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/L (ppm)	1.0	<1	90	89	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/L (ppm)	1.0	91	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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 analyte 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 due to sample matrix effects.

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.

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

May 22, 2020

Paul Tate, Project Manager
Soil Solutions
3540 SE 28th Ave
Portland, OR 97202

Dear Mr Tate:

Included are the results from the testing of material submitted on May 20, 2020 from the 3063 SE Harrison St, F&BI 005249 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Soil Solutions Reports
SSI0522R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/22/20
Date Received: 05/20/20
Project: 3063 SE Harrison St, F&BI 005249
Date Extracted: 05/20/20
Date Analyzed: 05/20/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID**

Results Reported on a Dry Weight Basis
Results Reported as Not Detected (ND) or Detected (D)

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

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 56-165)
SG6@13.0' 005249-03	ND	ND	ND	91
SG8@13.0' 005249-05	ND	ND	ND	86
SG9@13.0' 005249-06	ND	ND	ND	89
Method Blank 00-1145 MB	ND	ND	ND	95

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/22/20
Date Received: 05/20/20
Project: 3063 SE Harrison St, F&BI 005249
Date Extracted: 05/20/20
Date Analyzed: 05/20/20

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

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

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
SG4@16.0' 005249-01 1/20	750	116
SG5@16.0' 005249-02 1/20	1,800	ip
SG7@13.0' 005249-04 1/5	77	102
Method Blank 00-1097 MB	<5	99

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/22/20
Date Received: 05/20/20
Project: 3063 SE Harrison St, F&BI 005249
Date Extracted: 05/20/20
Date Analyzed: 05/20/20

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

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Residual Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
SG4@16.0' 005249-01	870 x	460	92
SG5@16.0' 005249-02	3,600 x	760	102
SG7@13.0' 005249-04	4,100 x	2,600	93
Method Blank 00-1142 MB	<50	<250	92

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/22/20

Date Received: 05/20/20

Project: 3063 SE Harrison St, F&BI 005249

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR TPH AS GASOLINE
USING METHOD NWTPH-G_x**

Laboratory Code: 005236-03 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	95	61-153

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/22/20

Date Received: 05/20/20

Project: 3063 SE Harrison St, F&BI 005249

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

Laboratory Code: 005218-01 (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	102	104	64-133	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	84	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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 analyte 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 due to sample matrix effects.

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 05/20/20 VS-D2/1802

005249
 Send Report To Paul
 Company Soil Solutions
 Address 3540 SE 28th Avenue
 City, State, Zip Portland, OR 97202
 Phone # (503) 234-2118 Fax # (503) 331-7133

SAMPLERS (signed)
 PROJECT NAME/NO. 3063 SE Harrison St
 PO #
 REMARKS

Page # 1 of 1
 TURNOURND TIME
 Standard
 RUSH = Speedy
 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	ANALYSES REQUESTED							Notes		
						NWTPH-Dx	NWTPH-HCID	NWTPH-Gx	BTEX 8021B	BTEXN 8260C	PAHs (No N) 8270CCIM	PAHs 8270C SIM		Lead by 200.8	
SE 4 @ 16.0'	01A-C	5/19/20		Soil	1200L 2000L	Y	Y	Y							
SE 5 @ 16.0'	02 V	5/19/20		Soil	1200L 2000L	Y	Y	Y							
SE 6 @ 13.0'	03	5/19/20		Soil	1200L 2000L	Y	Y	Y							
SE 7 @ 13.0'	04A-C	5/19/20		Soil	1200L 2000L	Y	Y	Y							
SE 8 @ 13.0'	05	5/19/20		Soil	1	Y	Y	Y							
SE 9 @ 13.0'	06	5/19/20		Soil	1	Y									
Samples received at <u>4°C</u>															

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>Todd Funk</u>	<u>SS</u>	<u>5/19/20</u>	
<u>[Signature]</u>	<u>Nhan Phan</u>	<u>EBI</u>	<u>5/20/20</u>	<u>1005</u>
Received by:				
Relinquished by:				

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.

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Seattle, WA 98119-2029
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fbi@isomedia.com
www.friedmanandbruya.com

May 29, 2020

Tess Chadil, Project Manager
Soil Solutions
3540 SE 28th Ave
Portland, OR 97202

Dear Ms Chadil:

Included are the results from the testing of material submitted on May 22, 2020 from the 3063 SE Harrison St, F&BI 005291 project. There are 10 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Soil Solutions Reports
SSI0529R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/29/20

Date Received: 05/22/20

Project: 3063 SE Harrison St, F&BI 005291

Date Extracted: 05/22/20

Date Analyzed: 05/22/20 and 05/26/20

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
SG10@17.5' 005291-01 1/50	1,700	123
SG11@17.5' 005291-02 1/20	150	105
Method Blank 00-1100 MB2	<5	103

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/29/20

Date Received: 05/22/20

Project: 3063 SE Harrison St, F&BI 005291

Date Extracted: 05/22/20 & 05/26/20

Date Analyzed: 05/22/20 & 05/26/20

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Residual Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 48-168)
SG10@17.5' 005291-01	710	<250	99
SG11@17.5' 005291-02	<50	<250	106
Method Blank 00-1176 MB	<50	<250	96
Method Blank 00-1184 MB	<50	<250	96

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	SG10@17.5'	Client:	Soil Solutions
Date Received:	05/22/20	Project:	3063 SE Harrison St, F&BI 005291
Date Extracted:	05/27/20	Lab ID:	005291-01
Date Analyzed:	05/27/20	Data File:	052708.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	145
Toluene-d8	103	55	145
4-Bromofluorobenzene	100	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	4.5
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	20
Hexane	13	o-Xylene	7.8
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	0.45
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	1.9
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	5.2
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	0.11
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	17
Benzene	2.0	sec-Butylbenzene	0.22
Trichloroethene	<0.02	p-Isopropyltoluene	0.18
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	12	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	3.4
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Soil Solutions
Date Received:	Not Applicable	Project:	3063 SE Harrison St, F&BI 005291
Date Extracted:	05/27/20	Lab ID:	00-1152 mb2
Date Analyzed:	05/27/20	Data File:	052706.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	145
Toluene-d8	101	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/29/20

Date Received: 05/22/20

Project: 3063 SE Harrison St, F&BI 005291

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR TPH AS GASOLINE
USING METHOD NWTPH-G_x**

Laboratory Code: 005245-01 1/5 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	250	120	70 a

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	105	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/29/20

Date Received: 05/22/20

Project: 3063 SE Harrison St, F&BI 005291

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

Laboratory Code: 005167-05 (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	94	96	73-135	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	96	74-139

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/29/20

Date Received: 05/22/20

Project: 3063 SE Harrison St, F&BI 005291

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

Laboratory Code: 005291-02 (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	88	88	73-135	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	98	74-139

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/29/20

Date Received: 05/22/20

Project: 3063 SE Harrison St, F&BI 005291

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 005299-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	16	15	10-142	6
Chloromethane	mg/kg (ppm)	2.5	<0.5	45	42	10-126	7
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	41	38	10-138	8
Bromomethane	mg/kg (ppm)	2.5	<0.5	59	58	10-163	2
Chloroethane	mg/kg (ppm)	2.5	<0.5	56	51	10-176	9
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	46	43	10-176	7
Acetone	mg/kg (ppm)	12.5	<5	74	73	10-163	1
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	57	53	10-160	7
Hexane	mg/kg (ppm)	2.5	<0.25	40	38	10-137	5
Methylene chloride	mg/kg (ppm)	2.5	<0.5	74	70	10-156	6
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	79	74	21-145	7
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	66	61	14-137	8
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	74	69	19-140	7
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	80	75	10-158	6
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	73	68	25-135	7
Chloroform	mg/kg (ppm)	2.5	<0.05	78	72	21-145	8
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	77	72	19-147	7
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	75	71	12-160	5
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	75	70	10-156	7
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	75	70	17-140	7
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	78	74	9-164	5
Benzene	mg/kg (ppm)	2.5	<0.03	76	71	29-129	7
Trichloroethene	mg/kg (ppm)	2.5	<0.02	74	69	21-139	7
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	81	75	30-135	8
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	88	81	23-155	8
Dibromomethane	mg/kg (ppm)	2.5	<0.05	83	77	23-145	7
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	86	82	24-155	5
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	86	79	28-144	8
Toluene	mg/kg (ppm)	2.5	<0.05	76	70	35-130	8
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	82	76	26-149	8
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	81	74	10-205	9
2-Hexanone	mg/kg (ppm)	12.5	<0.5	81	74	15-166	9
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	79	74	31-137	7
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	75	70	20-133	7
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	84	76	28-150	10
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	83	75	28-142	10
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	79	73	32-129	8
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	77	72	32-137	7
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	86	79	31-143	8
m,p-Xylene	mg/kg (ppm)	5	<0.1	78	72	34-136	8
o-Xylene	mg/kg (ppm)	2.5	<0.05	80	74	33-134	8
Styrene	mg/kg (ppm)	2.5	<0.05	80	74	35-137	8
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	79	73	31-142	8
Bromoform	mg/kg (ppm)	2.5	<0.05	92	81	21-156	13
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	79	73	23-146	8
Bromobenzene	mg/kg (ppm)	2.5	<0.05	81	74	34-130	9
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	79	73	18-149	8
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	86	79	28-140	8
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	78	73	25-144	7
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	78	72	31-134	8
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	80	73	31-136	9
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	80	74	30-137	8
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	78	73	10-182	7
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	80	74	23-145	8
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	78	73	21-149	7
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	77	71	30-131	8
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	78	71	29-129	9
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	79	73	31-132	8
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	81	73	11-161	10
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	83	76	22-142	9
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	84	78	10-142	7
Naphthalene	mg/kg (ppm)	2.5	<0.05	80	75	14-157	6
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	83	78	20-144	6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/29/20

Date Received: 05/22/20

Project: 3063 SE Harrison St, F&BI 005291

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	58	10-146
Chloromethane	mg/kg (ppm)	2.5	84	27-133
Vinyl chloride	mg/kg (ppm)	2.5	86	22-139
Bromomethane	mg/kg (ppm)	2.5	94	38-114
Chloroethane	mg/kg (ppm)	2.5	95	9-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	95	10-196
Acetone	mg/kg (ppm)	12.5	106	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	98	47-128
Hexane	mg/kg (ppm)	2.5	98	43-142
Methylene chloride	mg/kg (ppm)	2.5	112	42-132
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	108	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	103	67-129
1,1-Dichloroethane	mg/kg (ppm)	2.5	107	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	121	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	104	72-127
Chloroform	mg/kg (ppm)	2.5	105	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	93	72-127
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	96	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	110	62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	107	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	117	60-139
Benzene	mg/kg (ppm)	2.5	103	68-114
Trichloroethene	mg/kg (ppm)	2.5	100	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	102	72-127
Bromodichloromethane	mg/kg (ppm)	2.5	114	72-130
Dibromomethane	mg/kg (ppm)	2.5	104	70-120
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	101	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	103	75-136
Toluene	mg/kg (ppm)	2.5	101	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	100	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	99	75-113
2-Hexanone	mg/kg (ppm)	12.5	89	33-152
1,3-Dichloropropane	mg/kg (ppm)	2.5	95	72-130
Tetrachloroethene	mg/kg (ppm)	2.5	102	72-114
Dibromochloromethane	mg/kg (ppm)	2.5	109	74-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	97	74-132
Chlorobenzene	mg/kg (ppm)	2.5	100	76-111
Ethylbenzene	mg/kg (ppm)	2.5	102	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	119	69-135
m,p-Xylene	mg/kg (ppm)	5	101	78-122
o-Xylene	mg/kg (ppm)	2.5	108	77-124
Styrene	mg/kg (ppm)	2.5	100	74-126
Isopropylbenzene	mg/kg (ppm)	2.5	108	76-127
Bromoform	mg/kg (ppm)	2.5	119	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	105	74-124
Bromobenzene	mg/kg (ppm)	2.5	99	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	108	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	106	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	95	61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	104	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	102	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	108	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	106	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	109	71-130
p-Isopropyltoluene	mg/kg (ppm)	2.5	106	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	99	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	97	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	102	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	109	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	114	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	110	50-153
Naphthalene	mg/kg (ppm)	2.5	110	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	116	63-138

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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 analyte 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 due to sample matrix effects.

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.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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Michael Erdahl, B.S.
Arina Podnozova, B.S.
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June 12, 2020

Project Managers
Soil Solutions
3540 SE 28th Ave
Portland, OR 97202

Dear Project Managers:

Included are the results from the testing of material submitted on June 9, 2020 from the 3063 SE Harrison St, F&BI 006131 project. There are 5 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Soil Solutions Reports
SSI0612R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/12/20

Date Received: 06/09/20

Project: 3063 SE Harrison St, F&BI 006131

Date Extracted: 06/09/20

Date Analyzed: 06/09/20

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
SG12@4.0' 006131-01 1/5	270	138
SG13@4.0' 006131-02	<5	95
SG14@4.0' 006131-03	150	123
Method Blank 00-1302 MB	<5	97

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/12/20
Date Received: 06/09/20
Project: 3063 SE Harrison St, F&BI 006131
Date Extracted: 06/09/20
Date Analyzed: 06/09/20

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Residual Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
SG12@4.0' 006131-01	230	340	85
SG13@4.0' 006131-02	<50	<250	91
SG14@4.0' 006131-03	770	<250	88
Method Blank 00-1300 MB	<50	<250	94

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/12/20

Date Received: 06/09/20

Project: 3063 SE Harrison St, F&BI 006131

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR TPH AS GASOLINE
USING METHOD NWTPH-Gx**

Laboratory Code: 006131-02 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	100	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/12/20

Date Received: 06/09/20

Project: 3063 SE Harrison St, F&BI 006131

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

Laboratory Code: 006104-01 (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	94,000	1 b	1 b	73-135	0 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	90	74-139

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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 analyte 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 due to sample matrix effects.

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.

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.

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(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

June 25, 2020

Project Managers
Soil Solutions
3540 SE 28th Ave
Portland, OR 97202

Dear Project Managers:

Included are the results from the testing of material submitted on June 19, 2020 from the 3063 SE Harrison St, F&BI 006317 project. There are 4 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Soil Solutions Reports
SSI0625R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/25/20
Date Received: 06/19/20
Project: 3063 SE Harrison St, F&BI 006317
Date Extracted: 06/19/20
Date Analyzed: 06/19/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID**

Results Reported on a Dry Weight Basis
Results Reported as Not Detected (ND) or Detected (D)

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

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 56-165)
T2SG16@16.0' 006317-01	ND	ND	ND	87
T2SG17@16.0' 006317-02	ND	D	D	88
Method Blank 00-1415 MB2	ND	ND	ND	98

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/25/20

Date Received: 06/19/20

Project: 3063 SE Harrison St, F&BI 006317

Date Extracted: 06/19/20

Date Analyzed: 06/19/20

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Residual Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
T2SG17@16.0' 006317-02	130	1,200	103
Method Blank 00-1423 MB	<50	<250	99

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/25/20

Date Received: 06/19/20

Project: 3063 SE Harrison St, F&BI 006317

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

Laboratory Code: 006324-01 (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	500	93 b	116 b	64-133	22 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	96	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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 analyte 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 due to sample matrix effects.

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.

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

June 24, 2020

Project Managers
Soil Solutions
3540 SE 28th Ave
Portland, OR 97202

Dear Project Managers:

Included are the results from the testing of material submitted on June 20, 2020 from the 3063 SE Harrison St, F&BI 006336 project. There are 2 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Soil Solutions Reports
SSI0624R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/24/20
Date Received: 06/20/20
Project: 3063 SE Harrison St, F&BI 006336
Date Extracted: 06/22/20
Date Analyzed: 06/22/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID**

Results Reported on a Dry Weight Basis
Results Reported as Not Detected (ND) or Detected (D)

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

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 48-168)
SG18@13.0' 006336-01	ND	ND	ND	91
SG19@13.0' 006336-02	ND	ND	ND	98
SG20@13.0' 006336-03	ND	ND	ND	90
SG21@13.0' 006336-04	ND	ND	ND	101
Method Blank 00-1454 MB	ND	ND	ND	92

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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 analyte 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 due to sample matrix effects.

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.

006336

SAMPLE CHAIN OF CUSTODY

NE 06/20/20

US/202

Send Report To Project Managers

Company Soil Solutions

Address 3540 SE 28th Avenue

City, State, Zip Portland, OR 97202

Phone # (503) 234-2118 Fax # (503) 331-7133

SAMPLERS (Site #) *1011*

PROJECT NAME/NO. *3043 SE Harrison St*

PO #

REMARKS

Page # *1* of *1*

TURNAROUND TIME

Standard
 RUSH *Same Day*
Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days
 Return samples
 Will call with instructions

ANALYSES REQUESTED

NWTPH-Dx
NWTPH-HCID
NWTPH-Gx
BTEX 8021B
BTEXN 8260C
PAHs (No N) 8270CCIM
PAHs 8270C SIM
Lead by 200.8

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	NWTPH-Dx	NWTPH-HCID	NWTPH-Gx	BTEX 8021B	BTEXN 8260C	PAHs (No N) 8270CCIM	PAHs 8270C SIM	Lead by 200.8	Notes
<i>SG18 @ 13.0'</i>	<i>DIA</i>	<i>6/19/20</i>		<i>Soil</i>	<i>1V200 2Y100 1P200</i>	<i>Y</i>	<i>Y</i>							
<i>SG19 @ 13.0'</i>	<i>02</i>	<i>6/19/20</i>		<i>Soil</i>	<i>1V200 2Y100 1P200</i>	<i>Y</i>	<i>Y</i>							
<i>SG20 @ 13.0'</i>	<i>03</i>	<i>6/19/20</i>		<i>Soil</i>	<i>1V200 2Y100 1P200</i>	<i>Y</i>	<i>Y</i>							
<i>SG21 @ 13.0'</i>	<i>04</i>	<i>6/19/20</i>		<i>Soil</i>	<i>1V200 2Y100 1P200</i>	<i>Y</i>	<i>Y</i>							

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	<i>John Smith</i>	<i>SS</i>	<i>6/19/20</i>	
Received by: <i>[Signature]</i>	<i>James Bidys</i>	<i>F&B</i>	<i>6/20</i>	<i>1030</i>
Relinquished by:				
Relinquished by:				
Received by:				

Samples received at *6* °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
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3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

July 6, 2020

Project Managers
Soil Solutions
3540 SE 28th Ave
Portland, OR 97202

Dear Project Managers:

Included are the results from the testing of material submitted on June 30, 2020 from the 3063 SE Harrison St, F&BI 006507 project. There are 4 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Soil Solutions Reports
SSI0706R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/06/20
Date Received: 06/30/20
Project: 3063 SE Harrison St, F&BI 006507
Date Extracted: 06/30/20
Date Analyzed: 06/30/20

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID**

Results Reported on a Dry Weight Basis
Results Reported as Not Detected (ND) or Detected (D)

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

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
SG22@16.0' 006507-01	ND	D	ND	92
SG23@16.0' 006507-02	ND	D	ND	100
SG24@13.0' 006507-03	ND	D	ND	100
SG25@13.0' 006507-04	ND	ND	ND	98
SG26@13.0' 006507-05	ND	ND	ND	96
SG27@13.0' 006507-06	ND	ND	ND	101
Method Blank 00-1532 MB	ND	ND	ND	93

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/06/20
Date Received: 06/30/20
Project: 3063 SE Harrison St, F&BI 006507
Date Extracted: 07/01/20
Date Analyzed: 07/01/20

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Residual Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 48-168)
SG22@16.0' 006507-01	200	<250	96
SG23@16.0' 006507-02	450	<250	97
SG24@13.0' 006507-03	100	<250	94
Method Blank 00-1533 MB2	<50	<250	96

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/06/20

Date Received: 06/30/20

Project: 3063 SE Harrison St, F&BI 006507

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

Laboratory Code: 006388-01 (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	460	103	97	64-133	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	110	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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 analyte 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 due to sample matrix effects.

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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.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

March 30, 2023

Project Managers
Soil Solutions
3540 SE 28th Ave
Portland, OR 97202

Dear Project Managers:

Included are the results from the testing of material submitted on March 25, 2023 from the 3063 SE Harrison St, F&BI 303422 project. There are 16 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Soil Solutions Reports
SSI0330R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/30/23

Date Received: 03/25/23

Project: 3063 SE Harrison St, F&BI 303422

Date Extracted: 03/27/23

Date Analyzed: 03/27/23

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
USING METHOD NWTPH-Gx**
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
W29@18' 303422-01	<100	88
W30@18' 303422-02	<100	100
Method Blank 03-657 MB	<100	100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/30/23
Date Received: 03/25/23
Project: 3063 SE Harrison St, F&BI 303422
Date Extracted: 03/27/23
Date Analyzed: 03/28/23

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL AND RESIDUAL RANGE
USING METHOD NWTPH-D_x
Sample Extracts Passed Through a
Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Residual Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
W29@18' 303422-01	<100	<250	98
Method Blank 03-805 MB	<100	<250	132

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/30/23
Date Received: 03/25/23
Project: 3063 SE Harrison St, F&BI 303422
Date Extracted: 03/27/23
Date Analyzed: 03/27/23

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL AND RESIDUAL RANGE
USING METHOD NWTPH-D_x**
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Residual Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
W29@18' 303422-01	150 x	<250	89
W30@18' 303422-02 1/1.4	<100	<370	117
Method Blank 03-805 mb	<100	<250	113

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID: W29@18'	Client: Soil Solutions
Date Received: 03/25/23	Project: 3063 SE Harrison St, F&BI 303422
Date Extracted: 03/27/23	Lab ID: 303422-01
Date Analyzed: 03/27/23	Data File: 032710.D
Matrix: Water	Instrument: GCMS13
Units: ug/L (ppb)	Operator: lm

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	71	132
Toluene-d8	104	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	W30@18' hs	Client:	Soil Solutions
Date Received:	03/25/23	Project:	3063 SE Harrison St, F&BI 303422
Date Extracted:	03/27/23	Lab ID:	303422-02
Date Analyzed:	03/27/23	Data File:	032711.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	lm

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	71	132
Toluene-d8	93	68	139
4-Bromofluorobenzene	103	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	5.2 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	0.36	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Soil Solutions
Date Received:	Not Applicable	Project:	3063 SE Harrison St, F&BI 303422
Date Extracted:	03/27/23	Lab ID:	03-0678 mb
Date Analyzed:	03/27/23	Data File:	032707.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	lm

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	71	132
Toluene-d8	102	68	139
4-Bromofluorobenzene	103	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	W29@18'	Client:	Soil Solutions
Date Received:	03/25/23	Project:	3063 SE Harrison St, F&BI 303422
Date Extracted:	03/27/23	Lab ID:	303422-01 1/2
Date Analyzed:	03/28/23	Data File:	032808.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	62	15	144
2-Fluorobiphenyl	63	25	128
2,4,6-Tribromophenol	80	10	142
Terphenyl-d14	84	41	138

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.4
2-Methylnaphthalene	<0.4
1-Methylnaphthalene	<0.4
Acenaphthylene	<0.04
Acenaphthene	<0.04
Fluorene	<0.04
Phenanthrene	<0.04
Anthracene	<0.04
Fluoranthene	<0.04
Pyrene	0.058
Benz(a)anthracene	<0.04
Chrysene	<0.04
Benzo(a)pyrene	<0.04
Benzo(b)fluoranthene	<0.04
Benzo(k)fluoranthene	<0.04
Indeno(1,2,3-cd)pyrene	<0.04
Dibenz(a,h)anthracene	<0.04
Benzo(g,h,i)perylene	<0.08

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	W30@18'	Client:	Soil Solutions
Date Received:	03/25/23	Project:	3063 SE Harrison St, F&BI 303422
Date Extracted:	03/27/23	Lab ID:	303422-02 1/2
Date Analyzed:	03/28/23	Data File:	032809.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	64	15	144
2-Fluorobiphenyl	61	25	128
2,4,6-Tribromophenol	78	10	142
Terphenyl-d14	85	41	138

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.4
2-Methylnaphthalene	<0.4
1-Methylnaphthalene	<0.4
Acenaphthylene	<0.04
Acenaphthene	<0.04
Fluorene	<0.04
Phenanthrene	<0.04
Anthracene	<0.04
Fluoranthene	<0.04
Pyrene	0.044
Benz(a)anthracene	<0.04
Chrysene	<0.04
Benzo(a)pyrene	0.047
Benzo(b)fluoranthene	0.042
Benzo(k)fluoranthene	<0.04
Indeno(1,2,3-cd)pyrene	0.042
Dibenz(a,h)anthracene	<0.04
Benzo(g,h,i)perylene	<0.08

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Soil Solutions
Date Received:	Not Applicable	Project:	3063 SE Harrison St, F&BI 303422
Date Extracted:	03/27/23	Lab ID:	03-800 mb2
Date Analyzed:	03/28/23	Data File:	032806.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	83	15	144
2-Fluorobiphenyl	94	25	128
2,4,6-Tribromophenol	73	10	142
Terphenyl-d14	115	41	138

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
2-Methylnaphthalene	<0.2
1-Methylnaphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/30/23

Date Received: 03/25/23

Project: 3063 SE Harrison St, F&BI 303422

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR TPH AS GASOLINE
USING METHOD NWTPH-G_x**

Laboratory Code: 303416-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	110	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/30/23

Date Received: 03/25/23

Project: 3063 SE Harrison St, F&BI 303422

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

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	112	70-130	11

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/30/23

Date Received: 03/25/23

Project: 3063 SE Harrison St, F&BI 303422

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	96	108	70-130	12

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/30/23

Date Received: 03/25/23

Project: 3063 SE Harrison St, F&BI 303422

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 303413-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	106	50-150
Chloromethane	ug/L (ppb)	10	<10	98	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	101	16-176
Bromomethane	ug/L (ppb)	10	<5	119	10-193
Chloroethane	ug/L (ppb)	10	<1	116	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	100	50-150
Acetone	ug/L (ppb)	50	<50	80	15-179
1,1-Dichloroethene	ug/L (ppb)	10	<1	113	50-150
Hexane	ug/L (ppb)	10	<5	97	49-161
Methylene chloride	ug/L (ppb)	10	<5	104	40-143
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	108	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	106	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	111	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	86	10-335
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	113	50-150
Chloroform	ug/L (ppb)	10	<1	106	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	101	34-168
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	105	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	110	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	107	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	110	50-150
Benzene	ug/L (ppb)	10	<0.35	109	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	103	43-133
1,2-Dichloropropane	ug/L (ppb)	10	<1	107	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	113	50-150
Dibromomethane	ug/L (ppb)	10	<1	107	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	108	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	94	48-145
Toluene	ug/L (ppb)	10	<1	98	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	95	37-152
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	109	50-150
2-Hexanone	ug/L (ppb)	50	<10	99	50-150
1,3-Dichloropropene	ug/L (ppb)	10	<1	101	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	107	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	104	33-164
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	106	50-150
Chlorobenzene	ug/L (ppb)	10	<1	103	50-150
Ethylbenzene	ug/L (ppb)	10	1.6	100	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	105	50-150
m,p-Xylene	ug/L (ppb)	20	2.3	99	50-150
o-Xylene	ug/L (ppb)	10	1.0	99	50-150
Styrene	ug/L (ppb)	10	<1	101	50-150
Isopropylbenzene	ug/L (ppb)	10	1.1	103	50-150
Bromoform	ug/L (ppb)	10	<5	106	23-161
n-Propylbenzene	ug/L (ppb)	10	3.2	104 b	50-150
Bromobenzene	ug/L (ppb)	10	<1	105	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	4.2	104 b	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	114	10-235
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	111	33-151
2-Chlorotoluene	ug/L (ppb)	10	<1	120	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	107	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	105	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	29	90 b	50-150
sec-Butylbenzene	ug/L (ppb)	10	2.2	102 b	46-139
p-Isopropyltoluene	ug/L (ppb)	10	<1	102	46-140
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	101	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	101	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	102	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	114	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	92	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	94	42-150
Naphthalene	ug/L (ppb)	10	3.1	101 b	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	93	44-155

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/30/23

Date Received: 03/25/23

Project: 3063 SE Harrison St, F&BI 303422

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	109	100	70-130	9
Chloromethane	ug/L (ppb)	10	103	95	70-130	8
Vinyl chloride	ug/L (ppb)	10	101	97	70-130	4
Bromomethane	ug/L (ppb)	10	116	119	28-182	3
Chloroethane	ug/L (ppb)	10	118	112	70-130	5
Trichlorofluoromethane	ug/L (ppb)	10	99	105	70-130	6
Acetone	ug/L (ppb)	50	86	77	42-155	11
1,1-Dichloroethene	ug/L (ppb)	10	115	109	70-130	5
Hexane	ug/L (ppb)	10	105	99	50-161	6
Methylene chloride	ug/L (ppb)	10	107	98	29-192	9
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	108	104	70-130	4
trans-1,2-Dichloroethene	ug/L (ppb)	10	107	102	70-130	5
1,1-Dichloroethane	ug/L (ppb)	10	112	107	70-130	5
2,2-Dichloropropane	ug/L (ppb)	10	90	83	70-130	8
cis-1,2-Dichloroethene	ug/L (ppb)	10	113	108	70-130	5
Chloroform	ug/L (ppb)	10	107	102	70-130	5
2-Butanone (MEK)	ug/L (ppb)	50	99	99	50-157	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	105	100	70-130	5
1,1,1-Trichloroethane	ug/L (ppb)	10	110	105	70-130	5
1,1-Dichloropropene	ug/L (ppb)	10	111	103	70-130	7
Carbon tetrachloride	ug/L (ppb)	10	110	107	70-130	3
Benzene	ug/L (ppb)	10	109	104	70-130	5
Trichloroethene	ug/L (ppb)	10	104	101	70-130	3
1,2-Dichloropropane	ug/L (ppb)	10	105	98	70-130	7
Bromodichloromethane	ug/L (ppb)	10	116	107	70-130	8
Dibromomethane	ug/L (ppb)	10	103	101	70-130	2
4-Methyl-2-pentanone	ug/L (ppb)	50	99	104	70-130	5
cis-1,3-Dichloropropene	ug/L (ppb)	10	99	95	70-130	4
Toluene	ug/L (ppb)	10	97	95	70-130	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	95	92	70-130	3
1,1,2-Trichloroethane	ug/L (ppb)	10	103	103	70-130	0
2-Hexanone	ug/L (ppb)	50	92	97	69-130	5
1,3-Dichloropropane	ug/L (ppb)	10	102	101	70-130	1
Tetrachloroethene	ug/L (ppb)	10	106	104	70-130	2
Dibromochloromethane	ug/L (ppb)	10	108	104	63-142	4
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	106	103	70-130	3
Chlorobenzene	ug/L (ppb)	10	103	101	70-130	2
Ethylbenzene	ug/L (ppb)	10	101	99	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	104	102	70-130	2
m,p-Xylene	ug/L (ppb)	20	99	97	70-130	2
o-Xylene	ug/L (ppb)	10	100	98	70-130	2
Styrene	ug/L (ppb)	10	102	102	70-130	0
Isopropylbenzene	ug/L (ppb)	10	104	101	70-130	3
Bromoform	ug/L (ppb)	10	110	108	50-157	2
n-Propylbenzene	ug/L (ppb)	10	105	103	70-130	2
Bromobenzene	ug/L (ppb)	10	104	101	70-130	3
1,3,5-Trimethylbenzene	ug/L (ppb)	10	102	100	52-150	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	115	109	70-130	5
1,2,3-Trichloropropane	ug/L (ppb)	10	107	101	70-130	6
2-Chlorotoluene	ug/L (ppb)	10	106	103	70-130	3
4-Chlorotoluene	ug/L (ppb)	10	104	101	70-130	3
tert-Butylbenzene	ug/L (ppb)	10	104	100	70-130	4
1,2,4-Trimethylbenzene	ug/L (ppb)	10	102	99	70-130	3
sec-Butylbenzene	ug/L (ppb)	10	103	102	70-130	1
p-Isopropyltoluene	ug/L (ppb)	10	103	99	70-130	4
1,3-Dichlorobenzene	ug/L (ppb)	10	102	100	70-130	2
1,4-Dichlorobenzene	ug/L (ppb)	10	102	99	70-130	3
1,2-Dichlorobenzene	ug/L (ppb)	10	102	100	70-130	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	103	101	70-130	2
1,2,4-Trichlorobenzene	ug/L (ppb)	10	99	94	70-130	5
Hexachlorobutadiene	ug/L (ppb)	10	100	95	70-130	5
Naphthalene	ug/L (ppb)	10	98	95	70-130	3
1,2,3-Trichlorobenzene	ug/L (ppb)	10	95	93	69-143	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/30/23

Date Received: 03/25/23

Project: 3063 SE Harrison St, F&BI 303422

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	5	77	76	62-97	1
2-Methylnaphthalene	ug/L (ppb)	5	79	78	64-101	1
1-Methylnaphthalene	ug/L (ppb)	5	79	77	64-93	3
Acenaphthylene	ug/L (ppb)	5	93	90	70-130	3
Acenaphthene	ug/L (ppb)	5	90	88	70-130	2
Fluorene	ug/L (ppb)	5	96	93	70-130	3
Phenanthrene	ug/L (ppb)	5	93	96	70-130	3
Anthracene	ug/L (ppb)	5	97	97	70-130	0
Fluoranthene	ug/L (ppb)	5	100	105	70-130	5
Pyrene	ug/L (ppb)	5	108	101	70-130	7
Benzo(a)anthracene	ug/L (ppb)	5	102	104	70-130	2
Chrysene	ug/L (ppb)	5	102	101	70-130	1
Benzo(a)pyrene	ug/L (ppb)	5	100	100	70-130	0
Benzo(b)fluoranthene	ug/L (ppb)	5	99	98	70-130	1
Benzo(k)fluoranthene	ug/L (ppb)	5	100	97	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	106	104	70-130	2
Dibenz(a,h)anthracene	ug/L (ppb)	5	107	103	70-130	4
Benzo(g,h,i)perylene	ug/L (ppb)	5	105	100	70-130	5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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, biased high; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. 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 analyte 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 due to sample matrix effects.
- j - The analyte concentration is reported below the standard reporting limit. 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.
- k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.
- 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

303482 (WP) K

03/25/23 W1/I2

Send Report To _____

Company _____ Soil Solutions

Address _____ 3540 SE 28th Avenue

City, State, Zip _____ Portland OR 97202

Phone # _____ (503) 234-2118 Fax # _____ (503) 331-7133

SAMPLERS (signature) _____		PO # _____
PROJECT NAME/NO. _____		
REMARKS _____		

Page # _____ of _____

TURNAROUND TIME _____

Standard 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	ANALYSES REQUESTED										Notes
						NWTPH-Dx	NWTPH-HCID	NWTPH-Gx	BTEX 8021B	BTEXN 8260C	PAHs (No N) 8270CCIM	PAHs 8270C SIM	Lead by 200.8	VOC 8260	Dr/S/G	
W29 @ 18"	61A-E	03/24/23		H2O	5	X	X	X				X	X			(X) DETC
W30 @ 18"	02				5	X	X					X				5/27/23

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

SIGNATURE _____	PRINT NAME _____	COMPANY _____	DATE _____	TIME _____
Relinquished by: _____	Antonio R.	S/S	03/24/23	
Received by: _____	James Bruya	F&B	3/25	1600
Relinquished by: _____				
Received by: _____				

Samples received at _____ 4 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

March 28, 2023

Project Managers
Soil Solutions
3540 SE 28th Ave
Portland, OR 97202

Dear Project Managers:

Included are the results from the testing of material submitted on March 22, 2023 from the 3063 SE Harrison St, F&BI 303349 project. There are 16 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Soil Solutions Reports
SSI0328R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/28/23
Date Received: 03/22/23
Project: 3063 SE Harrison St, F&BI 303349
Date Extracted: 03/22/23
Date Analyzed: 03/22/23

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

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

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 58-139)
S28@22'-24' 303349-01	<5	92
S29@14'-16' 303349-02	<5	88
S30@14'-16' 303349-03	<5	75
Method Blank 03-586 MB	<5	75

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/28/23

Date Received: 03/22/23

Project: 3063 SE Harrison St, F&BI 303349

Date Extracted: 03/22/23

Date Analyzed: 03/22/23

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Residual Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
S28@22'-24' 303349-01	<50	<250	83
S29@14'-16' 303349-02	<50	<250	81
S30@14'-16' 303349-03	<50	<250	84
Method Blank 03-786 MB	<50	<250	96

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	S28@22'-24'	Client:	Soil Solutions
Date Received:	03/22/23	Project:	3063 SE Harrison St
Date Extracted:	03/22/23	Lab ID:	303349-01
Date Analyzed:	03/22/23	Data File:	032215.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	md

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	90	109
Toluene-d8	102	89	112
4-Bromofluorobenzene	101	84	115

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID: S29@14'-16'	Client: Soil Solutions
Date Received: 03/22/23	Project: 3063 SE Harrison St
Date Extracted: 03/22/23	Lab ID: 303349-02
Date Analyzed: 03/22/23	Data File: 032216.D
Matrix: Soil	Instrument: GCMS4
Units: mg/kg (ppm) Dry Weight	Operator: md

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	90	109
Toluene-d8	103	89	112
4-Bromofluorobenzene	99	84	115

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	S30@14'-16'	Client:	Soil Solutions
Date Received:	03/22/23	Project:	3063 SE Harrison St
Date Extracted:	03/22/23	Lab ID:	303349-03
Date Analyzed:	03/22/23	Data File:	032217.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	md

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	90	109
Toluene-d8	101	89	112
4-Bromofluorobenzene	98	84	115

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Soil Solutions
Date Received:	Not Applicable	Project:	3063 SE Harrison St
Date Extracted:	03/22/23	Lab ID:	03-0664 mb
Date Analyzed:	03/22/23	Data File:	032205.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	lm

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	90	109
Toluene-d8	101	89	112
4-Bromofluorobenzene	100	84	115

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	S28@22'-24'	Client:	Soil Solutions
Date Received:	03/22/23	Project:	3063 SE Harrison St
Date Extracted:	03/22/23	Lab ID:	303349-01 1/15
Date Analyzed:	03/23/23	Data File:	032310.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorobiphenyl	85	46	122
2,4,6-Tribromophenol	78	17	154
Terphenyl-d14	87	31	167

Compounds:	Concentration mg/kg (ppm)
Acenaphthylene	<0.03
Acenaphthene	<0.03
Fluorene	<0.03
Phenanthrene	<0.03
Anthracene	<0.03
Fluoranthene	<0.03
Pyrene	<0.03
Benz(a)anthracene	<0.03
Chrysene	<0.03
Benzo(a)pyrene	<0.03
Benzo(b)fluoranthene	<0.03
Benzo(k)fluoranthene	<0.03
Indeno(1,2,3-cd)pyrene	<0.03
Dibenz(a,h)anthracene	<0.03
Benzo(g,h,i)perylene	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	S29@14'-16'	Client:	Soil Solutions
Date Received:	03/22/23	Project:	3063 SE Harrison St
Date Extracted:	03/22/23	Lab ID:	303349-02 1/15
Date Analyzed:	03/23/23	Data File:	032311.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorobiphenyl	90	46	122
2,4,6-Tribromophenol	82	17	154
Terphenyl-d14	93	31	167

Compounds:	Concentration mg/kg (ppm)
Acenaphthylene	<0.03
Acenaphthene	<0.03
Fluorene	<0.03
Phenanthrene	<0.03
Anthracene	<0.03
Fluoranthene	<0.03
Pyrene	<0.03
Benz(a)anthracene	<0.03
Chrysene	<0.03
Benzo(a)pyrene	<0.03
Benzo(b)fluoranthene	<0.03
Benzo(k)fluoranthene	<0.03
Indeno(1,2,3-cd)pyrene	<0.03
Dibenz(a,h)anthracene	<0.03
Benzo(g,h,i)perylene	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	S30@14'-16'	Client:	Soil Solutions
Date Received:	03/22/23	Project:	3063 SE Harrison St
Date Extracted:	03/22/23	Lab ID:	303349-03 1/15
Date Analyzed:	03/23/23	Data File:	032312.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorobiphenyl	85	46	122
2,4,6-Tribromophenol	91	17	154
Terphenyl-d14	90	31	167

Compounds:	Concentration mg/kg (ppm)
Acenaphthylene	<0.03
Acenaphthene	<0.03
Fluorene	<0.03
Phenanthrene	<0.03
Anthracene	<0.03
Fluoranthene	<0.03
Pyrene	<0.03
Benz(a)anthracene	<0.03
Chrysene	<0.03
Benzo(a)pyrene	<0.03
Benzo(b)fluoranthene	<0.03
Benzo(k)fluoranthene	<0.03
Indeno(1,2,3-cd)pyrene	<0.03
Dibenz(a,h)anthracene	<0.03
Benzo(g,h,i)perylene	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Soil Solutions
Date Received:	Not Applicable	Project:	3063 SE Harrison St
Date Extracted:	03/22/23	Lab ID:	03-0784 mb2 1/5
Date Analyzed:	03/22/23	Data File:	032206.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorobiphenyl	91	45	117
2,4,6-Tribromophenol	85	11	158
Terphenyl-d14	121	50	124

Compounds:	Concentration mg/kg (ppm)
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/28/23

Date Received: 03/22/23

Project: 3063 SE Harrison St, F&BI 303349

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR TPH AS GASOLINE
USING METHOD NWTPH-Gx**

Laboratory Code: 303323-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	95	61-153

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/28/23

Date Received: 03/22/23

Project: 3063 SE Harrison St, F&BI 303349

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

Laboratory Code: 303344-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	9,100	78 b	58 b	70-130	29 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	96	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/28/23

Date Received: 03/22/23

Project: 3063 SE Harrison St, F&BI 303349

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 303325-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2	<0.5	30	29	10-142	3
Chloromethane	mg/kg (ppm)	2	<0.5	60	59	10-126	2
Vinyl chloride	mg/kg (ppm)	2	<0.05	66	67	10-138	2
Bromomethane	mg/kg (ppm)	2	<0.5	70	73	10-163	4
Chloroethane	mg/kg (ppm)	2	<0.5	74	74	10-176	0
Trichlorofluoromethane	mg/kg (ppm)	2	<0.5	62	63	10-176	2
Acetone	mg/kg (ppm)	10	<5	82	89	10-163	8
1,1-Dichloroethene	mg/kg (ppm)	2	<0.05	76	76	10-160	0
Hexane	mg/kg (ppm)	2	<0.25	70	66	10-137	6
Methylene chloride	mg/kg (ppm)	2	<0.5	78	86	10-156	10
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2	<0.05	85	88	21-145	3
trans-1,2-Dichloroethene	mg/kg (ppm)	2	<0.05	84	84	14-137	0
1,1-Dichloroethane	mg/kg (ppm)	2	<0.05	86	87	19-140	1
2,2-Dichloropropane	mg/kg (ppm)	2	<0.05	70	70	10-158	0
cis-1,2-Dichloroethene	mg/kg (ppm)	2	<0.05	86	87	25-135	1
Chloroform	mg/kg (ppm)	2	<0.05	83	85	21-145	2
2-Butanone (MEK)	mg/kg (ppm)	10	<1	92	93	19-147	1
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2	<0.05	85	88	12-160	3
1,1,1-Trichloroethane	mg/kg (ppm)	2	<0.05	85	85	10-156	0
1,1-Dichloropropene	mg/kg (ppm)	2	<0.05	84	85	17-140	1
Carbon tetrachloride	mg/kg (ppm)	2	<0.05	82	83	9-164	1
Benzene	mg/kg (ppm)	2	<0.03	89	91	29-129	2
Trichloroethene	mg/kg (ppm)	2	<0.02	92	92	21-139	0
1,2-Dichloropropane	mg/kg (ppm)	2	<0.05	91	94	30-135	3
Bromodichloromethane	mg/kg (ppm)	2	<0.05	90	93	23-155	3
Dibromomethane	mg/kg (ppm)	2	<0.05	90	91	23-145	1
4-Methyl-2-pentanone	mg/kg (ppm)	10	<1	98	102	24-155	4
cis-1,3-Dichloropropene	mg/kg (ppm)	2	<0.05	91	93	28-144	2
Toluene	mg/kg (ppm)	2	<0.05	87	89	35-130	2
trans-1,3-Dichloropropene	mg/kg (ppm)	2	<0.05	86	90	26-149	5
1,1,2-Trichloroethane	mg/kg (ppm)	2	<0.05	92	95	10-205	3
2-Hexanone	mg/kg (ppm)	10	<5	94	96	15-166	2
1,3-Dichloropropane	mg/kg (ppm)	2	<0.05	92	94	31-137	2
Tetrachloroethene	mg/kg (ppm)	2	<0.025	85	87	20-133	2
Dibromochloromethane	mg/kg (ppm)	2	<0.05	87	91	28-150	4
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2	<0.05	90	92	28-142	2
Chlorobenzene	mg/kg (ppm)	2	<0.05	89	92	32-129	3
Ethylbenzene	mg/kg (ppm)	2	<0.05	90	92	32-137	2
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2	<0.05	87	91	31-143	4
m,p-Xylene	mg/kg (ppm)	4	<0.1	89	91	34-136	2
o-Xylene	mg/kg (ppm)	2	<0.05	91	94	33-134	3
Styrene	mg/kg (ppm)	2	<0.05	92	95	35-137	3
Isopropylbenzene	mg/kg (ppm)	2	<0.05	90	93	31-142	3
Bromoform	mg/kg (ppm)	2	<0.05	87	90	21-156	3
n-Propylbenzene	mg/kg (ppm)	2	<0.05	89	91	23-146	2
Bromobenzene	mg/kg (ppm)	2	<0.05	90	92	34-130	2
1,3,5-Trimethylbenzene	mg/kg (ppm)	2	<0.05	92	94	18-149	2
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2	<0.05	83	86	28-140	4
1,2,3-Trichloropropane	mg/kg (ppm)	2	<0.05	90	92	25-144	2
2-Chlorotoluene	mg/kg (ppm)	2	<0.05	90	92	31-134	2
4-Chlorotoluene	mg/kg (ppm)	2	<0.05	88	90	31-136	2
tert-Butylbenzene	mg/kg (ppm)	2	<0.05	91	93	30-137	2
1,2,4-Trimethylbenzene	mg/kg (ppm)	2	<0.05	89	93	10-182	4
sec-Butylbenzene	mg/kg (ppm)	2	<0.05	90	92	23-145	2
p-Isopropyltoluene	mg/kg (ppm)	2	<0.05	90	93	21-149	3
1,3-Dichlorobenzene	mg/kg (ppm)	2	<0.05	87	90	30-131	3
1,4-Dichlorobenzene	mg/kg (ppm)	2	<0.05	87	90	29-129	3
1,2-Dichlorobenzene	mg/kg (ppm)	2	<0.05	89	92	31-132	3
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2	<0.5	81	84	11-161	4
1,2,4-Trichlorobenzene	mg/kg (ppm)	2	<0.25	83	86	22-142	4
Hexachlorobutadiene	mg/kg (ppm)	2	<0.25	77	80	10-142	4
Naphthalene	mg/kg (ppm)	2	<0.05	85	88	14-157	3
1,2,3-Trichlorobenzene	mg/kg (ppm)	2	<0.25	80	83	20-144	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/28/23

Date Received: 03/22/23

Project: 3063 SE Harrison St, F&BI 303349

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2	50	10-146
Chloromethane	mg/kg (ppm)	2	69	27-133
Vinyl chloride	mg/kg (ppm)	2	81	22-139
Bromomethane	mg/kg (ppm)	2	84	38-114
Chloroethane	mg/kg (ppm)	2	82	9-163
Trichlorofluoromethane	mg/kg (ppm)	2	78	10-196
Acetone	mg/kg (ppm)	10	89	52-141
1,1-Dichloroethene	mg/kg (ppm)	2	88	47-128
Hexane	mg/kg (ppm)	2	90	43-142
Methylene chloride	mg/kg (ppm)	2	89	10-184
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2	92	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2	94	67-129
1,1-Dichloroethane	mg/kg (ppm)	2	94	68-115
2,2-Dichloropropane	mg/kg (ppm)	2	94	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2	94	72-127
Chloroform	mg/kg (ppm)	2	88	66-120
2-Butanone (MEK)	mg/kg (ppm)	10	95	30-197
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2	91	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2	91	62-131
1,1-Dichloropropene	mg/kg (ppm)	2	93	69-128
Carbon tetrachloride	mg/kg (ppm)	2	90	60-139
Benzene	mg/kg (ppm)	2	95	71-118
Trichloroethene	mg/kg (ppm)	2	91	63-121
1,2-Dichloropropane	mg/kg (ppm)	2	97	72-127
Bromodichloromethane	mg/kg (ppm)	2	95	57-126
Dibromomethane	mg/kg (ppm)	2	95	62-123
4-Methyl-2-pentanone	mg/kg (ppm)	10	102	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2	98	67-122
Toluene	mg/kg (ppm)	2	92	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2	94	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2	96	64-115
2-Hexanone	mg/kg (ppm)	10	96	33-152
1,3-Dichloropropane	mg/kg (ppm)	2	95	72-130
Tetrachloroethene	mg/kg (ppm)	2	91	72-114
Dibromochloromethane	mg/kg (ppm)	2	93	55-121
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2	94	74-132
Chlorobenzene	mg/kg (ppm)	2	93	76-111
Ethylbenzene	mg/kg (ppm)	2	95	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2	92	64-121
m,p-Xylene	mg/kg (ppm)	4	93	78-122
o-Xylene	mg/kg (ppm)	2	95	77-124
Styrene	mg/kg (ppm)	2	97	74-126
Isopropylbenzene	mg/kg (ppm)	2	95	76-127
Bromoform	mg/kg (ppm)	2	96	56-132
n-Propylbenzene	mg/kg (ppm)	2	96	74-124
Bromobenzene	mg/kg (ppm)	2	96	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2	98	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2	98	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2	93	61-137
2-Chlorotoluene	mg/kg (ppm)	2	96	74-121
4-Chlorotoluene	mg/kg (ppm)	2	94	75-122
tert-Butylbenzene	mg/kg (ppm)	2	98	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2	97	76-125
sec-Butylbenzene	mg/kg (ppm)	2	98	71-130
p-Isopropyltoluene	mg/kg (ppm)	2	99	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	2	93	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	2	94	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	2	95	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2	88	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2	90	64-135
Hexachlorobutadiene	mg/kg (ppm)	2	86	50-153
Naphthalene	mg/kg (ppm)	2	90	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2	86	63-138

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/28/23

Date Received: 03/22/23

Project: 3063 SE Harrison St, F&BI 303349

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: 303328-01 1/25 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Acenaphthylene	mg/kg (ppm)	4.2	<0.05	97	99	50-150	2
Acenaphthene	mg/kg (ppm)	4.2	<0.05	91	92	50-150	1
Fluorene	mg/kg (ppm)	4.2	<0.05	92	95	50-150	3
Phenanthrene	mg/kg (ppm)	4.2	<0.05	95	97	10-170	2
Anthracene	mg/kg (ppm)	4.2	<0.05	93	97	50-150	4
Fluoranthene	mg/kg (ppm)	4.2	<0.05	95	99	10-203	4
Pyrene	mg/kg (ppm)	4.2	<0.05	97	97	10-208	0
Benz(a)anthracene	mg/kg (ppm)	4.2	<0.05	97	99	37-146	2
Chrysene	mg/kg (ppm)	4.2	<0.05	96	99	36-144	3
Benzo(a)pyrene	mg/kg (ppm)	4.2	<0.05	90	93	40-150	3
Benzo(b)fluoranthene	mg/kg (ppm)	4.2	<0.05	99	98	45-157	1
Benzo(k)fluoranthene	mg/kg (ppm)	4.2	<0.05	91	92	50-150	1
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	4.2	<0.05	94	96	24-145	2
Dibenz(a,h)anthracene	mg/kg (ppm)	4.2	<0.05	97	100	31-137	3
Benzo(g,h,i)perylene	mg/kg (ppm)	4.2	<0.05	95	96	14-141	1

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Acenaphthylene	mg/kg (ppm)	0.83	100	70-130
Acenaphthene	mg/kg (ppm)	0.83	93	66-112
Fluorene	mg/kg (ppm)	0.83	94	67-117
Phenanthrene	mg/kg (ppm)	0.83	96	70-130
Anthracene	mg/kg (ppm)	0.83	95	70-130
Fluoranthene	mg/kg (ppm)	0.83	90	70-130
Pyrene	mg/kg (ppm)	0.83	95	70-130
Benz(a)anthracene	mg/kg (ppm)	0.83	98	70-130
Chrysene	mg/kg (ppm)	0.83	99	70-130
Benzo(a)pyrene	mg/kg (ppm)	0.83	92	68-120
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	93	69-125
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	89	70-130
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	96	67-129
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	96	67-128
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	93	67-127

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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, biased high; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. 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 analyte 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 due to sample matrix effects.
- j - The analyte concentration is reported below the standard reporting limit. 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.
- k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.
- 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.

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**

Appendix C

Disposal Receipts

Appendix D Well Logs
Appendix E DEQ Forms

**Underground Storage Tank
3063 SE Harrison Street
Milwaukie, Oregon 97222**

Appendix D

Well Logs

CLAC 307

STATE ENGINEER
Salem, Oregon

CLAC. 00307

Well Record

GR- 1427

STATE WELL NO. 1/1-25J
COUNTY Clackamas
APPLICATION NO. GR- 1478

OWNER: The City of Milwaukie

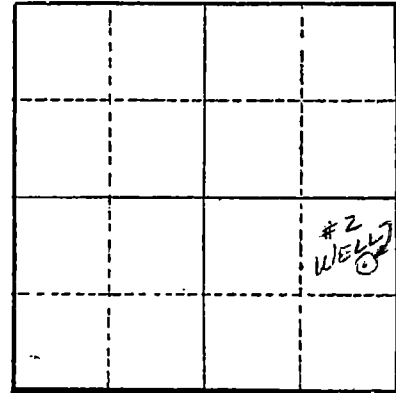
MAILING ADDRESS:

LOCATION OF WELL: Owner's No. #2

CITY AND STATE: Milwaukie, Oregon

NE 1/4 SE 1/4 Sec. 25 T. 1 S., R. 1 E. W.M.

Bearing and distance from section or subdivision corner 1630' N. & 600' W. from SE cor. Sec. 25 and/or 100' S. & 55' W. from NE cor. Blk. 7 of the Zanders Addition.



Section 25

Altitude at well 189.26'

TYPE OF WELL: Drilled Date Constructed 1936

Depth drilled 290' Depth cased 189.26'

CASING RECORD:

12" from (100.74' to 189.26' = Elevations)

Corrected per GR record

FINISH:

Perforations 5/15" to 1 1/4", 5 to the ft. per row from 183' to 198' - 8 rows
" " " " " " " " 202' to 214' - 4 rows

AQUIFERS:

WATER LEVEL:

174'

PUMPING EQUIPMENT: Type Worthington Deep Well Turbine H.P. 50
Capacity 615 G.P.M.

WELL TESTS:

Drawdown 69 ft. after hours 557 G.P.M.
Drawdown ft. after hours G.P.M.

USE OF WATER Dom., Ind. & Municipal Temp. °F., 19

SOURCE OF INFORMATION GR Record

DRILLER or DIGGER

ADDITIONAL DATA:

Log X Water Level Measurements Chemical Analysis Aquifer Test

REMARKS:

CLAC 308

STATE ENGINEER
Salem, Oregon

CLAC
00308

Well Record

STATE WELL NO. 1/1-25J
COUNTY Clackamas
APPLICATION NO. GR-1480

GR- 1429

OWNER: The City of Milwaukie

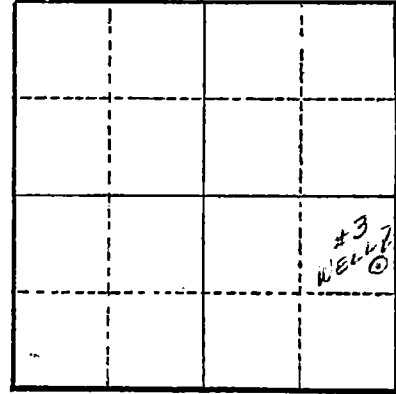
MAILING
ADDRESS:

LOCATION OF WELL: Owner's No. #3

CITY AND
STATE: Milwaukie, Oregon

NE 1/4 SE 1/4 Sec. 25 T. 1 N. S. R. 1 E. W.M.

Bearing and distance from section or subdivision
corner 265' S. & 275' W. from NE cor. Blk. 7
of the Zanders Addition.



Section 25

Altitude at well 189.26'

TYPE OF WELL: Drilled Date Constructed 1946

Depth drilled 290' Depth cased 188.26'

CASING RECORD:

12" from 101.74 to 188.26'

Corrected via GR record

FINISH:

Perforations: 5/15" to 1 1/4" (5/ft./row from 224' to 238' - 4 rows
" " " " " 265' to 279' - 4 rows

AQUIFERS:

WATER LEVEL:

174'

PUMPING EQUIPMENT: Type Worthington turbine H.P. 50
Capacity 650 G.P.M.

WELL TESTS:

Drawdown 35 ft. after hours 585 G.P.M.
Drawdown ft. after hours G.P.M.

USE OF WATER Dom., Ind., & Municipal Temp. °F., 19
SOURCE OF INFORMATION GR Record

DRILLER or DIGGER

ADDITIONAL DATA:

Log X Water Level Measurements Chemical Analysis Aquifer Test

REMARKS:

See Application #GR-1478 for log as these are identical

WATER WELL REPORT
STATE OF OREGON

CLAC

CLAC RECEIVED
00315 JUN 8 1982
WATER RESOURCES DEPT

State Well No. 15/E-36
State Permit No. 6-9954

(1) OWNER:

Name City of Milwaukie
Address 10722 SE Main St.
City Milwaukie State Or.

(2) TYPE OF WORK (check):

New Well Deepening Reconditioning Abandon
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Air Driven Domestic Industrial Municipal
Mud Dug Irrigation Test Well Other
 Bored Thermal: Withdrawal Reinjection

(4) PROPOSED USE (check):

Steel Plastic
Threaded Welded

(5) CASING INSTALLED:

16" Diam. from +1 ft. to 150 ft. Gauge 375
" Diam. from ft. to ft. Gauge

LINER INSTALLED: none

" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:

Perforated? Yes No

Type of perforator used
Size of perforations in. by in.
..... perforations from ft. to ft.
..... perforations from ft. to ft.
..... perforations from ft. to ft.

(7) SCREENS:

Well screen installed? Yes No

Manufacturer's Name Johnson
Type Stainless Model No. 304
Diam. 14" Slot Size 25-100 Set from 206 ft. to 313 ft.
Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

A pump test made? Yes No If yes, by whom? Stettler
" 900 gal./min. with 112 ft. drawdown after 24 hrs.
" 1190 " 136 " 3 "
Air test gal./min. with drill stem at ft. hrs.
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water 54 Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Special standards: Yes No

Well seal—Material used Cement grout
Well sealed from land surface to 80 ft.
Diameter of well bore to bottom of seal 20" in.
Diameter of well bore below seal 16" in.
Number of sacks of cement used in well seal 186 sacks
How was cement grout placed? Pressure pumped
from 80' up to surface
.....
Was pump installed? NO Type HP Depth ft.
Was a drive shoe used? Yes No Plugs Size: location ft.
Did any strata contain unusable water? Yes No
Type of Water? depth of strata
Method of sealing strata off
Was well gravel packed? Yes No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County Clackamas Driller's well number
Tax Lot # % Section 36 T1S R1E W.M.
Lot 2500 Blk 74 Subdivision
Address at well location: Minthorn addn

(11) WATER LEVEL: Completed well.

Depth at which water was first found 95 ft.
Static level 45.5 ft. below land surface. Date 5/11/82
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 14" tail pipe

Depth drilled 327 ft. Depth of completed well 327 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Soil brn med	0	2	
Clay brn med	2	8	
Conglom. brn-gray, coarse	8	37	
Clay gray, some gravel	37	45	
Conglom. brn, semi clean	45	71	
Clay brn med.	71	77	
Conglom. brn brn	77	95	
Sand, gravel, loose			
brn & gray some water	95	98	
Clay sticky gray-brn	98	117	
Clay med brn	117	121	
Conglom. med gray	121	132	
Sand & gravel, loose			
gray, some water	132	135	
Clay med brn	135	155	
Sand, fine gray gravel	155	160	
Conglom. brn course	160	190	
Clay med green	190	200	
Pumis med white	200	205	
Conglom. gray course	205	212	
see att. sheet			

Work started 2-9 1982 Completed 5-11 1982
Date well drilling machine moved off of well 5/1 1982

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Charles E. Stettler Date 5-28, 1982
(Drilling Machine Operator)
Drilling Machine Operator's License No. 84

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name West Coast Drilling Co., Inc.
(Person, firm or corporation) (Type or print)
Address 220 Academy St. Mt. Angel, Or.
[Signed] Charles E. Stettler
(Water Well Contractor)
Contractor's License No. 519 Date 5-28, 1982

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT,
SALEM, OREGON 97310
within 30 days from the date of well completion.

SP*12658-690

WATER WELL REPORT
STATE OF OREGON

RECEIVED

JUN 8 1982

State Well No. 15/E-36

WATER RESOURCES DEPT
SALEM, OREGON State Permit No. _____

(1) OWNER:
Name City of Milwaukie cont. log
Address _____
City _____ State _____

(2) TYPE OF WORK (check):
New Well Deepening Reconditioning Abandon
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL: Rotary Air Driven Domestic Industrial Municipal
Pneum. Mud Dug Irrigation Test Well Other
 Bored Thermal: Withdrawal Reinjection

(4) PROPOSED USE (check):
Steel Plastic
Threaded Welded

(5) CASING INSTALLED: _____ " Diam. from _____ ft. to _____ ft. Gauge _____
_____ " Diam. from _____ ft. to _____ ft. Gauge _____

LINER INSTALLED: _____ " Diam. from _____ ft. to _____ ft. Gauge _____

(6) PERFORATIONS: Perforated? Yes No
Type of perforator used _____
Size of perforations _____ in. by _____ in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

(7) SCREENS: Well screen installed? Yes No
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot Size _____ Set from _____ ft. to _____ ft.
Diam. _____ Slot Size _____ Set from _____ ft. to _____ ft.

(8) WELL TESTS: Drawdown is amount water level is lowered below static level
_____ pump test made? Yes No If yes, by whom? _____
_____ gal./min. with _____ ft. drawdown after _____ hrs.
Air test _____ gal./min. with drill stem at _____ ft. _____ hrs.
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m.
_____ temperature of water _____ Depth artesian flow encountered _____ ft.

(9) CONSTRUCTION: Special standards: Yes No
Well seal—Material used _____
Well sealed from land surface to _____ ft.
Diameter of well bore to bottom of seal _____ in.
Diameter of well bore below seal _____ in.
Number of sacks of cement used in well seal _____ sacks
How was cement grout placed? _____
Was pump installed? _____ Type _____ HP _____ Depth _____ ft.
Was a drive shoe used? Yes No Plugs _____ Size: location _____ ft.
Did any strata contain unusable water? Yes No
Type of Water? _____ depth of strata _____
Method of sealing strata off _____
Was well gravel packed? Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

(10) LOCATION OF WELL:
County _____ Driller's well number _____
_____ 1/4 Section _____ T. _____ R. _____ W.M.
Tax Lot # _____ Lot _____ Blk _____ Subdivision _____
Address at well location: _____

(11) WATER LEVEL: Completed well.
Depth at which water was first found _____ ft.
Static level _____ ft. below land surface. Date _____
Artesian pressure _____ lbs. per square inch. Date _____

(12) WELL LOG: Diameter of well below casing _____ ft.
Depth drilled _____ ft. Depth of completed well _____ ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Sandy clay, dirty brn	212	216	
Conglom. med brn	216	230	
Clay med brn	230	236	
Conglom. med gray	236	265	
Gravel course, gray			
sand loose med gray	265	267	
Conglom. med gray	267	300	
Conglom. semi loose,			
some sand med-fine gray	300	305	
Sand loose gray med-fine			
some gravel, small-med	305	310	
Conglom. course gray	310	327	
Basalt blk. hrd	327	327	
2 sack cement plug set in bottom @ 327'			

Work started _____ 19 _____ Completed _____ 19
Date well drilling machine moved off of well _____ 19

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Charles E. Stadel Date _____, 19_____
(Drilling Machine Operator)

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name _____ (Person, firm or corporation) _____ (Type or print)
Address _____
[Signed] Charles E. Stadel _____
(Water Well Contractor)
Contractor's License No. _____ Date _____, 19____

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT,
SALEM, OREGON 97310
within 30 days from the date of well completion. SP*12658-690

(1) OWNER:
Name City of Milwaukie
Address Milwaukie, Oregon

(2) LOCATION OF WELL:
County Clackamas Owner's number, if any— 4
1/4 Section T. R. W.M.
Bearing and distance from section or subdivision corner

TYPE OF WORK (check):
New Well Deepening Reconditioning Abandon
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check): (5) TYPE OF WELL:
Domestic Industrial Municipal Rotary Driven
Irrigation Test Well Other Cable Jetted
Dug Bored

(6) CASING INSTALLED:
16 " Diam. from surface ft. to 304 ft. Threaded Welded
" Diam. from surface ft. to ft. Gage 3/8" wall

(7) PERFORATIONS:
Type of perforator used Star Perforated? Yes No
SIZE of perforations 3/8 in. by 1 1/2 in.
360 perforations from 283 ft. to 289 ft.
330 perforations from 276 ft. to 281.5 ft.
320 perforations from 185 ft. to 198 ft.

SCREENS:
Well screen installed Yes No
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.
_____ Slot size _____ Set from _____ ft. to _____ ft.

CONSTRUCTION:
Was well gravel packed? Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft. 93
Was a surface seal provided? Yes No To what depth? _____ ft.
Material used in seal— cement grout
Did any strata contain unusable water? Yes No 26 ft to 46 ft.
Type of water? _____ Depth of strata _____
Method of sealing strata off 20" hole to 93 ft. cemented back to 83 ft.

(10) WATER LEVELS:
Static level 23 ft. below land surface Date May 12, 1960
Artesian pressure _____ lbs. per square inch Date _____

Log Accepted by:
[Signed] Earl M. Calay Date _____, 19____
(Owner)

(11) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? Strasser Co.
Yield: 620 gal./min. with 249 ft. drawdown after 8 hrs.
" 608 " 245 " 8 "
" 440 " 137 " "
Ballor test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water 63° Was a chemical analysis made? Yes No

(12) WELL LOG: Diameter of well 16 inches.
Depth drilled 304 ft. Depth of completed well 304 ft.
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Topsoil	Surf	3
Gravel and clay	3	26
Loose gravel and sand (water)	26	46
Gravel-clay binder	46	61
Cemented gravel	61	93
Loose gravel	93	96
Cemented gravel	96	130
Gravel with clay binder	130	169
Cemented gravel	169	173
Sandy clay	173	181
Loose gravel and sand (water)	181	195
Cemented gravel	195	274
Loose gravel and sand (water)	274	283
Cemented gravel	283	289
Blue and brown clay	289	294
Pea gravel	294	298
Blue clay	298	304

Work started March 19 1960. Completed May 28 1960

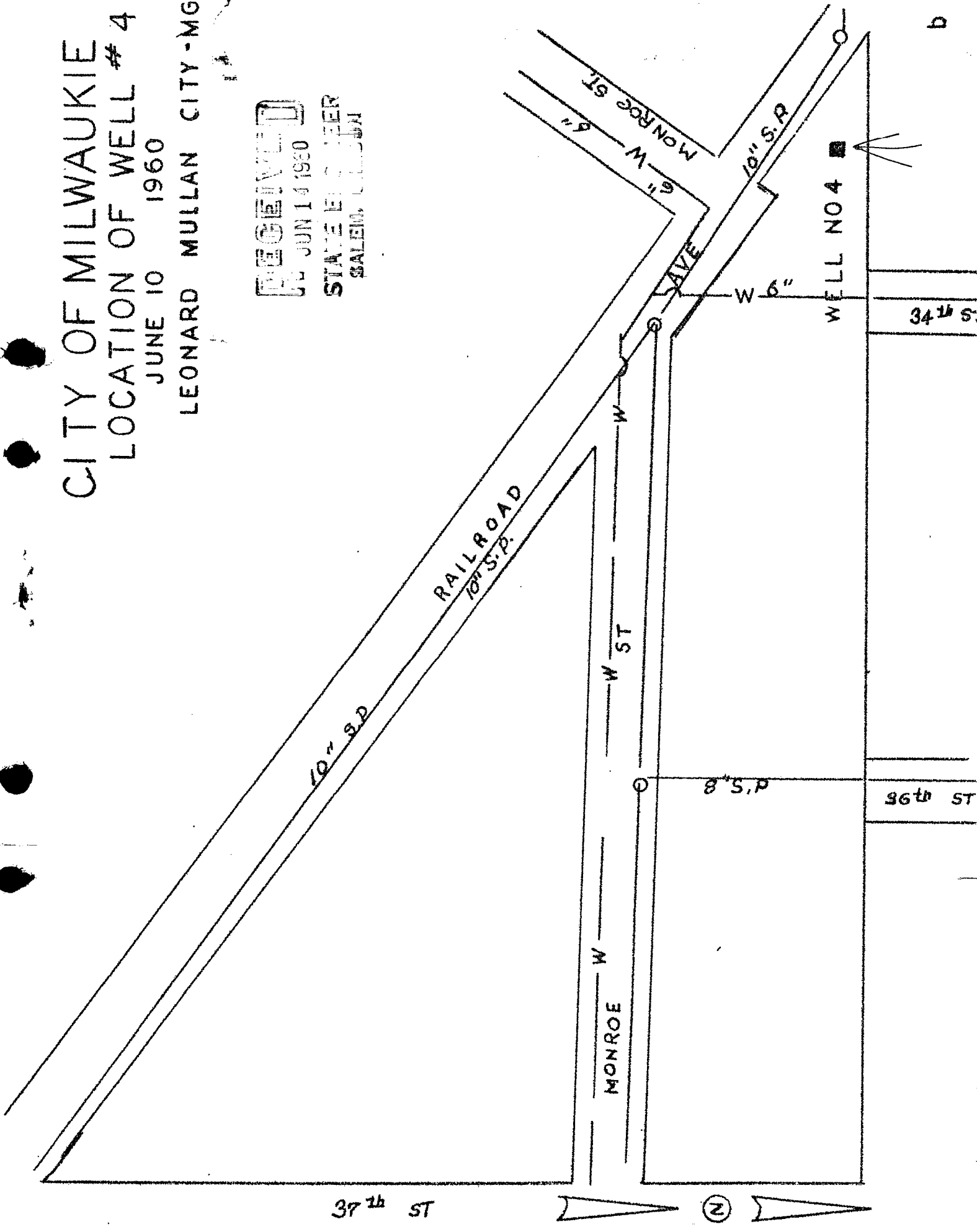
(13) PUMP:
Manufacturer's Name _____
Type: _____ H.P. _____

Well Driller's Statement:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME R. J. Strasser Drilling Co.
(Person, firm, or corporation) (Type or print)
Address 8110 SE Sunset Lane, Portland 6, Oregon
Driller's well number 4018
[Signed] Robert L. Strasser
(Well Driller) Date May 28 1960
License No. 10 Date _____, 19____

CITY OF MILWAUKIE
LOCATION OF WELL # 4
JUNE 10 1960
LEONARD MULLAN CITY-MGR

RECEIVED
JUN 14 1960
STATE ENGINEER
SALEM, OREGON



ST FOR WATER BACTERIOLOGICAL EXAMINATION

NAME OF OWNER: **MILW. WATER DEPT**
 NAME OF WATER SUPPLY: **MILW. WATER DEPT**

ADDRESS OF WATER OWNER: **922 MAIN ST MILW**
 DATE COLLECTED: **5/26/60 9:30** HOUR: A.M. P.M.

NAME OF COLLECTOR: **KEN RYMAN**

SAMPLING POINT: **WELL** SOURCE: **WELL** COUNTY: **CLATSOP**

CHLORINATED UNCHLORINATED MUNICIPAL OR COMMUNITY PRIVATE SEMI-PUBLIC

SWIMMING POOL AND BATHING PLACES: ARTIFICIAL POOL NATURAL BATHING PLACE

R.S. STEVENS DRILLING CO
2110 SE SUNSET LANE
PORTLAND OREGON

PUBLIC HEALTH LABORATORY
 OREGON STATE BOARD OF HEALTH
 P. O. Box 231
 PORTLAND 7, OREGON

LAB. NO. **9619**
 DATE RECEIVED **5-26-60** DATE REPORTED **5-28-60**
 SEE BACK OF 1st COPY FOR ADDL. INFO.

VOL.-ML	1	10	10	10	10	10	MPN
24 HOURS							
48 HOURS							

VOL.-ML	10	10	1	1	1	1	1	1	MPN
24 HOURS									
48 HOURS									

CON-FIRMATION: THIS WATER DOES CONFORM WITH ACCEPTED STANDARDS OF PURITY.

CHECKED BY: **[Signature]**

NOTICE TO WATER WELL CONTRACTOR
The original and first copy
of this report are to be
filed with the
STATE ENGINEER, SALEM 10, OREGON
within 30 days from the date
of well completion.

RECEIVED
AUG 28 1963
STATE ENGINEER
SALEM, OREGON

CLAC. 00320

WATER WELL REPORT
STATE OF OREGON
(Please type or print)

State Well No. 111-36c
State Permit No. G2808

(1) OWNER:

Name WILLIAM C WILHELM
Address 6637 SE MILWAUKIE AVE
PORTLAND ORE

(2) LOCATION OF WELL:

County CLACK Driller's well number 4154
Bearing and distance from section or subdivision corner
140'S AND 1740' W FROM NE
CORNER OF KARLEN'S SECOND
ADDITION

(3) TYPE OF WORK (check):

Well Deepening Reconditioning Abandon
If abandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):

Domestic Industrial Municipal
Irrigation Test Well Other

(5) TYPE OF WELL:

Rotary Driven
Cable Jetted
Dug Bored

(6) CASING INSTALLED:

Threaded Welded
8" Diam. from 0 ft. to 80 ft. Gage .279
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(7) PERFORATIONS:

Perforated? Yes No
Type of perforator used STAR
Size of perforations 3/8 in. by 1 1/4 in.
360 perforations from 56 ft. to 68 ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(8) SCREENS:

Well screen installed Yes No
Manufacturer's Name _____ Model No. _____
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(9) CONSTRUCTION:

Well seal—Material used in seal CEMENT GROUT
Depth of seal 21 ft. Was a packer used? NO
Diameter of well bore to bottom of seal 12 in.
Were any loose strata cemented off? Yes No Depth _____
Was a drive shoe used? Yes No
Was well gravel packed? Yes No Size of gravel: _____
Gravel placed from ft. to ft.
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(10) WATER LEVELS:

Static level 32 ft. below land surface Date 8/7/63
Artesian pressure lbs. per square inch Date _____

(11) WELL TESTS:

Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? R.J.S
Yield: 117 gal./min. with 10 ft. drawdown after 8 hrs.
" 150 " 13 " " "
" 242 " 22 " " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water 54 Was a chemical analysis made? Yes No

(12) WELL LOG:

Diameter of well below casing _____
Depth drilled 80 ft. Depth of completed well 80 ft.
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
TOP SOIL	0	4
GRAVEL BOULDERS AND CLAY	4	39
CEMENTED GRAVEL	39	49
SAND AND GRAVEL	49	54
WATER BEARING SAND AND GRAVEL	54	68
SAND, GRAVEL AND CLAY	68	80

Work started JULY 23, 1963 Completed AUG 9 1963
Date well drilling machine moved off of well AUG 9 1963

(13) PUMP:

Manufacturer's Name _____
Type: _____ H.P. _____

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME R.J. STRASSER DRILLING CO
(Person, firm or corporation) (Type or print)
Address 8110 SE SUNSET LANE PORT. ORE

Drilling Machine Operator's License No. 58

[Signed] Robert L. Strasser
(Water Well Contractor)

Contractor's License No. 10 Date AUG 14, 1963

RECEIVED

OCT 13 1999

STATE OF OREGON WATER SUPPLY WELL REPORT (as required by ORS 537.765) WATER RESOURCES DEPT. SALEM, OREGON

clac 55087

WELL I.D. # L N/A START CARD # W-118982

Instructions for completing this report are on the last page of this form.

(1) OWNER: Well Number 31-99 Name Delia Ogden 9/0 Melvin Fields Address 11280 SE 32nd Ave City Milwaukie State OR Zip 97222

(2) TYPE OF WORK [] New Well [] Deepening [] Alteration (repair/recondition) [X] Abandonment

(3) DRILL METHOD: [] Rotary Air [] Rotary Mud [] Cable [] Auger [X] Other In place

(4) PROPOSED USE: [] Domestic [] Community [] Industrial [] Irrigation [] Thermal [] Injection [] Livestock [X] Other Lawn

(5) BORE HOLE CONSTRUCTION: Special Construction approval [X] Yes [] No Depth of Completed Well 17.8 Explosives used [] Yes [X] No Type Amount

Table with columns: HOLE Diameter, From, To, Material, SEAL From, To, Sacks or pounds. Row 1: 2 1/4, 0, 17, Cement, 1, 5, 1. Row 2: 2 1/4, 5, 17, 28 chip bentonite, 5, 17, 1.

How was seal placed: Method [] A [] B [] C [] D [] E [X] Other In place Backfill placed from ft. to ft. Material Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER: Table with columns: Diameter, From, To, Gauge, Steel, Plastic, Welded, Threaded. Casing: 2 1/4, 2, 17, 188, [X], [], [], [X]. Liner: [], [], [], [], [], [], [], [].

Final location of shoe(s)

(7) PERFORATIONS/SCREENS: Table with columns: From, To, Slot size, Number, Diameter, Tele/pipe size, Casing, Liner. All cells are empty.

(8) WELL TESTS: Minimum testing time is 1 hour [X] Pump [] Bailer [] Air [] Flowing Artesian Yield gal/min Drawdown Drill stem at Time 1 hr.

Temperature of water Depth Artesian Flow Found Was a water analysis done? [] Yes By whom Did any strata contain water not suitable for intended use? [] Too little [] Salty [] Muddy [] Odor [] Colored [] Other Depth of strata:

(9) LOCATION OF WELL by legal description: County Clack Latitude Longitude Township 13 N or S Range 1E E or W. WM. Section 36 AC SW 1/4 NE 1/4 Tax Lot 3900 Lot Block 7 Subdivision Street Address of Well (or nearest address) 11280 SE 32nd Ave, Milwaukie, OR 97222

(10) STATIC WATER LEVEL: 10 ft. below land surface. Date 9-17-99 Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES: Depth at which water was first found N/A

Table with columns: From, To, Estimated Flow Rate, SWL. A diagonal line is drawn across the table.

(12) WELL LOG: Ground Elevation

Complex block containing a diagram of a well and contact information for STEINMAN BROS. DRILLING CO. Material: Pipe cut off 296 below surface. Address: 3023 S.E. Holly Avenue, Milwaukie, Oregon 97222.

Date started 9-17-99 Completed 9-17-99 (unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

Signed Steinman Bros. Drilling Co. WWC Number Date

(bonded) Water Well Constructor Certification: I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief. Signed Ronald F. McConnell WWC Number 1 Date 9-17-99

STATE OF OREGON
 WATER SUPPLY WELL REPORT
 (as required by ORS 537.765 & OAR 690-205-0210)

WELL I.D. LABEL # 1 112743
 START CARD # 1042619
 ORIGINAL LOG #

(1) LAND OWNER
 Owner Well I.D. WELL 2 R
 First Name _____ Last Name _____
 Company CITY OF MILWAUKIE
 Address 10722 SE MAIN ST
 City MILWAUKIE State OREGON Zip 97222

(2) TYPE OF WORK New Well Deepening Conversion
 Alteration (complete 2a & 10) Abandonment (complete 5a)

(2a) PRE-ALTERATION
 Dia From To Gauge Sil Plstc Wld Thrd
 Casing:
 Material From To Amt sacks/lbs
 Seal:

(3) DRILL METHOD
 Rotary Air Rotary Mud Cable Auger Cable Mud
 Reverse Rotary Other

(4) PROPOSED USE Domestic Irrigation Community
 Industrial/ Commercial Livestock Dewatering
 Thermal Injection Other

(5) BORE HOLE CONSTRUCTION Special Standard (Attach copy)
 Depth of Completed Well 392 ft.
 BORE HOLE

Dia	From	To	Material	SEAL	From	To	Amt	sacks/lbs
20"	0	85'	CEMENT GROUT	85'	0	85'	92	SACKS
16"	85'	395'					Calculated	68
							Calculated	

How was seal placed: Method A B C D E
 Other TRIMMED FROM BTM to SURFACE w/ PUMP
 Backfill placed from _____ ft. to _____ ft. Material _____
 Filter pack from 395 ft. to 283 ft. Material SAND Size 8/16
 Explosives used: Yes Type 210 Amount 619

(5a) ABANDONMENT USING UNHYDRATED BENTONITE
 Proposed Amount Pounds Actual Amount Pounds

(6) CASING/LINER

Casing	Liner	Dia	From	To	Gauge	Sil	Plstc	Wld	Thrd
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16	±	3	220	375	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

 Shoe Inside Outside Other Location of shoe(s) _____
 Temp casing Yes Dia 20" From 05' To 0

(7) PERFORATIONS/SCREENS
 Perforations Method _____
 Screens Type JOHNSON WIRE WRAP Material SS 304

Perf/S	Casing/Screen	green	Liner	Dia	From	To	Screen/slot width	Slot length	# of slots	Tele/ pipe size
S				12"	392	389	1000	3'		PIPE
S				12"	389	382	.050	7'		PIPE
S				12"	375	370	.050	5'		PIPE
S				12"	310	302	.050	8'		PIPE
S				12"	283	273	1080	10'		PIPE

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Bailor Air Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
500	95	251'	48

 Temperature 54.5 °F Lab analysis Yes By GS1
 Water quality concerns? Yes (describe below) TDS amount

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)
 County CLACKAMAS Twp 1 N/S 1 Range 1 DW WM
 Sec 25 NE 1/4 of the SE 1/4 Tax Lot _____
 Tax Map Number 11E25DD02500 Lot _____
 Lat _____ " or _____ DMS or DD
 Long _____ " or _____ DMS or DD
 Street address of well Nearest address
3800 SE HARVEY ST.
MILWAUKIE, OR, 97222

(10) STATIC WATER LEVEL

Existing Well / Pre-Alteration	Date	SWL (psi)	+ SWL (ft)
Completed Well	<u>8-19-19</u>		<u>121</u> bgs

 Flowing Artesian? Dry Hole?
 WATER BEARING ZONES Depth water was first found _____

SWL Date	From	To	Est Flow	SWL (psi)	+ SWL (ft)

(11) WELL LOG
 Ground Elevation _____

Material	From	To
SAND w/ SILT & GRAVEL	0	73
CLAY	73	100
GRAVEL w/ SAND, SILT, CLAY	100	230
SAND w/ SILT	230	242
SILT w/ GRAVEL, SAND, CLAY	242	270
SILT w/ CLAY AND SAND LENSES	270	310
GRAVEL w/ SAND, SILT AND CLAY	310	370
CLAY w/ GRAVEL w/ SAND LENSES	370	395

 RECEIVED
 OCT 16 2019
 OWRD

Date Started 4-23-19 Completed 10-8-19
 (unbonded) Water Well Constructor Certification
 I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
 License Number _____ Date _____
 Signed _____

(bonded) Water Well Constructor Certification
 I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
 License Number 1953 Date 10-9-19
 Signed [Signature]
 Contact Info (optional) _____

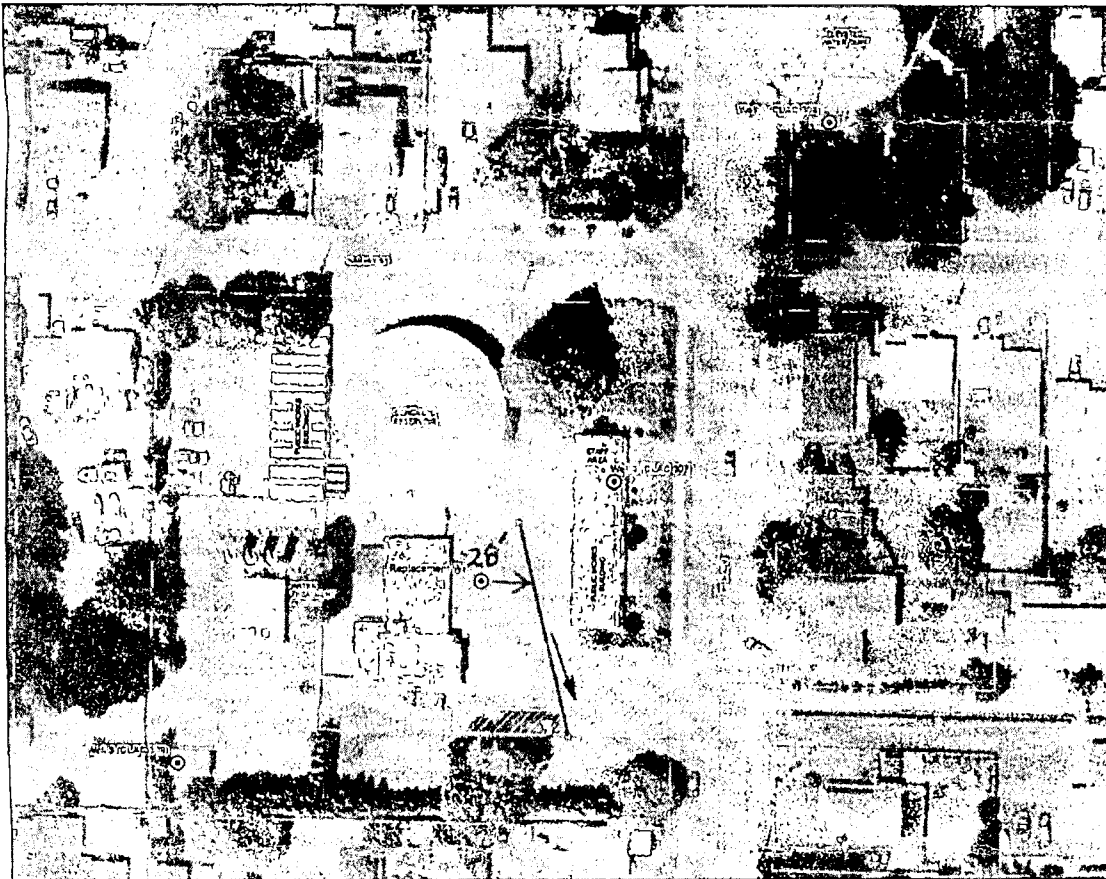


EXHIBIT A
Site Map and
Replacement Well Location
City of Milwaukee
Well 2 Replacement and
Well Decommissioning

- LEGEND**
- ⊙ Approximate Well Location
 - Optional Discharge Point
 - ~ Storm Main
 - - - Drain from Raincoat
 - Manhole Access
 - Tax Lot

N

0 25 50 75
Feet

TE GSI
TETRA TECH GSI

RECEIVED

OCT 16 2019

OWRD