

# **Thermistor Installation Report**

## **DTG Yakima Limited Purpose Landfill**

*Prepared for*  
DTG Recycle



December 2023

**ParametriX**

# **Thermistor Installation Report**

## **DTG Yakima Limited Purpose Landfill**

*Prepared for*

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December 2023.

# Certification

The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, whose seal, as a professional hydrogeologist licensed to practice as such, is affixed below.



Michael Patrick Brady

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Prepared by Mike Brady, LG, LHG

and



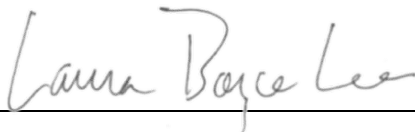
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Checked by Lisa Gilbert, LG, LHG



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Approved by Laura Lee, Project Manager

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# Acronyms and Abbreviations

APH	air-phase petroleum hydrocarbons
BTEX	benzene, toluene, ethylbenzene, and total xylenes
Cascade	Cascade Drilling
CDL	construction, demolition, and land-clearing debris
COCs	Contaminants of concern
cPAHs	carcinogenic polycyclic aromatic hydrocarbons
CULs	cleanup levels
DTG	DTG Recycle
Ecology	Washington State Department of Ecology
F	Fahrenheit
FLIR	forward looking infrared
LEL	lower explosive limit
LFCI	Landfill Fire Control Inc.
LFG	landfill gas
LPL	Limited Purpose Landfill
MTCA	Model Toxics Control Act
PCS	petroleum-contaminated soil
PID	photoionization detector
ppm	parts per million
RI	Remedial Investigation
TPH	total petroleum hydrocarbons
VOA	volatile organic analysis
VOCs	volatile organic compounds
WAC	Washington Administrative Code
YHD	Yakima Health District

# 1. Introduction

DTG Recycle (DTG) operates the DTG Yakima Limited Purpose Landfill (LPL) located at 41 Rocky Top Road in Yakima, Washington. Figure 1 shows the vicinity of the LPL. This report is intended to document the thermistor installations and partially address the requirements of the Agreed Order (No. DE 21624) executed in February 2023 (Ecology 2023) and follows the approved Work Plan (Parametrix 2023).

# 2. Background

The facility was originally permitted as an unlined construction, demolition, and land-clearing debris (CDL) landfill that began operation in 1997 as Anderson Rock and Demolition Pits under Chapter 173-304 Washington Administrative Code (WAC). The facility was reclassified as an LPL in 2007, with the southern expansion area permitted in 2015. The LPL accepted treated petroleum-contaminated soil (PCS) that was stockpiled on the northeast portion of the facility and managed until soil concentrations were below the Model Toxics Control Act (MTCA) Method A cleanup levels (CULs) for unrestricted land use criteria. Once soils in the stockpiles were below MTCA CULs, they could be used as daily cover in the LPL following approval from Yakima Health District (YHD).

In October 2019, DTG Recycle purchased the LPL and began operations. The facility stopped accepting new sources of PCS until additional permitting is in place; however, treated PCS previously accepted and staged in the PCS remediation area continued to be disposed in the LPL. Filling of the northwest slope and the remainder of Phase 1 continued through 2022.

In 2022, a new fill area to the south of the historical Phase 1 fill area began operation. Based on new assessments of the hydrogeologic conditions, the current fill area was determined to be a temporary fill area, and DTG began the process of permitting a lined Phase 2 development of the LPL further south. Waste from the current temporary fill area will be moved into the new lined Phase 2 portion of the LPL. Future cells will be similarly lined.

## 2.1 Odors / Initial Investigations

In 2020, YHD received odor complaints from LPL neighbors. Odors were confirmed by regulators in October 2021 and tracked to the northwest slope of Phase 1 where visual vapor plumes emanating from fissures within the LPL were observed.

In December 2021, DTG retained Freestone Environmental Services to collect air samples of landfill gas (LFG) venting from within fissures. Gas samples collected directly from fissures contained elevated concentrations of volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, and total xylenes (BTEX). In January 2022, Freestone Environmental Services collected ambient air samples from the LPL property boundary, as well as samples directly above, five (5) feet downwind, and fifteen (15) feet downwind of the fissures. Ambient air samples collected above and immediately downwind of the LPL fissures (S-1, S-2, and S-3) contained benzene concentrations above the MTCA Method B and Method C cancer and non-cancer CULs for air. Ambient air samples collected along the property boundary (S-5, S-6, S-7, and S-8) were non-detect except for acetone and methanol at concentrations below MTCA Method B and C air CULs. These results are documented in the Soil Gas and Ambient Air Sampling Report (Freestone Environmental Services 2022). Temperatures of up to 149 degrees Fahrenheit (F) were identified inside the fissures.



In July 2022, additional subsurface gas and ambient air sampling was completed across the LPL, and the sampling identified one area on the northwest slope of the LPL (sample VP-1) where concentrations of petroleum hydrocarbons and associated VOCs similar to the December fissure sampling were identified. At that location, methane was measured up to 4.2% by volume, below the lower explosive limit (LEL). No methane was observed at the seven other vapor probes (VP-2, VP-3, VP-4, VP-5, VP-6, VP-7, and VP-8) across the LPL. The ambient air sampling identified one area on the northwest slope of the LPL (sample AMB-4) having benzene and naphthalene above MTCA Method B air CULs. The July sampling results are documented in the Yakima LPL- Landfill Gas Investigation (Parametrix 2022).

## 2.2 Agreed Order

The Washington State Department of Ecology (Ecology) listed the northwest slope of the LPL as a MTCA cleanup site (Site) based upon the two investigations showing ambient air concentrations directly above the LPL above MTCA CULs for air. DTG and Ecology negotiated an Agreed Order that was executed in February 2023.

The Agreed Order required DTG to:

- Complete a Limited Remedial Investigation (RI) and interim actions, if necessary, for the Site
- Notify Ecology of significant changes in conditions
- Provide Monthly progress reports
- Submit plans or other deliverables to Ecology for approval

The Limited RI included a scope of work which includes:

- Develop a Limited RI Work Plan
- Complete the Limited RI
- Implement Interim Actions (if required)
- Complete SEPA compliance (as needed in conjunction with Interim Actions)
- Participate in Public Meetings

## 2.3 Fire Investigation / Delineation

In March 2023, Parametrix completed a series of ten 2-inch diameter steel gas probes (GP-1 through GP-10) in the LPL. A deep-seated landfill fire was confirmed based upon soil temperatures in exceedance of 400 degrees F, physically burnt material recovered in soil cores, gas temperatures in excess of 400 degrees F, high concentrations of hydrogen gas, high concentrations of carbon monoxide, active fissures and vents, and surface settlement (Parametrix 2023a).

Following confirmation of the subsurface landfill fire, DTG retained Landfill Fire Control Inc. (LFCI) to delineate the extent of the fire and develop a plan to extinguish it. LFCI has assisted DTG in installation of additional gas probes (GP-11 through GP-31). DTG generally completes weekly monitoring of the gas probes with a Multi-RAE Lite 5-gas meter and with a Draeger X-AM 8000 gas analyzer and daily/weekly monitoring of ambient air with the Multi-RAE Lite. To date, no ambient emissions have been detected with the Multi-RAE Lite at the LPL facility boundary.

At the time of the thermistor installation temperatures in several gas probes remained in excess of 500 degrees F and carbon monoxide levels in some gas probes remained high.

Figure 2 displays the location of the gas probes from previous investigations at the LPL.

## 2.4 Fire Suppression

DTG is currently placing low permeability cover soils over the fire area generally following the *Health and Safety, Fire Control and Monitoring Plan* (LFCI 2023a), the *DTG Yakima Limited Purpose Landfill Fire soil Cover Grading Plan* (LFCI 2023b), and 2023 Fire Response Comments (DTG 2023a). The current plan is to smother the fire with additional soil cover by preventing oxygen from reaching the fire and allowing combustion. At the time of the investigation, cover soils were placed below the perimeter roadway and DTG was actively filling the canal to facilitate placement of cover further northeast.

## 2.5 Thermistor Installation Objectives

The objectives of this investigation were to:

- Evaluate soil and gas temperatures within the LPL to assess the current extent / depth of the fire, and provide for future monitoring,
- Collect representative soil samples to characterize the nature of the waste material and concentrations of chemical substances in wastes and underlying native soils, and evaluate whether chemicals of concern are leaching from the fire area,
- Install gas probes to allow future monitoring of gases within deeper zones of the LPL, and
- Satisfy a portion of the limited RI of the Site, as required by the Agreed Order.

Contaminants of concern (COCs) in soil include gasoline-, diesel-, and oil-range total petroleum hydrocarbons (TPH), VOCs including BTEX, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and metals.

## 3. Field Investigation

DTG retained Cascade Drilling (Cascade) as the licensed driller to install thermistors and gas probes at the LPL. Cascade utilized sonic drilling techniques to drill to approximately 40 feet below ground surface at three locations at the LPL (Figure 2). Two locations are on the lower road between gas probes GP-2/GP-3 (T-1) and GP-1/GP-2 (T-2) along the zone of elevated temperature. One location is on the upper bench near GP-7/GP-18 (T-3) where emissions and vents are prevalent. The drilling and construction took place over the course of four days from September 11 through September 14, 2023. Photographs of the drilling investigation are attached in Appendix B.

### 3.1 Drilling

Sonic drilling utilized a conductor casing and core barrel to advance the boreholes to depth. The core barrel recovered core samples every 5 feet. Conductor casing was utilized to seal the upper borehole during drilling. Core samples were then extracted into polyethylene bags. After reaching certain depths and temperatures, the polyethylene bags could no longer be utilized to collect samples; instead, samples were poured into a steel wheelbarrow for observation and collection after the core barrel had been cooled with water.

In typical sonic drilling, sample recovery is near 100%. At the LPL, recovery varied greatly. On occasion, samples were lost from the core barrel due to expansion of gases. This expansion may

have been due to the high temperatures and lack of moisture and was seen as a plume exiting the core barrel and conductor casing. During other incidents, the material encountered was described as “loose” by the driller and fell from the core barrel sampler.

A summary of observations at each borehole is below. Additionally, field logs and thermistor and gas probe installation logs are included in Appendix A.

### **3.1.1 Thermistor 1**

Thermistor 1 (T-1) is located on the lower bench between gas probes GP-2 and GP-3 (Figure 2). Landfill material consisted of very fine silty sand with occasional gravel and crushed rock. No organics were encountered in the borehole. The driller noted an apparent change in formation at approximately 38 to 40 feet; however, the recovered cores were very similar to those above. Cascade drilled to 45 feet to confirm bedrock had been encountered. Upon observing the sample collected at 45 feet, basalt bedrock was confirmed.

Below is a summary of additional field observations:

- Minimal VOCs were measured in soils with the photoionization detector (PID) with readings up to 3 parts per million (ppm).
- No detections were found in ambient air during most of the drilling event, except for a brief detection of a gaseous odor and ambient PID readings of 0.1 ppm while drilling at 20 feet and 30 feet.
- Temperatures of soil cores were measured with DTG’s forward looking infrared (FLIR) device. Temperatures ranged up to 170 degrees F down to 10 feet below ground and over 200 degrees F to the bottom of the waste. The maximum temperatures of approximately up to 270 degrees F were observed at 25 feet below ground. These temperature readings were made after cooling the cores with water.
- There was no indication of an active fire zone at the location.

### **3.1.2 Thermistor 2**

Thermistor 2 (T-2) is located on the lower bench between gas probes GP-1 and GP-2 (Figure 2). Landfill soils recovered from T-2 were comprised of very fine silty sand with occasional gravel and crushed rock down to 15 feet. A small amount of organic material was observed near 15 feet below ground. Small pieces of plastic were observed at 25 feet below ground. At 35 feet, vegetation/organics and less gravel were encountered. At 40 feet, cobbles of weathered basalt were encountered, and unweathered bedrock followed. The transition from weathered to unweathered basalt was noted at 43 feet below ground surface.

Below is a summary of additional field observations:

- No detections of VOCs were measured with the PID.
- A brief ambient reading of 0.1 ppm was observed with the PID while drilling at 5 feet; however, no other detections were encountered in waste or in ambient air.
- No indications of active fire within the waste.
- Soil core temperatures were 112 to 140 degrees F down to 20 feet below ground and over 200 degrees F between 25 feet to the bottom of the waste with maximum temperatures at approximately 241 degrees F.

### 3.1.3 Thermistor 3

Thermistor 3 (T-3) is located on the upper bench between GP-7 and GP-18 (Figure 3). At T-3, the composition of the LPL was substantially different from the first two thermistors. There was an immediate transition at 2.5 feet below ground to composted waste and organics. LFG odor was observed emanating from the borehole and in ambient air surrounding the location. The composted waste decreased with depth and at 20 feet, concrete was encountered. From 20 feet below ground to the bottom, the waste was comprised of sand, concrete, and varying amounts of inert waste and organics. Some visible smoke emissions were observed at samples from 35 and 40 feet below ground even though the soil temperatures measured were below 200 degrees F.

Below is a summary of additional field observations:

- PID readings ranged from 0.2 to 7.0 ppm in typical waste.
- When measured in points with visible smoke emissions, PID readings ranged from 60 to 93 ppm.
- Ambient air was measured at 1 ppm with the PID during drilling.
- Maximum temperatures observed from cores were around 200 degrees F.

## 3.2 Soil Sampling

Sonic drilling techniques utilize an approximate 5- to -10-foot core barrel that typically recovers relatively undisturbed samples. The core is traditionally extracted into polyethylene bags for soil observations and sampling. Due to the nature of the subsurface fire, the core sampler was evaluated for temperature by the drilling staff with assistance from Parametrix using the FLIR thermal imaging camera and the thermocouple. If nominal, the core sampler was emptied into polyethylene bags for evaluation by the on-site geologist; however, at all locations excess temperatures were present at depth and the core samples were emptied into a steel wheelbarrow. Samples were selected based upon field screening for VOCs, odors, visual staining, and sheen. No samples were taken from any fire zones, as active fire zones were not encountered during drilling. Samples were collected in 40 mL volatile organic analysis (VOA) containers and 4-ounce glass jars.

Soil samples of waste were collected in approximately 5-foot intervals. Six waste samples were collected from T-1 (5, 10, 15, 20, 25, and 35), five waste samples were collected from T-2 (5, 15, 20, 25, and 35), and seven waste samples were collected from T-3 (5, 10, 15, 20, 30, 35, and 40) following the procedures identified in the work plan (Parametrix 2023b). Soil samples from native materials were collected from T-1 at 40 and 45 feet and T-2 at 40 feet. A duplicate sample was collected from T-2 at 40 feet. Samples were placed in a cooler with ice and kept at temperatures below 4 degrees Celsius until delivery to the laboratory on September 15.

Most of the samples were submitted for analysis of TPH and VOCs. Two samples from native materials below the waste were also submitted for analysis of cPAHs and metals. Samples were submitted on a standard 5- to 10-day turnaround time. Several samples were placed on hold at the laboratory and not analyzed including T1-10', T1-20', T2-20', and T3-15'.

## 3.3 Thermistor and Gas Probe Construction

Well construction was completed following collection of samples and achieving the desired drill depth. At T-1 and T-2, the borehole into native materials was backfilled with hydrated bentonite chips up to at least 2 feet above the contact with waste prior to construction of the wells.

At each location, a thermistor and gas probe were constructed in the borehole. The thermistors are comprised of 1-inch diameter black iron blank conduit with an end cap. The gas probes are comprised of 10 feet of 2-inch diameter 20-slot stainless steel screen and 3/4-inch diameter black iron blank riser. Silica sand pack was placed from the bottom of the screen interval up to approximately 20 feet above the top of the screened interval (10 feet below ground at that time). Bentonite chips were placed above the sand pack up to about 1 foot below ground. A temporary above ground monument was placed into fill materials. Following placement of additional cover material, DTG extended each of the thermistors and gas probes approximately 10 feet. The well logs in Appendix A display the construction prior to the extension by DTG.

## 4. Soil Analysis

Tables 1, 2, and 3 summarize the results of the laboratory analyses. Copies of the laboratory reports are attached in Appendix C.

At T-1 and T-2, low levels of VOCs including BTEX and naphthalene were detected at concentrations below MTCA Method A CULs within the waste. There were no detections of gas-range, diesel-range, or oil-range TPH in samples from either borehole. Samples collected at 40 feet from below the waste were also analyzed for cPAHs and metals. Both were found below MTCA Method A CULs.

T1-40:

- No TPH, BTEX, naphthalene, cPAHs, or mercury detected
- Arsenic at 1.61 mg/kg
- Lead at 3.81 mg/kg

T2-40:

- No TPH, BTEX, naphthalene, cPAHs, arsenic, or mercury detected
- Lead at 4.78 mg/kg
- Cadmium at 1.3 mg/kg
- Chromium at 6.21 mg/kg
- Methylene chloride was found in the T2-40 duplicate at 0.33 mg/kg above the MTCA Method B CUL for protectiveness of groundwater. However, it was not detected in the original sample. This result was flagged by the laboratory as likely due to laboratory contamination.

At T-3, petroleum hydrocarbons and associated VOCs were detected within the waste. Concentrations of diesel, toluene, ethylbenzene, and xylenes were found below applicable CULs. Additional VOCs were detected.

T3-samples

- Gasoline-range TPH was found up to 170 mg/kg, above the MTCA Method A CUL
- Diesel-range TPH was found up to 1,400 mg/kg, below the MTCA Method A CUL
- Oil-range TPH was found up to 3,900 mg/kg, above the MTCA Method A CUL
- Benzene was found up to 1.6 mg/kg, above the MTCA Method A CUL
- Toluene was found up to 1.6 mg/kg, below the MTCA Method A CUL

- Ethylbenzene was found up to 4.3 mg/kg, below the MTCA Method A CUL
- Xylenes were found up to 2.6 mg/kg, below MTCA Method A CULs
- Naphthalene was found up to 37 mg/kg, above the MTCA Method A CUL
- 1,2,4-trimethylbenzene was found up to 2.3 mg/kg above the MTCA Method B CUL for protectiveness of groundwater at T3-10. It was found below the CUL at deeper samples.
- 1,3,5-trimethylbenzene, chlorobenzene, isopropylbenzene, p-isopropyltoluene, sec-butylbenzene, and styrene were detected at low concentrations below MTCA Method B CULs.

Based on the waste encountered, samples were also analyzed for pH by the laboratory. The results show pH ranging from 6.6 to 8.4 within the majority of the waste. Two locations showed higher pH including a pH of 9.4 at T1-25 and a pH of 11 at T2-25. Elevated pH can be an indication of both concrete and ash.

## 5. Thermistor and Gas Probe Monitoring

### 5.1 Gas Probe and Temperature Monitoring

Initial gas probe monitoring of the three thermistors (T-1, T-2, and T-3) was completed by DTG with the Multi-RAE Lite and Draeger X-AM 8000 during routine weekly monitoring. Copies of the field measurements are attached in Appendix D. Temperature monitoring was completed by placement and monitoring of multiple depth thermocouples approximately every 10 feet in each thermistor (10 feet, 20 feet, 30 feet, and 40 feet below grade).

Initial results after installation of the new thermistors and gas probes are included in Table 4. The results of the LFG and temperature monitoring show T-1 and T-2 are very different from T-3. Low concentrations of VOCs and very high temperatures were observed at T-1 and T-2, whereas very high concentrations of VOCs and moderate temperatures were observed at T-3. Concentrations of oxygen were found near atmospheric conditions at both T-1 and T-2 similar to recent gas probe readings. At T-3, oxygen was 0% and methane was reported at 4.7% by volume; carbon monoxide was also found above 500 parts per million and hydrogen sulfide over 100 ppm. Temperatures were highest in T-1 at the 20-foot depth and measured over 400 degrees F. Temperatures at T-2 were approximately 250 degrees F at the same depth. T-3 was approximately 190 degrees F at 40 feet, which is generally within 5 feet of the equivalent depth of the T-1 and T-2 20-foot thermocouples. T-3 temperatures increased with depth whereas both T-1 and T-2 thermistors show the heat zones more concentrated at the 20-foot thermocouples with lower temperatures at higher elevation and lower elevation thermocouples.

## 6. Discussion of Fire Delineation and Extent

The highest temperatures in T-1 and T-2 were observed at the 20-foot interval. T-3 located approximately 25 feet higher in elevation did not see similar temperatures with maximums just below 190 degrees F. These observations indicate the active fire area may be limited to a more combustible portion of the LPL occurring near elevation 1870. As noted in the boreholes, waste at T-1 and T-2 was predominantly inert materials (silt, sand, rock, concrete, etc.). At T-3, more wood waste and organics were observed.

The silt, sand, rock, and concrete within the lower bench, although not combustible, appears to be quite permeable. The inert nature of the material does not produce LFG to displace the oxygen present. Oxygen concentrations within the two thermistors are near atmospheric conditions. Similar measurements have been made within nearby gas probes on the lower bench.

Samples with visible smoke emissions were observed at the bottom of T-3 within the waste. It is unknown if this was due to friction related to the sampler as the thermocouple temperatures are below 190 degrees F at the equivalent elevation. It is unknown whether an active fire zone is present further at depth below T-3.

Elevated pH was measured at T-1 at 25 feet and T-2 at 25 feet. The elevated pH could be indications of both concrete and ash. As noted above, the highest temperatures measured at the thermocouples were near these elevations.

Vents and emissions were observed around T-3 and GP-7 and further up the slope during this evaluation. Numerous cracks and vents were observed above GP-7 and temperatures within the cracks were measured above 100 degrees F with the FLIR. Odors were strongest above GP-7 which is approximately 20 to 30 feet further west than the previous LFG investigation. The prior LFG investigation found that the cracks and odors were strongest on the upper bench adjacent to GP-7. This migration of the emission zone further west may be indicative of slow subsurface fire movement within the waste or responses to placement of additional cover material.

## **7. MTCA Site Delineation**

The soil sampling completed for this investigation shows the primary contaminants present in waste at the LPL are similar in nature to those identified in previous air sampling and are fuel related compounds of TPH, BTEX, and naphthalene. Concentrations of gasoline-range TPH, oil-range TPH, benzene, and naphthalene were found above MTCA Method A CULs. All other COCs were either non-detect or found at concentrations below applicable CULs. The contaminants found above MTCA CULs are the same ones found in prior LFG evaluations showing air-phase petroleum hydrocarbons (APH), benzene, and naphthalene.

1,2,4-trimethylbenzene was found in the soil at T3-10 above the MTCA Method B soil CUL for protectiveness of groundwater. However, concentrations at lower elevations were lower than the CUL indicating groundwater is not likely at risk from the chemical at that location.

Samples of native soil collected below the waste at T-1 and T-2 show no impacts from TPH, VOCs, cPAHs, or metals above MTCA Method A CULs (all results were non-detect except for few metals). Overall wastes observed at T-1 and T-2 were very dry potentially from the fire drying out the materials indicating current potential for migration to groundwater is unlikely. The T-3 waste samples had higher moisture content and a higher percentage of organics.

Based on this investigation and the air investigation, petroleum hydrocarbons, benzene, and naphthalene are the primary contaminants of concern. However, to-date none of these contaminants have been detected in groundwater in nearby well MW-4S (Parametrix 2023c). Additional groundwater investigation is planned to confirm no impacts to the Shallow Aquifer.

## 8. Closing

This report documents the installation of three deep thermistors/gas probes at the Site. The thermistors will be used for continuing evaluation of temperature and LFG in the fire area. The installation of the thermistors also allowed for characterization of waste within the LPL. The lower bench near T-1 and T-2 was primarily comprised of inert materials of sand, silt, gravel, rock, concrete. Further west at T-3, the LPL was comprised of much more composted waste including wood and organics mixed with sand, rock, and concrete. Although waste within the LPL contains concentrations of gasoline, oil, benzene, and naphthalene above MTCA Method A CULs, soil sampling at the base of the LPL below the lower bench showed no contamination. Further investigations of the LPL are currently being planned as part of the Agreed Order and as part of the fire suppression, delineation, and monitoring.

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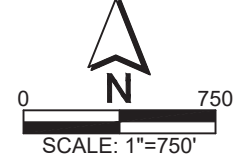
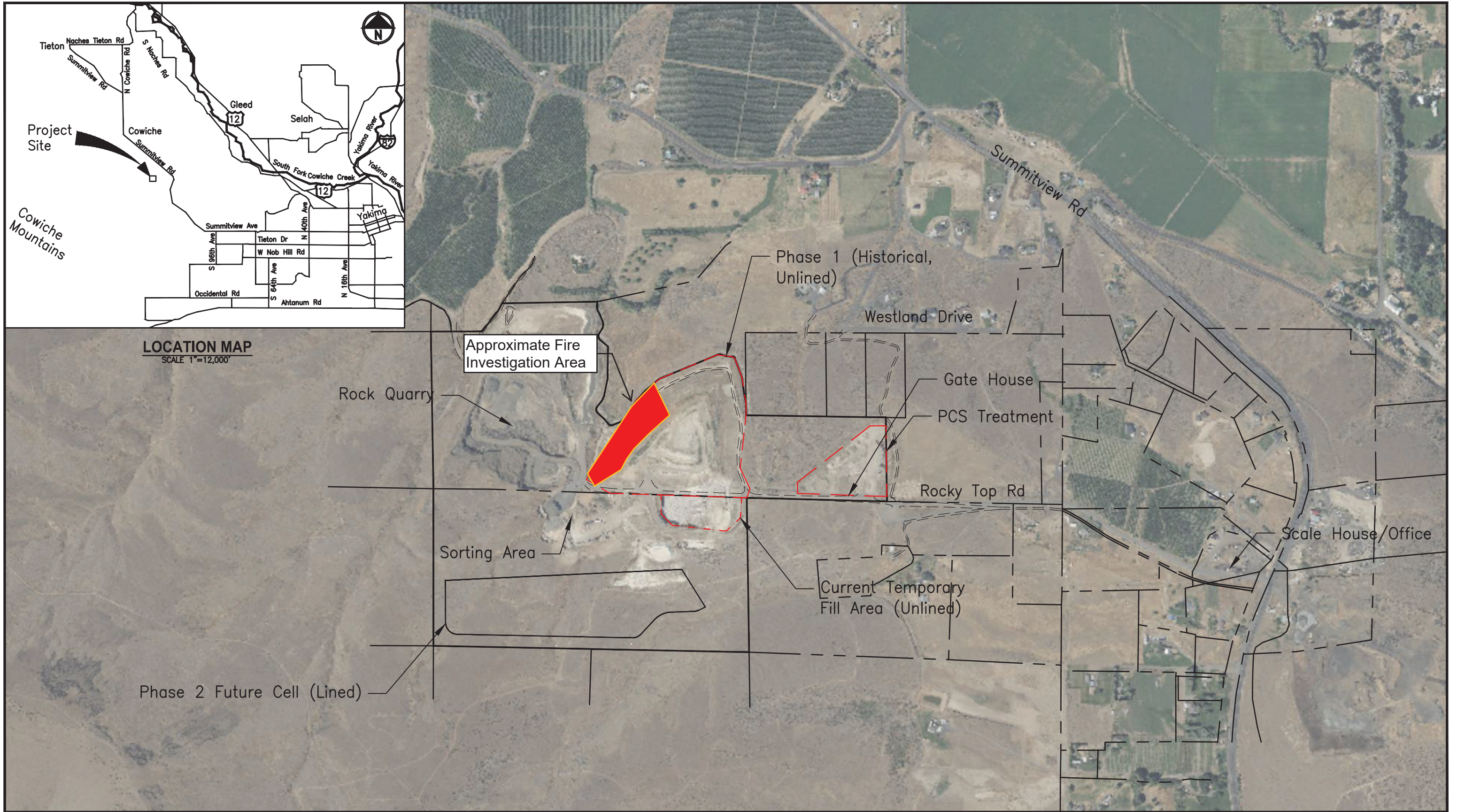
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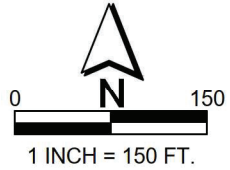
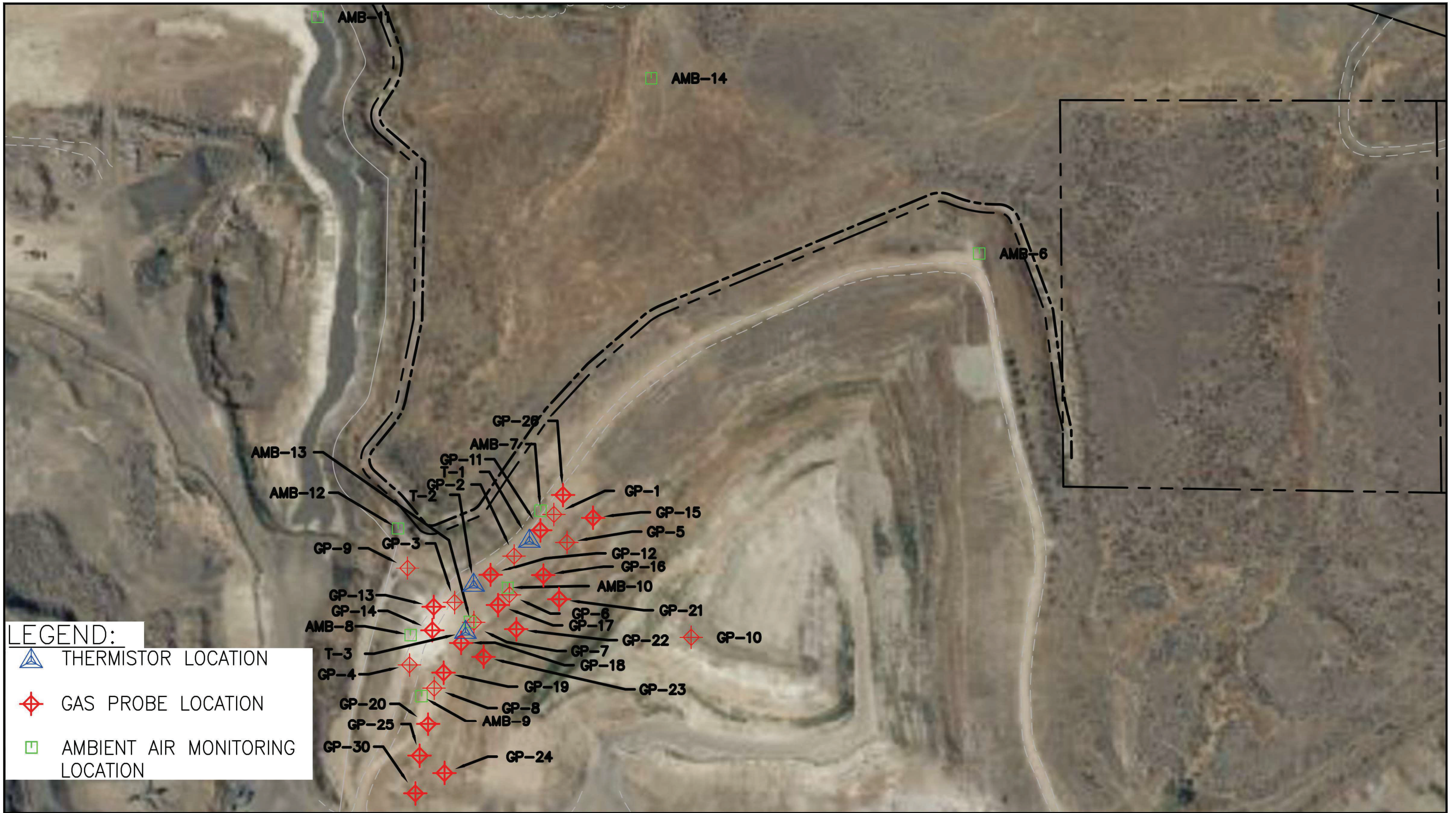


# Figures





**Figure 1**  
**Site Vicinity Map**  
**DTG Yakima Limited Purpose Landfill**



**Figure 2**  
**Gas Probe and Ambient Air**  
**Monitoring Locations**  
**DTG Yakima Limited Purpose Landfill**

# Tables

Table 1. Soil Results for Petroleum Hydrocarbons and Associated Volatile Organic Compounds (mg/kg)

Analyte / Sample ID	Gas-range TPH	Diesel-Range TPH	Oil-Range TPH	Total Diesel + Oil	Benzene	Toluene	Ethylbenzene	m,p xylenes	o xylenes	Total Xylenes	Naphthalene
T1-5	<5	<50	<250	<150	0.0043	0.0021	0.0065	0.0030	0.0015	0.0045	0.33
T1-10	--	--	--	--	--	--	--	--	--	--	--
T1-15	<5	<50	<250	<150	0.016	0.0020	<0.0010	0.0034	0.0011	0.0045	<0.01
T1-20	--	--	--	--	--	--	--	--	--	--	--
T1-25	<5	<50	<250	<150	0.013	0.0016	<0.0010	<0.002	<0.0010	<0.0015	<0.01
T1-35	<5	<50	<250	<150	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	<0.0015	<0.01
T1-40	<5	<50	<250	<150	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	<0.0015	<0.01
T1-45	<5	<50	<250	<150	0.0019	0.0015	<0.0010	<0.002	<0.0010	<0.0015	<0.01
T2-5	<5	<50	<250	<150	<0.0010	0.0011	<0.0010	<0.002	<0.0010	<0.0015	<0.01
T2-15	<5	<50	<250	<150	0.0019	0.0010	<0.0010	<0.002	<0.0010		<0.01
T2-20	--	--	--	--	--	--	--	--	--	--	--
T2-25	<5	<50	<250	<150	0.0029	0.0014	<0.0010	<0.002	<0.0010	<0.0015	<0.01
T2-35	<5	<50	<250	<150	0.0019	0.0019	<0.0010	<0.002	<0.0010	<0.0015	<0.01
T2-40	<5	<50	<250	<150	0.0013 X	0.0013 x	<0.0010	<0.002	<0.0010	<0.0015	<0.01
T2-40 Dup	<5	<50	<250	<150	0.013 X	0.013 x	<0.0010	<0.002	<0.0010	<0.0015	<0.01
T3-5	<5	<50	<250	<150	0.0011	0.002	0.0033	<0.002	0.0011	0.0021	<0.01
T3-10	<b>170</b>	1,300	<b>3,200</b>	<b>4,500</b>	<b>1.6</b>	1.60	4.3	1.4	1.2	2.6	<b>37</b>
T3-15	--	--	--	--	--	--	--	--	--	--	--
T3-20	<b>58</b>	220	<250	345	0.002	0.0042	0.014	0.0057	0.0052	0.0109	0.57
T3-30	<b>58</b>	1,400	1,100	<b>2,500</b>	<b>0.150</b>	0.3	0.99	0.33	0.28	0.61	<b>5.4</b>
T3-35	<b>74</b>	370	1,600	1,970	<b>0.071</b>	0.17	0.70	0.24	0.25	0.49	<b>5.3</b>
T3-40	<b>84</b>	910	<b>3,900</b>	<b>4,810</b>	<b>0.045</b>	0.13	0.53	0.17	0.14	0.31	3.4
<b>MTCA Method A</b>											
Cleanup Level	<b>30</b>	<b>2,000</b>	<b>2,000</b>	<b>2,000</b>	<b>0.03</b>	<b>7</b>	<b>6</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>5</b>

Notes:

**BOLD** = Results above MTCA Cleanup Level

-- = Not Analyzed

x = Estimated concentration due to variability between sample and duplicate

Table 2. Soil Results for Additional Detected Volatile Organic Compounds (mg/kg)

Analyte / Sample	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Chlorobenzene	Isopropylbenzene	Methylene chloride	p-Isopropyltoluene	sec-Butylbenzene	Styrene
T1-5	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05
T1-10	--	--	--	--	--	--	--	--
T1-15	<0.05	<0.05	0.050	<0.05	<0.2	<0.05	<0.05	<0.05
T1-20	--	--	--	--	--	--	--	--
T1-25	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05
T1-35	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05
T1-40	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05
T1-45	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05
T2-5	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05
T2-15	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05
T2-20	--	--	--	--	--	--	--	--
T2-25	<0.05	0.050	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05
T2-35	<0.05	0.050	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05
T2-40	<0.05	0.050	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05
T2-40 DUP	<0.05	0.050	<0.05	<0.05	<b>0.33 x</b>	<0.05	<0.05	<0.05
T3-5	<0.05	0.050	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05
T3-10	<b>2.3</b>	1.1	0.13	4.10	<0.2	0.67	0.23	0.23
T3-15	--	--	--	--	--	--	--	--
T3-20	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05
T3-30	0.54	0.25	<0.05	1.00	<0.2	0.25	0.061	<0.05
T3-35	0.61	0.24	<0.05	0.76	<0.2	0.29	0.06	<0.05
T3-40	0.33	0.12	<0.05	0.54	<0.2	0.17	0.051	<0.05
<b>MTCA</b> Direct Contact Cancer	-	-	-	-	<b>94</b>	-	-	-
<b>Method B</b> Direct Contact non cancer	<b>800</b>	<b>800</b>	<b>1600</b>	<b>8000</b>	<b>480</b>	-	<b>8000</b>	<b>16000</b>
<b>Cleanup Level</b> Protective of groundwater	<b>1.3</b>	<b>1.3</b>	<b>0.86</b>	<b>15</b>	<b>0.022</b>	-	<b>25</b>	<b>2.2</b>

Notes:  
**BOLD** = Results above MTCA Cleanup Level  
 -- = Not Analyzed  
 x = Estimated concentration likely due to laboratory contamination

Table 3. Soil Results for Metals and Carcinogenic Polycyclic Aromatic Hydrocarbons (mg/kg)

Analyte / Sample	Arsenic	Lead	Cadmium	Chromium	Mercury	cPAHs <sup>TEQ</sup>
T1-40	1.61	3.81	<1.0	<5.0	<2	<0.075
T2-40	<1	4.78	1.3	6.21	<2	<0.075
T2-40 DUP	<1	3.2	1.26	7.35	<1	<0.075
<b>MTCA Method A Cleanup Level</b>	<b>20</b>	<b>250</b>	<b>2</b>	<b>19 (VI) / 2,000 (III)</b>	<b>2</b>	<b>0.1</b>

Notes:

**BOLD** = Results above MTCA Cleanup Level

-- = Not Analyzed

x = Estimated concentration likely due to laboratory contamination

TEQ = Toxicity Equivalency Factor Calculations

**Table 4. Initial Thermistor Monitoring Results**

Parameter	Unit	Thermistor 1		Thermistor 2		Thermistor 3	
		9/28/23	10/5/23	9/28/23	10/5/23	9/28/23	10/5/23
<b>MultIRAE</b>							
LEL	%	2	0	0	0	99	>99
CO	ppm	0	41	0	20	>499	>499
VOCs	ppm	54	14	90	6	616	521
O2	%	19.8	20.2	19.3	20.0	4.3	2
H2S	ppm	>99.9	6.5	39.5	2.4	>99.9	>99.9
<b>Drager X-am 8000</b>							
CH4	%	--	0	--	0	--	4.7
CO	ppm	--	45	--	15	--	9840
H2	%	--	0	--	0	--	3.34
O2	%	--	20.4	--	20.2	--	0
H2S	ppm	--	0	--	0	--	16.4
<b>Temperature</b>	<b>° F</b>						
10 ft		243.3	238.1	211.4	213.5	163.0	161.4
20 ft		442.9	437.5	246.0	248.8	176.0	175.9
30 ft		239.2	236.6	180.4	178.0	188.0	187.6
40 ft		--	--	--	--	186.0	189.7

Notes:

- LEL = Lower Explosive Limit
- CO = Carbon Monoxide
- VOCs = Volatile Organic Compounds
- O2 = Oxygen
- H2S = Hydrogen Sulfide
- CH4 = Methane
- H2 = Hydrogen
- ft = feet
- Ppm = parts per million
- F = Farenheit



# **Appendix A**








Thermistor Drilling and  
Construction Logs,  
Field Logs





Well/Location ID: T-3  
 Project Name: DTG Yakima LPL - Fire Investigation  
 Project Number: 553-8472-003  
 Date(s) Drilled: 9/11-9/12 / 2023  
 Drilling Company: Cascade Drilling

Site Address: 41 Rocky Top Rd Yakima, WA  
 GPS Coordinates:  
 Rig Type: Terrasonic 150

Graphic Log	Description	Photo Log	Samples	Water Level	Construction Log
0	Tan, very fine silt and sand with occasional large gravel, fill, cover-material, dry, 120 degrees F				GP Therm. Labcock Valve Concrete
5	Dark gray, silty sand with black-gray composted waste, wood, organics, plastics, odor, moist 120 degrees F, PID 0.2 ppm		T3-5		Bentonite seal 1-inch diam blank black iron
10	Larger pieces of wood, 185 degrees F, PID 6.8 ppm Less composted waste, orange color		T3-10		3/4-inch diam black iron riser
15	Less organics, no plastics, 170 degrees F, PID 5.0 ppm		T3-15		Reducer
20	Dark brown silty soil, organic, waste, and concrete 140 degrees F, PID 6.6 ppm		T3-20		12/20 silica sand pack
25	Lost sample due to heat				2-inch diam. stainless steel 0.020 slot screen
30	Gray very fine sand, waste, organics, and concrete dry, 200 degrees F, PID 7.0 ppm		T3-30		
35	200 degrees F, PID 50.4 ppm		T3-35		
40	Waste is smoking, more organics and plastic, 190 degrees F, PID 93.1 ppm 40' Bottom of Borehole		T3-40		
45					
50					

Notes: GP - Gas Probe, Therm. - Thermistor

Project: DTE LPL Thermistor Install

Date: 9/11/23

Personnel: Sally Nguyen, PMX

Weather: 85°F, slightly overcast

Mike Brady

Chris Baker, Cascade Drilling  
Willie Williams,

SAMPLE	TIME	TEMP °F	PID ppm	SOIL DESCRIPTION / NOTES
T1-5	1226	165	0.7	tan, very fine sand w/ occ. gravel + fill / cover + silt
T1-10	1233	169	0.1	" " w/ occ. large gravel ~1 ft recovery
T1-15	1251	201, 218.2	3.0	" "
T1-20	1312	221, 195	0.1	" " w/ fine gravel ~2 ft recovery
T1-25	1347	270, 224	0.1	" " medium tan + gas smell, ambient 0.1 ppm, sample fell through liner, sample scooped off the ground, paint chips @ bottom
<del>T1-30</del> T1-35	<del>1400</del> 1423	<del>190</del> 219	0.1 (ambient)	" " + waste + some grey silt & very fine sand intermixed  *forgot to take picture

9/11/23

SAMPLE	TIME	TEMP	PID	SOIL DESCRIPTION
T1- <del>35</del> 30	<del>1422</del> 1416	<del>200</del> 184	0.1 (ambient)	* no more liver → sample poured into steel wheelbarrow, gas pocket or expansion → sample spilled over area. could not sample
T1-40	1512	205	0.2	* - tan/grey * most of sample lost due to explosion/plumes. Driller noted potential pieces of bedrock encountered. Capped drill around 1530, will resume drilling to 45' following morning



SAMPLE	TIME	TEMP	PID	SOIL DESCRIPTION
T2-25	1436	216.4	0.0	<p>" "</p> <p>+ more gravel, less big chunks</p> <p>+ little bit of waste (piece of plastic)</p> <p>* paused after this sample to inspect growing crack / vent in landfill</p>
T2-30				*lost
<del>T2-30</del>	<del>1436</del>	<del>216.4</del>	<del>0.0</del>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">9/13/23</div>
T2-35	945	241.2	0.0	<p>tan, very fine <sup>silty</sup> sand,</p> <p>pulverized into ashy texture,</p> <p>more cohesive — less gravel.</p> <p>waste — plastic + vegetation</p>
T2-40	91030	199.2	0.0	<p>large pieces (1-2.5 m) of weathered basalt bedrock</p> <p>+ some tan very fine silty sand</p> <p>* DUP taken (T2-40a)</p> <p>Driller noted hard basalt encountered @ 43'</p>
45ft	1055	168.3	0.0	* transition from weathered to hard basalt ~ 43'



9/13/23

SAMPLE	TIME	TEMP	PID	SOIL DESCRIPTION
T3-5	1520	121.9	0.2	<p>0-2.5' : tan, very fine sand w/ small gravel</p> <p>2.5-5' : dark grey silty sand, more moist than above, occ gravel,  (plastic) burnt waste, black, &amp; organic  (possibly <del>com</del> composted) material</p>
T3-10	1530	184.7	6.8	<p>More burnt waste &amp; organics, though bigger wood pieces.</p> <p>first 5' (5-5.5') has gravel.</p> <p>9.5-10' : less burnt or composted, <u>orange</u> color</p>
T3-15	1530	172.3	5.0	<p>less black organic material, no plastic</p>

Project:  
Personnel:

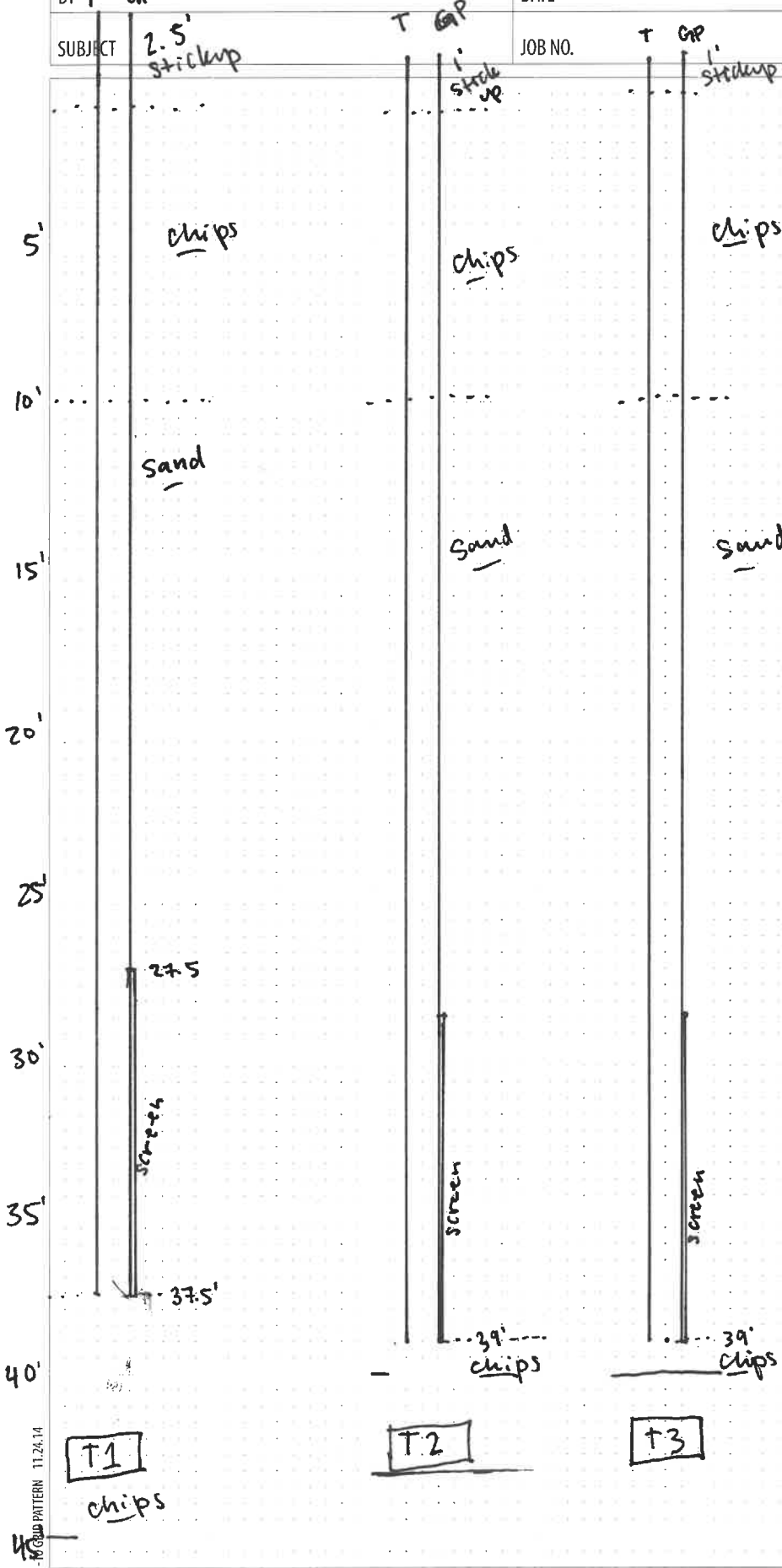
Date: 9/14/23  
Weather:

ambient PID: 0.7 - 1.3 ppm

SAMPLE	TIME	TEMP	PID	SOIL DESCRIPTION
T3-20	856	137.6	6.6	Dark brown silty soil, organics, waste, concrete * concrete encountered @ 20', lost 25' sample
T3-30	917	200.3	7.0	grey, very fine sand, waste, organics, concrete * switch out/repair cylinder @ 940
T3-35	1100	196.6	4.6 50.4 @ smoking points	" " * DUP @ T3-35a
T3-40	1107	192.6	93.1 @ smoke	Smoking, " " more organics, plastic

# Parametrix

PROJECT			SHEET ___ OF ___	
BY T GP	DATE	CHECKED	DATE	
SUBJECT 2.5' stickup	JOB NO.	PHASE	TASK	



# **Appendix B**

## Photographs

Job Name: DTG Thermistor Installation

Job Number/Phase (Task) Mo/Yr: 553-8472-003; September 2023



Cascade conducting sonic drilling and Parametrix field personnel observing soil samples.



Example of a sample being released into a steel wheelbarrow.



Example of sample expansion.



Monitoring heat levels with use of an infrared thermometer.



Installation of thermistor and gas probe at site T2.



Weather basalt encountered at site T2.



Drilling paused for repair. Example of respirator use due to gaseous odor at site T3.



Completed installation of thermistor and gas probe at site T3.



# Appendix C

## Lab Results

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  
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www.friedmanandbruya.com

September 25, 2023

Mike Brady, Project Manager  
Parametrix  
719 2nd Ave, Suite 200  
Seattle, WA 98104

Dear Mr Brady:

Included are the results from the testing of material submitted on September 15, 2023 from the DTG Yakima LPL, F&BI 309214 project. There are 48 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  
PMX0925R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 15, 2023 by Friedman & Bruya, Inc. from the Parametrix DTG Yakima LPL, F&BI 309214 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Parametrix</u>
309214 -01	T1-5
309214 -02	T1-10
309214 -03	T1-15
309214 -04	T1-20
309214 -05	T1-25
309214 -06	T1-35
309214 -07	T1-40
309214 -08	T1-45
309214 -09	T2-5
309214 -10	T2-15
309214 -11	T2-20
309214 -12	T2-25
309214 -13	T2-35
309214 -14	T2-40
309214 -15	T2-40a
309214 -16	T3-5
309214 -17	T3-10
309214 -18	T3-15
309214 -19	T3-20
309214 -20	T3-30
309214-21	T3-35
309214-22	T3-35a
309214-23	T3-40

The 8260D sample T2-40a showed the presence of methylene chloride, a common laboratory contaminant. The data were flagged accordingly.

The 8270E calibration verification failed the acceptance criteria for terphenyl-d14 surrogate. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/25/23  
Date Received: 09/15/23  
Project: DTG Yakima LPL, F&BI 309214  
Date Extracted: 09/19/23  
Date Analyzed: 09/19/23

**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>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
T1-5 309214-01	<5	119
T1-15 309214-03	<5	112
T1-25 309214-05	<5	107
T1-35 309214-06	<5	100
T1-40 309214-07	<5	117
T1-45 309214-08	<5	110
T2-5 309214-09	<5	105
T2-15 309214-10	<5	115
T2-25 309214-12	<5	107
T2-35 309214-13	<5	110
T2-40 309214-14	<5	117

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/25/23

Date Received: 09/15/23

Project: DTG Yakima LPL, F&BI 309214

Date Extracted: 09/19/23

Date Analyzed: 09/19/23

**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>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
T2-40a 309214-15	<5	116
T3-5 309214-16	<5	114
T3-10 309214-17	170	108
T3-20 309214-19	58	98
T3-30 309214-20	58	100
T3-35 309214-21	74	106
T3-40 309214-23	84	105
Method Blank 03-2180 MB	<5	115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/25/23

Date Received: 09/15/23

Project: DTG Yakima LPL, F&BI 309214

Date Extracted: 09/18/23

Date Analyzed: 09/18/23 and 09/19/23

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
T1-5 309214-01	<50	<250	87
T1-15 309214-03	<50	<250	96
T1-25 309214-05	<50	<250	99
T1-35 309214-06	<50	<250	94
T1-40 309214-07	<50	<250	91
T1-45 309214-08	<50	<250	99
T2-5 309214-09	<50	<250	97
T2-15 309214-10	<50	<250	87
T2-25 309214-12	<50	<250	98
T2-35 309214-13	<50	<250	89
T2-40 309214-14	<50	<250	85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/25/23

Date Received: 09/15/23

Project: DTG Yakima LPL, F&BI 309214

Date Extracted: 09/18/23

Date Analyzed: 09/18/23 and 09/19/23

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
T2-40a 309214-15	<50	<250	86
T3-5 309214-16	<50	<250	88
T3-10 309214-17	1,300	3,200	106
T3-20 309214-19	220	<250	100
T3-30 309214-20	1,400	1,100	104
T3-35 309214-21	370	1,600	102
T3-40 309214-23	910	3,900	96
Method Blank 03-2264 MB	<50	<250	75

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/25/23

Date Received: 09/15/23

Project: DTG Yakima LPL, F&BI 309214

Date Extracted: 09/20/23

Date Analyzed: 09/21/23

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR pH  
USING EPA METHOD 9045D**

<u>Sample ID</u> Laboratory ID	<u>pH</u>
T1-5 309214-01	7.8
T1-15 309214-03	8.3
T1-25 309214-05	9.4
T1-35 309214-06	8.1
T1-40 309214-07	8.1
T1-45 309214-08	8.0
T2-5 309214-09	7.8
T2-15 309214-10	7.4
T2-25 309214-12	11.0 ve
T2-35 309214-13	8.4
T2-40 309214-14	8.3
T2-40a 309214-15	8.0
T3-5 309214-16	8.2



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/25/23

Date Received: 09/15/23

Project: DTG Yakima LPL, F&BI 309214

Date Extracted: 09/20/23

Date Analyzed: 09/21/23

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR pH  
USING EPA METHOD 9045D**

<u>Sample ID</u> Laboratory ID	<u>pH</u>
T3-10 309214-17	8.0
T3-20 309214-19	8.1
T3-30 309214-20	6.7
T3-35 309214-21	6.6
T3-40 309214-23	6.9

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	T1-40	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/18/23	Lab ID:	309214-07
Date Analyzed:	09/19/23	Data File:	309214-07.131
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.61
Cadmium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	T1-40	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/18/23	Lab ID:	309214-07 x2
Date Analyzed:	09/21/23	Data File:	309214-07 x2.111
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Lead	3.81
Mercury	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	T1-40	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/18/23	Lab ID:	309214-07 x5
Date Analyzed:	09/20/23	Data File:	309214-07 x5.052
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	<5
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	T2-40	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/18/23	Lab ID:	309214-14
Date Analyzed:	09/19/23	Data File:	309214-14.132
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	<1
Cadmium	1.30

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	T2-40	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/18/23	Lab ID:	309214-14 x2
Date Analyzed:	09/21/23	Data File:	309214-14 x2.112
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Lead	4.78
Mercury	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	T2-40	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/18/23	Lab ID:	309214-14 x5
Date Analyzed:	09/20/23	Data File:	309214-14 x5.054
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	6.21
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	T2-40a	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/18/23	Lab ID:	309214-15
Date Analyzed:	09/19/23	Data File:	309214-15.143
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	<1
Cadmium	1.26
Lead	3.20
Mercury	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	T2-40a	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/18/23	Lab ID:	309214-15 x5
Date Analyzed:	09/20/23	Data File:	309214-15 x5.080
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	7.35
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Parametrix
Date Received:	NA	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/18/23	Lab ID:	I3-719 mb
Date Analyzed:	09/18/23	Data File:	I3-719 mb.144
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	T1-5	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-01 1/0.5
Date Analyzed:	09/20/23	Data File:	092007.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	84	120
Toluene-d8	93	73	128
4-Bromofluorobenzene	94	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.0065
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	0.0030
Hexane	<0.25	o-Xylene	0.0015
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.0043	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	0.0021	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	0.33
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 Dual Acquisition LL

Client Sample ID:	T1-15	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-03 1/0.5
Date Analyzed:	09/20/23	Data File:	092008.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	84	120
Toluene-d8	101	73	128
4-Bromofluorobenzene	96	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.001
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	0.0034
Hexane	<0.25	o-Xylene	0.0011
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.016	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	0.0020	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
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 Dual Acquisition LL

Client Sample ID:	T1-25	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-05 1/0.5
Date Analyzed:	09/20/23	Data File:	092010.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	84	120
Toluene-d8	101	73	128
4-Bromofluorobenzene	96	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.001
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.002
Hexane	<0.25	o-Xylene	<0.001
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	0.0036	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.013	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	0.0016	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
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 Dual Acquisition LL

Client Sample ID:	T1-35	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-06 1/0.5
Date Analyzed:	09/20/23	Data File:	092011.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	84	120
Toluene-d8	101	73	128
4-Bromofluorobenzene	96	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.001
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.002
Hexane	<0.25	o-Xylene	<0.001
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.001	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	<0.001	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
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 Dual Acquisition LL

Client Sample ID:	T1-40	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-07 1/0.5
Date Analyzed:	09/20/23	Data File:	092012.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	84	120
Toluene-d8	100	73	128
4-Bromofluorobenzene	97	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.001
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.002
Hexane	<0.25	o-Xylene	<0.001
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.001	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	<0.001	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
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 Dual Acquisition LL

Client Sample ID:	T1-45	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-08 1/0.5
Date Analyzed:	09/20/23	Data File:	092013.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	84	120
Toluene-d8	100	73	128
4-Bromofluorobenzene	97	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.001
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.002
Hexane	<0.25	o-Xylene	<0.001
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.0019	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	0.0015	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
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 Dual Acquisition LL

Client Sample ID:	T2-5	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-09 1/0.5
Date Analyzed:	09/20/23	Data File:	092014.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	84	120
Toluene-d8	101	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.001
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.002
Hexane	<0.25	o-Xylene	<0.001
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.001	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	0.0011	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
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 Dual Acquisition LL

Client Sample ID:	T2-15	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-10 1/0.5
Date Analyzed:	09/20/23	Data File:	092015.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	84	120
Toluene-d8	93	73	128
4-Bromofluorobenzene	96	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.001
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.002
Hexane	<0.25	o-Xylene	<0.001
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.0019	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	0.0010	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
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 Dual Acquisition LL

Client Sample ID:	T2-25	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-12 1/0.5
Date Analyzed:	09/20/23	Data File:	092016.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	88	84	120
Toluene-d8	95	73	128
4-Bromofluorobenzene	97	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.001
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.002
Hexane	<0.25	o-Xylene	<0.001
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.0029	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	0.0014	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
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 Dual Acquisition LL

Client Sample ID:	T2-35	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-13 1/0.5
Date Analyzed:	09/20/23	Data File:	092017.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	84	120
Toluene-d8	103	73	128
4-Bromofluorobenzene	97	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.001
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.002
Hexane	<0.25	o-Xylene	<0.001
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.001	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	0.0019	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
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 Dual Acquisition LL

Client Sample ID:	T2-40	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-14 1/0.5
Date Analyzed:	09/20/23	Data File:	092018.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	84	120
Toluene-d8	101	73	128
4-Bromofluorobenzene	95	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.001
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.002
Hexane	<0.25	o-Xylene	<0.001
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.001	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	0.0013	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
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 Dual Acquisition LL

Client Sample ID:	T2-40a	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-15 1/0.5
Date Analyzed:	09/20/23	Data File:	092019.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	84	120
Toluene-d8	101	73	128
4-Bromofluorobenzene	95	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.001
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.002
Hexane	<0.25	o-Xylene	<0.001
Methylene chloride	0.33 lc	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.001	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	0.013	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
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 Dual Acquisition LL

Client Sample ID:	T3-5	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-16 1/0.5
Date Analyzed:	09/20/23	Data File:	092020.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	84	120
Toluene-d8	99	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.0033
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.002
Hexane	<0.25	o-Xylene	0.0011
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.0011	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	0.0020	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
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 Dual Acquisition LL

Client Sample ID:	T3-10	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-17 1/0.5
Date Analyzed:	09/20/23	Data File:	092021.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	84	120
Toluene-d8	101	73	128
4-Bromofluorobenzene	94	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<0.1
Chloromethane	<1	Tetrachloroethene	<0.004
Vinyl chloride	<0.004	Dibromochloromethane	<0.1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<0.2	Chlorobenzene	0.13
Trichlorofluoromethane	<1	Ethylbenzene	4.3
Acetone	<10	1,1,1,2-Tetrachloroethane	<0.1
1,1-Dichloroethene	<0.004	m,p-Xylene	1.4
Hexane	<0.5	o-Xylene	1.2
Methylene chloride	<0.4	Styrene	0.23
Methyl t-butyl ether (MTBE)	<0.004	Isopropylbenzene	4.1
trans-1,2-Dichloroethene	<0.004	Bromoform	<0.1
1,1-Dichloroethane	<0.004	n-Propylbenzene	0.83
2,2-Dichloropropane	<0.1	Bromobenzene	<0.1
cis-1,2-Dichloroethene	<0.004	1,3,5-Trimethylbenzene	1.1
Chloroform	<0.1	1,1,2,2-Tetrachloroethane	<0.1
2-Butanone (MEK)	<2	1,2,3-Trichloropropane	<0.1
1,2-Dichloroethane (EDC)	<0.004	2-Chlorotoluene	<0.1
1,1,1-Trichloroethane	<0.004	4-Chlorotoluene	<0.1
1,1-Dichloropropene	<0.1	tert-Butylbenzene	<0.1
Carbon tetrachloride	<0.1	1,2,4-Trimethylbenzene	2.3
Benzene	1.6	sec-Butylbenzene	0.23
Trichloroethene	<0.004	p-Isopropyltoluene	0.67
1,2-Dichloropropane	<0.1	1,3-Dichlorobenzene	<0.1
Bromodichloromethane	<0.1	1,4-Dichlorobenzene	<0.1
Dibromomethane	<0.1	1,2-Dichlorobenzene	0.10
4-Methyl-2-pentanone	<2	1,2-Dibromo-3-chloropropane	<1
cis-1,3-Dichloropropene	<0.1	1,2,4-Trichlorobenzene	<0.5
Toluene	1.6	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.1	Naphthalene	39 ve
1,1,2-Trichloroethane	<0.1	1,2,3-Trichlorobenzene	<0.5
2-Hexanone	<1		

Note: Reporting limits have been elevated due to high moisture content in the sample.



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	T3-10	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-17
Date Analyzed:	09/21/23	Data File:	092118.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	84	120
Toluene-d8	100	73	128
4-Bromofluorobenzene	95	57	146

Compounds:	Concentration mg/kg (ppm)
Naphthalene	37

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	T3-20	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-19 1/0.5
Date Analyzed:	09/20/23	Data File:	092022.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	84	120
Toluene-d8	90	73	128
4-Bromofluorobenzene	97	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.014
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	0.0057
Hexane	<0.25	o-Xylene	0.0052
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.0020	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	0.0042	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	0.57
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 Dual Acquisition LL

Client Sample ID:	T3-30	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-20 1/0.5
Date Analyzed:	09/20/23	Data File:	092023.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	84	120
Toluene-d8	100	73	128
4-Bromofluorobenzene	95	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.99
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	0.33
Hexane	<0.25	o-Xylene	0.28
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	1.0
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	0.19
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	1,3,5-Trimethylbenzene	0.25
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	0.54
Benzene	0.15	sec-Butylbenzene	0.061
Trichloroethene	<0.002	p-Isopropyltoluene	0.25
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	0.30	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	5.4
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 Dual Acquisition LL

Client Sample ID:	T3-35	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-21 1/0.5
Date Analyzed:	09/20/23	Data File:	092024.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	84	120
Toluene-d8	97	73	128
4-Bromofluorobenzene	96	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.70
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	0.24
Hexane	<0.25	o-Xylene	0.25
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	0.76
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	0.18
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	1,3,5-Trimethylbenzene	0.24
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	0.61
Benzene	0.071	sec-Butylbenzene	0.060
Trichloroethene	<0.002	p-Isopropyltoluene	0.29
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	0.17	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	5.3
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 Dual Acquisition LL

Client Sample ID:	T3-40	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	309214-23 1/0.5
Date Analyzed:	09/20/23	Data File:	092025.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	84	120
Toluene-d8	102	73	128
4-Bromofluorobenzene	94	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.53
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	0.17
Hexane	<0.25	o-Xylene	0.14
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	0.54
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	0.12
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	1,3,5-Trimethylbenzene	0.12
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	0.33
Benzene	0.045	sec-Butylbenzene	0.051
Trichloroethene	<0.002	p-Isopropyltoluene	0.17
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	0.13	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 Dual Acquisition LL

Client Sample ID:	Method Blank	Client:	Parametrix
Date Received:	Not Applicable	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/20/23	Lab ID:	03-2144 mb 1/0.5
Date Analyzed:	09/20/23	Data File:	092009.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	79	128
Toluene-d8	99	84	121
4-Bromofluorobenzene	105	84	116

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.001
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.002
Hexane	<0.25	o-Xylene	<0.001
Methylene chloride	<0.2	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	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)	<0.002	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.001	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	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	<0.001	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
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:	T1-40	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/18/23	Lab ID:	309214-07 1/5
Date Analyzed:	09/18/23	Data File:	091816.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Terphenyl-d14	79 ca	31	167

Compounds:	Concentration mg/kg (ppm)
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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	T2-40	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/18/23	Lab ID:	309214-14 1/5
Date Analyzed:	09/18/23	Data File:	091817.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Terphenyl-d14	98 ca	31	167

Compounds:	Concentration mg/kg (ppm)
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



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	T2-40a	Client:	Parametrix
Date Received:	09/15/23	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/18/23	Lab ID:	309214-15 1/5
Date Analyzed:	09/18/23	Data File:	091818.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Terphenyl-d14	110 ca	31	167

Compounds:	Concentration mg/kg (ppm)
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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Parametrix
Date Received:	Not Applicable	Project:	DTG Yakima LPL, F&BI 309214
Date Extracted:	09/18/23	Lab ID:	03-2257 mb 1/5
Date Analyzed:	09/18/23	Data File:	091807.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Terphenyl-d14	74	31	167

Compounds:	Concentration mg/kg (ppm)
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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/25/23

Date Received: 09/15/23

Project: DTG Yakima LPL, F&BI 309214

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 309214-01 (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	92	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/25/23

Date Received: 09/15/23

Project: DTG Yakima LPL, F&BI 309214

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 309214-01 (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	<50	116	114	64-136	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	110	78-121

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/25/23

Date Received: 09/15/23

Project: DTG Yakima LPL, F&BI 309214

**QUALITY ASSURANCE RESULTS  
FROM THE ANALYSIS OF SOIL  
SAMPLES FOR pH BY METHOD 9045D**

Laboratory Code: 309214-01

Analyte	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
pH	7.8	7.8	0	0-20

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/25/23

Date Received: 09/15/23

Project: DTG Yakima LPL, F&BI 309214

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 309223-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	2.69	90 b	93 b	75-125	3 b
Cadmium	mg/kg (ppm)	10	<1	91	94	75-125	3
Chromium	mg/kg (ppm)	50	12.1	79 b	90 b	75-125	13 b
Lead	mg/kg (ppm)	50	7.87	83	86	75-125	4
Mercury	mg/kg (ppm)	5	<1	87	85	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	89	80-120
Cadmium	mg/kg (ppm)	10	99	80-120
Chromium	mg/kg (ppm)	50	105	80-120
Lead	mg/kg (ppm)	50	97	80-120
Mercury	mg/kg (ppm)	5	97	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/25/23

Date Received: 09/15/23

Project: DTG Yakima LPL, F&BI 309214

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

Laboratory Code: 309214-04 (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	63	62	10-142	2
Chloromethane	mg/kg (ppm)	2	<0.5	102	100	10-126	2
Vinyl chloride	mg/kg (ppm)	2	<0.05	96	91	10-138	5
Bromomethane	mg/kg (ppm)	2	<0.5	95	101	10-163	6
Chloroethane	mg/kg (ppm)	2	<0.5	99	98	10-176	1
Trichlorofluoromethane	mg/kg (ppm)	2	<0.5	93	93	10-176	0
Acetone	mg/kg (ppm)	10	<5	113	103	10-163	9
1,1-Dichloroethene	mg/kg (ppm)	2	<0.05	96	94	10-160	2
Hexane	mg/kg (ppm)	2	<0.25	105	105	10-137	0
Methylene chloride	mg/kg (ppm)	2	<0.5	89	86	10-156	3
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2	<0.05	94	93	21-145	1
trans-1,2-Dichloroethene	mg/kg (ppm)	2	<0.05	102	103	14-137	1
1,1-Dichloroethane	mg/kg (ppm)	2	<0.05	99	97	19-140	2
2,2-Dichloropropane	mg/kg (ppm)	2	<0.05	104	100	10-158	4
cis-1,2-Dichloroethene	mg/kg (ppm)	2	<0.05	103	100	25-135	3
Chloroform	mg/kg (ppm)	2	<0.05	100	99	21-145	1
2-Butanone (MEK)	mg/kg (ppm)	10	<1	117	113	19-147	3
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2	<0.05	99	99	12-160	0
1,1,1-Trichloroethane	mg/kg (ppm)	2	<0.05	105	105	10-156	0
1,1-Dichloropropene	mg/kg (ppm)	2	<0.05	100	102	17-140	2
Carbon tetrachloride	mg/kg (ppm)	2	<0.05	97	98	9-164	1
Benzene	mg/kg (ppm)	2	<0.03	99	99	29-129	0
Trichloroethene	mg/kg (ppm)	2	<0.02	105	105	21-139	0
1,2-Dichloropropane	mg/kg (ppm)	2	<0.05	104	104	30-135	0
Bromodichloromethane	mg/kg (ppm)	2	<0.05	105	107	23-155	2
Dibromomethane	mg/kg (ppm)	2	<0.05	99	101	23-145	2
4-Methyl-2-pentanone	mg/kg (ppm)	10	<1	103	98	24-155	5
cis-1,3-Dichloropropene	mg/kg (ppm)	2	<0.05	107	107	28-144	0
Toluene	mg/kg (ppm)	2	<0.05	103	104	35-130	1
trans-1,3-Dichloropropene	mg/kg (ppm)	2	<0.05	102	101	26-149	1
1,1,2-Trichloroethane	mg/kg (ppm)	2	<0.05	99	99	10-205	0
2-Hexanone	mg/kg (ppm)	10	<5	113	111	15-166	2
1,3-Dichloropropane	mg/kg (ppm)	2	<0.05	104	100	31-137	4
Tetrachloroethene	mg/kg (ppm)	2	<0.025	112	112	20-133	0
Dibromochloromethane	mg/kg (ppm)	2	<0.05	108	109	28-150	1
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2	<0.05	98	98	28-142	0
Chlorobenzene	mg/kg (ppm)	2	<0.05	104	101	32-129	3
Ethylbenzene	mg/kg (ppm)	2	<0.05	98	100	32-137	2
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2	<0.05	106	106	31-143	0
m,p-Xylene	mg/kg (ppm)	4	<0.1	105	103	34-136	2
o-Xylene	mg/kg (ppm)	2	<0.05	100	103	33-134	3
Styrene	mg/kg (ppm)	2	<0.05	104	102	35-137	2
Isopropylbenzene	mg/kg (ppm)	2	<0.05	102	101	31-142	1
Bromoform	mg/kg (ppm)	2	<0.05	108	109	21-156	1
n-Propylbenzene	mg/kg (ppm)	2	<0.05	102	97	23-146	5
Bromobenzene	mg/kg (ppm)	2	<0.05	111	106	34-130	5
1,3,5-Trimethylbenzene	mg/kg (ppm)	2	<0.05	104	101	18-149	3
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2	<0.05	104	95	28-140	9
1,2,3-Trichloropropane	mg/kg (ppm)	2	<0.05	94	88	25-144	7
2-Chlorotoluene	mg/kg (ppm)	2	<0.05	101	94	31-134	7
4-Chlorotoluene	mg/kg (ppm)	2	<0.05	103	98	31-136	5
tert-Butylbenzene	mg/kg (ppm)	2	<0.05	106	98	30-137	8
1,2,4-Trimethylbenzene	mg/kg (ppm)	2	<0.05	103	96	10-182	7
sec-Butylbenzene	mg/kg (ppm)	2	<0.05	102	96	23-145	6
p-Isopropyltoluene	mg/kg (ppm)	2	<0.05	104	95	21-149	9
1,3-Dichlorobenzene	mg/kg (ppm)	2	<0.05	107	99	30-131	8
1,4-Dichlorobenzene	mg/kg (ppm)	2	<0.05	106	97	29-129	9
1,2-Dichlorobenzene	mg/kg (ppm)	2	<0.05	101	93	31-132	8
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2	<0.5	86	82	11-161	5
1,2,4-Trichlorobenzene	mg/kg (ppm)	2	<0.25	102	90	22-142	12
Hexachlorobutadiene	mg/kg (ppm)	2	<0.25	102	94	10-142	8
Naphthalene	mg/kg (ppm)	2	<0.05	92	83	14-157	10
1,2,3-Trichlorobenzene	mg/kg (ppm)	2	<0.25	102	92	20-144	10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/25/23

Date Received: 09/15/23

Project: DTG Yakima LPL, F&BI 309214

**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	64	10-146
Chloromethane	mg/kg (ppm)	2	98	27-133
Vinyl chloride	mg/kg (ppm)	2	90	22-139
Bromomethane	mg/kg (ppm)	2	90	10-201
Chloroethane	mg/kg (ppm)	2	95	10-163
Trichlorofluoromethane	mg/kg (ppm)	2	86	10-196
Acetone	mg/kg (ppm)	10	99	52-141
1,1-Dichloroethene	mg/kg (ppm)	2	93	47-128
Hexane	mg/kg (ppm)	2	98	43-142
Methylene chloride	mg/kg (ppm)	2	86	10-184
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2	90	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2	98	64-132
1,1-Dichloroethane	mg/kg (ppm)	2	96	64-135
2,2-Dichloropropane	mg/kg (ppm)	2	102	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2	100	64-135
Chloroform	mg/kg (ppm)	2	96	61-139
2-Butanone (MEK)	mg/kg (ppm)	10	107	30-197
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2	97	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2	98	62-131
1,1-Dichloropropene	mg/kg (ppm)	2	100	64-136
Carbon tetrachloride	mg/kg (ppm)	2	96	60-139
Benzene	mg/kg (ppm)	2	94	65-136
Trichloroethene	mg/kg (ppm)	2	98	63-139
1,2-Dichloropropane	mg/kg (ppm)	2	103	61-145
Bromodichloromethane	mg/kg (ppm)	2	102	57-126
Dibromomethane	mg/kg (ppm)	2	99	62-123
4-Methyl-2-pentanone	mg/kg (ppm)	10	94	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2	104	65-143
Toluene	mg/kg (ppm)	2	95	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2	95	65-131
1,1,2-Trichloroethane	mg/kg (ppm)	2	91	62-131
2-Hexanone	mg/kg (ppm)	10	101	33-152
1,3-Dichloropropane	mg/kg (ppm)	2	94	67-128
Tetrachloroethene	mg/kg (ppm)	2	102	68-128
Dibromochloromethane	mg/kg (ppm)	2	104	55-121
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2	94	66-129
Chlorobenzene	mg/kg (ppm)	2	94	67-128
Ethylbenzene	mg/kg (ppm)	2	90	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2	100	64-121
m,p-Xylene	mg/kg (ppm)	4	97	68-128
o-Xylene	mg/kg (ppm)	2	96	67-129
Styrene	mg/kg (ppm)	2	95	67-129
Isopropylbenzene	mg/kg (ppm)	2	93	68-128
Bromoform	mg/kg (ppm)	2	105	56-132
n-Propylbenzene	mg/kg (ppm)	2	99	68-129
Bromobenzene	mg/kg (ppm)	2	112	69-128
1,3,5-Trimethylbenzene	mg/kg (ppm)	2	101	69-129
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2	99	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2	92	61-137
2-Chlorotoluene	mg/kg (ppm)	2	100	69-128
4-Chlorotoluene	mg/kg (ppm)	2	99	67-127
tert-Butylbenzene	mg/kg (ppm)	2	100	69-129
1,2,4-Trimethylbenzene	mg/kg (ppm)	2	99	69-128
sec-Butylbenzene	mg/kg (ppm)	2	98	69-130
p-Isopropyltoluene	mg/kg (ppm)	2	98	69-130
1,3-Dichlorobenzene	mg/kg (ppm)	2	104	69-127
1,4-Dichlorobenzene	mg/kg (ppm)	2	100	68-126
1,2-Dichlorobenzene	mg/kg (ppm)	2	99	69-127
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2	90	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2	94	64-135
Hexachlorobutadiene	mg/kg (ppm)	2	95	50-153
Naphthalene	mg/kg (ppm)	2	88	62-128
1,2,3-Trichlorobenzene	mg/kg (ppm)	2	96	61-126



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/25/23

Date Received: 09/15/23

Project: DTG Yakima LPL, F&BI 309214

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

Laboratory Code: 309201-05 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Benz(a)anthracene	mg/kg (ppm)	0.83	<0.01	86	99	37-146	14
Chrysene	mg/kg (ppm)	0.83	<0.01	86	99	36-144	14
Benzo(a)pyrene	mg/kg (ppm)	0.83	<0.01	95	95	40-150	0
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	<0.01	93	94	45-157	1
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	<0.01	92	93	50-150	1
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	<0.01	87	94	24-145	8
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	<0.01	89	95	31-137	7

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benz(a)anthracene	mg/kg (ppm)	0.83	104	64-116
Chrysene	mg/kg (ppm)	0.83	104	66-119
Benzo(a)pyrene	mg/kg (ppm)	0.83	98	62-116
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	97	61-118
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	95	65-119
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	102	64-130
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	104	67-131

# 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 low; 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.

309214

SAMPLE CHAIN OF CUSTODY 09/15/23

ML4 Page # 1 of 3

Report To Mike Brady

Company Parawetrix

Address \_\_\_\_\_

City, State, ZIP \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

SAMPLERS (signature) <u>[Signature]</u>		PO # _____
PROJECT NAME	<u>DTG Yorkshire LPL</u>	
REMARKS	INVOICE TO _____	
Project specific RLS? - Yes / No _____		

TURNAROUND TIME  
 Standard turnaround  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL  
 Archive samples  
 Other \_\_\_\_\_  
 Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes		
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	PH	MTCA				
T1-5	01 A-D	9/11	1229	Soil	4	X	X			X			X					
T1-10	02		1237			<del>X</del>	<del>X</del>			<del>X</del>			<del>X</del>					HOLD
T1-15	03		1251			X	X			X			X					
T1-20	04		1312			<del>X</del>	<del>X</del>			<del>X</del>			<del>X</del>					HOLD
T1-25	05		1347			X	X			X			X					
T1-35	06		1423			X	X			X			X					
T1-40	07		1512			X	X			X			X					
T1-45	08	9/12	949			X	X			X			X					
T2-5	09		1345			X	X			X			X					
T2-15	10		1401			X	X			X			X					

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Relinquished by: <u>[Signature]</u>		Savvy Nguyen		PMX		9/15/23	1343
Received by: <u>[Signature]</u>		Liz Webber-Brady		F2B		9/15/23	1343
Relinquished by:						Samples received at 4	
Received by:							

Friedman & Bruya, Inc.  
 Ph. (206) 285-8282

309214

SAMPLE CHAIN OF CUSTODY

09/15/23

N4

Report To Mike Brady

Company \_\_\_\_\_

Address \_\_\_\_\_

City, State, ZIP \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

Page # 2 of 3

TURNAROUND TIME

Standard turnaround

RUSH

Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL

Archive samples

Other

Default: Dispose after 30 days

SAMPLERS (signature) <u>[Signature]</u>	PROJECT NAME <u>DTG Makina LPi</u>	PO #
REMARKS	INVOICE TO	
Protect specific RIs? - Yes / No		

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	PH	MTCAS		
T2-20	11 A-0	9/12	1428	Soil	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HOLD
T2-25	12	↓	1436	↓	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<del>T2-30</del> T2-35	13	9/13	945	↓	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T2-40	14	↓	1630	↓	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T2-40a	15	↓	1035	↓	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T3-5	16	↓	1520	↓	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T3-10	17	↓	1528	↓	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T3-15	18	↓	1530	↓	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HOLD
T3-20	19	9/14	856	↓	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
T3-30	20	↓	917	↓	↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Reinquished by: <u>[Signature]</u>	<u>[Signature]</u>	Sally Nguyen	Parametri X	9/15/23	1343		
Received by: <u>[Signature]</u>	<u>[Signature]</u>	Liz Walker-Brady	DTG	9/15/23	0843		
Reinquished by: _____	_____	_____	_____	_____	_____		
Received by: _____	_____	_____	_____	_____	_____		

Friedman & Bruya, Inc.  
Ph. (206) 285-8282



# **Appendix D**

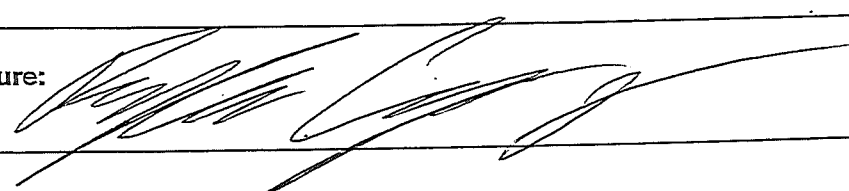
Gas Probe

Field Sampling Sheets



Sample Location ID: GP-T1

### GAS PROBE FIELD SAMPLING SHEET

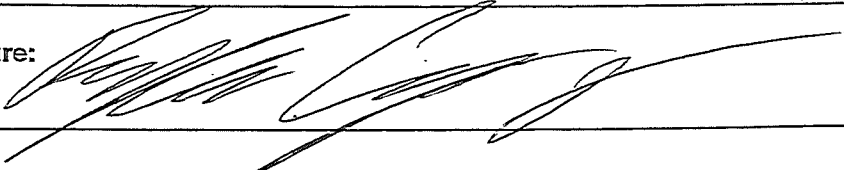
Project Name: DTG / Anderson LPL		Site Address: 41 Rocky Top Road Yakima, WA		
Sampled by: <u>Rigoberto Campos Jr</u>		Date: <u>09/28/23</u>		
Air Temperature: <u>64°F</u>		Weather: <u>Sunny, partly cloudy</u>		
Depth of Probe		Static Pressure: <u>0.04</u>	Barometric Pressure: <u>29.99</u>	
Screened Interval:		Probe Condition:		
Purge Volume:		Purge Time: <u>5min</u>		
<b>GEM5000 Readings (Landtec GEM only)</b>				
Methane (%)	Carbon Monoxide (ppm)	Carbon Dioxide (%)	Oxygen (%)	Hydrogen Sulfide (ppm)
<b>MultiRAE Readings<sup>1</sup> (MultiRAE only)</b>				
% LEL	Carbon Monoxide (ppm)	VOC's (ppm)	Oxygen (%)	Hydrogen Sulfide (ppm)
<u>2</u>	<u>0</u>	<u>5A</u>	<u>19.8</u>	<u>over 999 max</u>
<b>Drager X-am 8000 Readings<sup>2</sup> (Drager only)</b>				
Methane (%)	Carbon Monoxide (ppm)	Hydrogen (%)	Oxygen (%)	Hydrogen Sulfide (ppm)
<b>Thermocouple Meter Temperature Readings (°F)</b>				
<u>10ft: 243.3°F / 20ft: 442.9°F / 30ft: 239.2°F</u>				
Notes:				
Signature: 				

<sup>1</sup>Confirm carbon filter is attached. Sample %LEL, CO, O<sub>2</sub> and H<sub>2</sub>S. Remove carbon filter. Sample VOC.  
<sup>2</sup>Confirm H<sub>2</sub>S scrubber is attached. Sample %CH<sub>4</sub>, CO, H<sub>2</sub>, and O<sub>2</sub>. Remove scrubber. Sample H<sub>2</sub>S.



Sample Location ID: GP-T2

## GAS PROBE FIELD SAMPLING SHEET

Project Name: DTG / Anderson LPL		Site Address: 41 Rocky Top Road Yakima, WA		
Sampled by: <u>Rigoberto Campos Jr</u>		Date: <u>09/28/23</u>		
Air Temperature: <u>65°F</u>		Weather: <u>Sunny, partly cloudy</u>		
Depth of Probe		Static Pressure: <u>-0.02</u>	Barometric Pressure: <u>29.97</u>	
Screened Interval:		Probe Condition:		
Purge Volume:		Purge Time: <u>4 min</u>		
<b>GEM5000 Readings (Landtec GEM only)</b>				
Methane (%)	Carbon Monoxide (ppm)	Carbon Dioxide (%)	Oxygen (%)	Hydrogen Sulfide (ppm)
<b>MultiRAE Readings<sup>1</sup> (MultiRAE only)</b>				
% LEL	Carbon Monoxide (ppm)	VOC's (ppm)	Oxygen (%)	Hydrogen Sulfide (ppm)
<u>0</u>	<u>0</u>	<u>90</u>	<u>19.3</u>	<u>39.5</u>
<b>Drager X-am 8000 Readings<sup>2</sup> (Drager only)</b>				
Methane (%)	Carbon Monoxide (ppm)	Hydrogen (%)	Oxygen (%)	Hydrogen Sulfide (ppm)
<b>Thermocouple Meter Temperature Readings (°F)</b>				
<u>10ft: 211.4°F / 20ft: 246°F / 30ft: 180.4°F</u>				
Notes:				
Signature: 				

<sup>1</sup>Confirm carbon filter is attached. Sample %LEL, CO, O<sub>2</sub> and H<sub>2</sub>S. Remove carbon filter. Sample VOC.

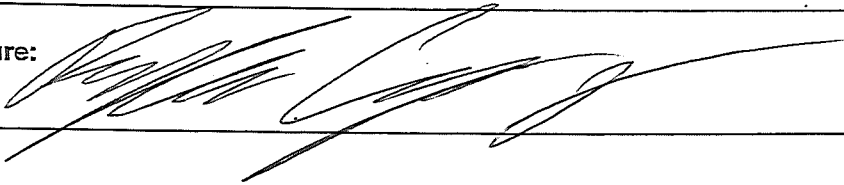
<sup>2</sup>Confirm H<sub>2</sub>S scrubber is attached. Sample %CH<sub>4</sub>, CO, H<sub>2</sub>, and O<sub>2</sub>. Remove scrubber. Sample H<sub>2</sub>S.





Sample Location ID: GP-T3

## GAS PROBE FIELD SAMPLING SHEET

Project Name: DTG / Anderson LPL		Site Address: 41 Rocky Top Road Yakima, WA		
Sampled by: <u>Rigoberto Campos Jr</u>		Date: <u>09/28/23</u>		
Air Temperature: <u>64°F</u>		Weather: <u>cloudy, sunny</u>		
Depth of Probe		Static Pressure: <u>-0.03</u>	Barometric Pressure: <u>29.99</u>	
Screened Interval:		Probe Condition:		
Purge Volume:		Purge Time: <u>4 min</u>		
<b>GEM5000 Readings (Landtec GEM only)</b>				
Methane (%)	Carbon Monoxide (ppm)	Carbon Dioxide (%)	Oxygen (%)	Hydrogen Sulfide (ppm)
<b>MultiRAE Readings<sup>1</sup> (MultiRAE only)</b>				
% LEL	Carbon Monoxide (ppm)	VOC's (ppm)	Oxygen (%)	Hydrogen Sulfide (ppm)
<u>99</u>	<u>over 999 max</u>	<u>616</u>	<u>4.3</u>	<u>over 99.9 max</u>
<b>Drager X-am 8000 Readings<sup>2</sup> (Drager only)</b>				
Methane (%)	Carbon Monoxide (ppm)	Hydrogen (%)	Oxygen (%)	Hydrogen Sulfide (ppm)
<b>Thermocouple Meter Temperature Readings (°F)</b>				
<u>10ft: 163°F / 20ft: 176°F / 30ft: 188°F / 40ft: 186°F</u>				
Notes:				
Signature: 				

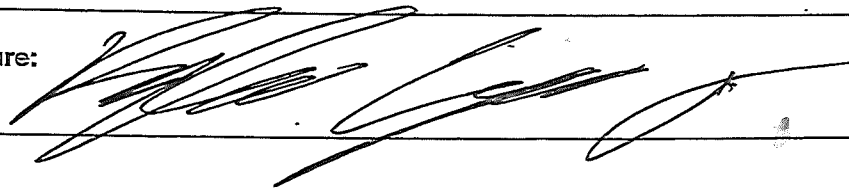
<sup>1</sup>Confirm carbon filter is attached. Sample %LEL, CO, O<sub>2</sub> and H<sub>2</sub>S. Remove carbon filter. Sample VOC.

<sup>2</sup>Confirm H<sub>2</sub>S scrubber is attached. Sample %CH<sub>4</sub>, CO, H<sub>2</sub>, and O<sub>2</sub>. Remove scrubber. Sample H<sub>2</sub>S.



Sample Location ID: GP-T1

## GAS PROBE FIELD SAMPLING SHEET

Project Name: DTG / Anderson LPL		Site Address: 41 Rocky Top Road Yakima, WA		
Sampled by: <u>Rigoberto Campos Jr</u>		Date: <u>10/05/23</u>		
Air Temperature: <u>60°F</u>		Weather: <u>Sunny</u>		
Depth of Probe		Static Pressure: <u>70.03</u>	Barometric Pressure: <u>30.30</u>	
Screened Interval:		Probe Condition:		
Purge Volume:		Purge Time: <u>7 min</u>		
<b>GEM5000 Readings (Landtec GEM only)</b>				
Methane (%)	Carbon Monoxide (ppm)	Carbon Dioxide (%)	Oxygen (%)	Hydrogen Sulfide (ppm)
<b>MultiRAE Readings<sup>1</sup> (MultiRAE only)</b>				
% LEL	Carbon Monoxide (ppm)	VOC's (ppm)	Oxygen (%)	Hydrogen Sulfide (ppm)
<u>0</u>	<u>41</u>	<u>14</u>	<u>20.2</u>	<u>6.5</u>
<b>Drager X-am 8000 Readings<sup>2</sup> (Drager only)</b>				
Methane (%)	Carbon Monoxide (ppm)	Hydrogen (%)	Oxygen (%)	Hydrogen Sulfide (ppm)
<u>0</u>	<u>45</u>	<u>0</u>	<u>20.4</u>	<u>0</u>
<b>Thermocouple Meter Temperature Readings (°F)</b>				
<u>10ft 238.1°F / 20ft 237.5°F / 30ft 236.6°F</u>				
Notes:				
Signature: 				

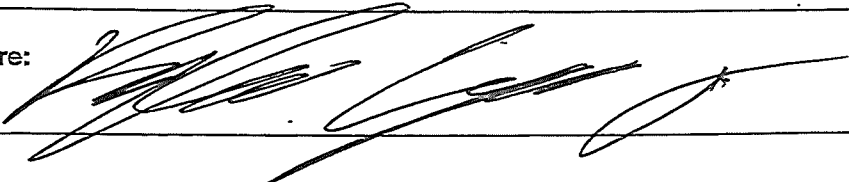
<sup>1</sup>Confirm carbon filter is attached. Sample %LEL, CO, O<sub>2</sub> and H<sub>2</sub>S. Remove carbon filter. Sample VOC.

<sup>2</sup>Confirm H<sub>2</sub>S scrubber is attached. Sample %CH<sub>4</sub>, CO, H<sub>2</sub>, and O<sub>2</sub>. Remove scrubber. Sample H<sub>2</sub>S.



Sample Location ID: GP-T2

# GAS PROBE FIELD SAMPLING SHEET

Project Name: DTG / Anderson LPL		Site Address: 41 Rocky Top Road Yakima, WA		
Sampled by: <u>Rigoberto Campos Jr</u>		Date: <u>10/05/23</u>		
Air Temperature: <u>60°F</u>		Weather: <u>Sunny</u>		
Depth of Probe		Static Pressure: <u>0.01</u>	Barometric Pressure: <u>30.30</u>	
Screened Interval:		Probe Condition:		
Purge Volume:		Purge Time: <u>7 min</u>		
<b>GEM5000 Readings (Landtec GEM only)</b>				
Methane (%)	Carbon Monoxide (ppm)	Carbon Dioxide (%)	Oxygen (%)	Hydrogen Sulfide (ppm)
<b>MultiRAE Readings<sup>1</sup> (MultiRAE only)</b>				
% LEL	Carbon Monoxide (ppm)	VOC's (ppm)	Oxygen (%)	Hydrogen Sulfide (ppm)
<u>0</u>	<u>20</u>	<u>6</u>	<u>20.0</u>	<u>2.4</u>
<b>Drager X-am 8000 Readings<sup>2</sup> (Drager only)</b>				
Methane (%)	Carbon Monoxide (ppm)	Hydrogen (%)	Oxygen (%)	Hydrogen Sulfide (ppm)
<u>0</u>	<u>15</u>	<u>0</u>	<u>20.2</u>	<u>0</u>
<b>Thermocouple Meter Temperature Readings (°F)</b>				
<u>10ft 213.5°F / 20ft 248.8°F / 30ft 178.0°F</u>				
Notes:				
Signature: 				

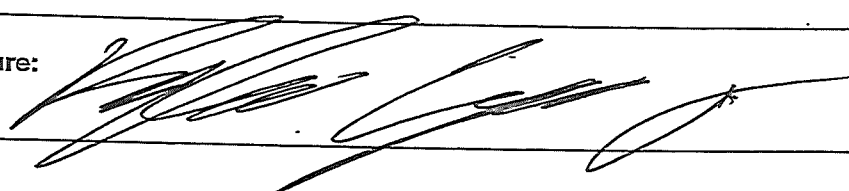
<sup>1</sup>Confirm carbon filter is attached. Sample %LEL, CO, O<sub>2</sub> and H<sub>2</sub>S. Remove carbon filter. Sample VOC.

<sup>2</sup>Confirm H<sub>2</sub>S scrubber is attached. Sample %CH<sub>4</sub>, CO, H<sub>2</sub>, and O<sub>2</sub>. Remove scrubber. Sample H<sub>2</sub>S.



Sample Location ID: GP-T3

# GAS PROBE FIELD SAMPLING SHEET

Project Name: DTG / Anderson LPL		Site Address: 41 Rocky Top Road Yakima, WA		
Sampled by: <u>Rigoberto Campos Jr</u>		Date: <u>10/05/23</u>		
Air Temperature: <u>60°F</u>		Weather: <u>Sunny</u>		
Depth of Probe		Static Pressure: <u>0.01</u>	Barometric Pressure: <u>30.30</u>	
Screened Interval:		Probe Condition:		
Purge Volume:		Purge Time: <u>7min</u>		
<b>GEM5000 Readings (Landtec GEM only)</b>				
Methane (%)	Carbon Monoxide (ppm)	Carbon Dioxide (%)	Oxygen (%)	Hydrogen Sulfide (ppm)
<b>MultiRAE Readings<sup>1</sup> (MultiRAE only)</b>				
% LEL	Carbon Monoxide (ppm)	VOC's (ppm)	Oxygen (%)	Hydrogen Sulfide (ppm)
<u>over 99 max</u>	<u>over 499 max</u>	<u>521</u>	<u>2.0</u>	<u>over 99.9 max</u>
<b>Drager X-am 8000 Readings<sup>2</sup> (Drager only)</b>				
Methane (%)	Carbon Monoxide (ppm)	Hydrogen (%)	Oxygen (%)	Hydrogen Sulfide (ppm)
<u>4.7</u>	<u>9840</u>	<u>3.34</u>	<u>0</u>	<u>16.4</u>
<b>Thermocouple Meter Temperature Readings (°F)</b>				
<u>10ft 161.4°F / 20ft 175.9°F / 30ft 187.6 / 40ft 189.7°F</u>				
Notes:				
Signature: 				

<sup>1</sup>Confirm carbon filter is attached. Sample %LEL, CO, O<sub>2</sub> and H<sub>2</sub>S. Remove carbon filter. Sample VOC.  
<sup>2</sup>Confirm H<sub>2</sub>S scrubber is attached. Sample %CH<sub>4</sub>, CO, H<sub>2</sub>, and O<sub>2</sub>. Remove scrubber. Sample H<sub>2</sub>S.