Soil Assessment

Bear Mart Auto Sales
Kennewick, Washington

for
Washington State Department of Ecology

June 26, 2019

GeoEngineers
Earth Science + Technology

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523 East Second Avenue
Spokane, Washington 99202
509.363.3125

Soil Assessment

Bear Mart Auto Sales
Kennewick, Washington

File No. 0504-157-00

June 26, 2019

Prepared for:

Washington State Department of Ecology
Toxics Cleanup Program – Central Region Office
1250 West Alder Street
Union Gap, Washington 98903-0009

Attention: Jeff Newschwander

Prepared by:

GeoEngineers, Inc.
523 East Second Avenue
Spokane, Washington 99202
509.363.3125

Scott H. Lathen, PE
Environmental Engineer

Bruce D. Williams
Principal

SHL:BDW:tjh

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1.0 INTRODUCTION

This report describes soil assessment activities conducted at the former Bear Mart Auto Sales site located in Kennewick, Washington (herein referred to as "site"). The approximate site location is shown in the attached Vicinity Map, Figure 1.

Site environmental activities are managed by the Washington State Department of Ecology (Ecology). This report describes field activities, observations and chemical analytical results associated with soil samples collected at the site. The purpose of the assessment activities described herein was to identify if remnant soil contamination associated with a former underground storage tank (UST) was present at the site. Ecology will use the assessment results to conduct a Site Hazard Assessment (SHA), if necessary, or close the site.

2.0 SITE DESCRIPTION AND BACKGROUND

The Bear Mart Auto Sales site is located at 1 East First Avenue in Kennewick, Washington, as shown in Figure 1. The site is currently J&R's Motorsports used car dealer. The site generally is covered with asphalt and concrete surfaces.

One UST (about 300-gallon capacity) was discovered in 1992 in the alley behind the site building during repair of a utility pole. The alley is owned by the City of Kennewick. Documentation summarized by Ecology stated that the UST contained a mixture of water and other constituents including naphtha and lead. The documentation also indicated the UST originally contained heating fuel but more recently had been used for waste paint and thinners. Groundwater is estimated to be 11 feet below ground surface (bgs) (Chen-Northern 1992). The nearest surface water, the Columbia River, is located approximately 1 mile northeast of the site.

Soil samples collected during the March 30, 1992 UST removal and subsequent assessment contained total petroleum hydrocarbon (TPH) concentrations greater than the applicable cleanup levels at the time of the sampling. Contaminated soil was excavated and aerated onsite before off-site disposal. Soil disposal documentation was not available. Ecology conducted a Site Hazard Assessment in 2014 and ranked the site a 2 based on the remaining presence of contaminants in soil. Ecology considered mineral spirits/white spirts/naphtha, TPH and lead as the contaminants of concern.

3.0 SCOPE OF SERVICES

This sampling event was conducted to assess the site for potential remaining contamination associated with the former UST. The scope of services included the following:

1. Prepared a Work Plan that included a Sampling Plan, Quality Assurance Project Plan (QAPP), and Health and Safety Plan (HASP).
2. Coordinated underground utility locating using the State of Washington Utility Notification and Utilities Plus, LLC (Utilities Plus). Per state regulations, GeoEngineers mobilized to/from the site from Spokane to mark the proposed boring locations prior to initiating the locate request.

3. Mobilized to/from the site from Spokane, Washington to conduct the sampling event.
4. Conducted 1 day of subsurface assessment using direct-push drilling techniques provided by Environmental West Explorations, Inc. (Environmental West). The borings were advanced in the alley to depths from 4 to 12 feet below ground surface (bgs) and to a depth of 4 feet bgs at the northwest corner of the building through a concrete pad. Soil samples were collected from 4-foot intervals using a continuous core sampler for field screening and potential chemical analysis. Soil samples were collected per procedures outlined in the Work Plan.
5. Observed and documented subsurface soil conditions. Field screening consisted of visual observation, water sheen testing and headspace vapor measurements using a photoionization detector (PID).
6. Groundwater was not observed during drilling operations and therefore groundwater was not measured, purged, or sampled.
7. Backfilled borings with bentonite clay and surface completed with gravel.
8. Submitted at least one soil sample from each boring to a qualified laboratory for chemical analysis. The soil sample with the greatest field screening indication of potential contamination was submitted for analysis. Soil samples submitted from the site were analyzed for the following potential contaminants:
    a. Gasoline-range petroleum hydrocarbons (GRPH) using Northwest Method NWTPH-Gx;
    b. Diesel- and oil-range petroleum hydrocarbons (DRPH and ORPH, respectively) using Northwest Method NWTPH-Dx;
    c. Total lead using Environmental Protection Agency (EPA) Method 6010C; and
    d. Volatile organic compounds (VOCs) using EPA Method 8260C.
9. Drummed and labeled investigation-derived waste (IDW). Able Cleanup Technologies (ACT) profiled and transported the IDW for disposal at Waste Management's Graham Road landfill located near Medical Lake, Washington. Based on the chemical analytical results, the IDW did not designate as a hazardous waste.
10. Compared soil chemical analytical results to the Model Toxics Control Act (MTCA) Method A cleanup levels.
11. Prepared this site assessment report summarizing field and laboratory data, comparison of analytical results to MTCA, and provides recommendations.
12. Entered laboratory analytical data results into Ecology's Environmental Information Management (EIM) database.

4.0 FIELD ACTIVITIES

4.1. Direct-Push Soil Assessment

Site reconnaissance was coordinated with Bear Mart Auto Sales and occurred on April 29, 2019. During this visit, site access was assessed and soil borings were marked.

Field assessment activities were conducted on May 1, 2019. Site utilities, located near the boring locations, were identified and marked by a private utility locating subcontractor, Utilities Plus, prior to drilling. Multiple

utilities were observed in the alley. The drilling subcontractor, Environmental West, advanced four borings (GEI010-DP1 through GEI010-DP4) using direct-push drilling methods; boring locations are shown in Exploration Locations, Figure 2. Direct-push borings were attempted multiple times with shallow refusal on gravel and cobbles. The deepest attempt for each boring was logged. The direct-push boring locations are summarized by the following:

- Soil boring GEI010-DP1 was drilled northeast of the former UST location to approximately 12 feet bgs. Two soil samples were collected for potential chemical analysis. No petroleum sheens were observed and volatile organic vapors were detected at 0.6 parts per million (ppm). A photograph of drilling GEI010-DP1 is found in Figure 3.
- Soil boring GEI010-DP2 was drilled north of the former UST location to a depth of about 6 feet bgs. One soil sample for potential chemical analysis was collected from the 2- to 2.5-foot-depth interval. No petroleum sheens were observed and volatile organic vapors were not detected.
- Soil boring GEI010-DP3 was drilled northwest of the former UST location to approximately 4 feet bgs. One soil sample for potential chemical analysis was collected from the 2- to 2.5-foot-depth interval. No petroleum sheen was observed and volatile organic vapors were detected at 0.1 ppm.
- Soil boring GEI010-DP4 was drilled south of the former UST location to approximately 4 feet bgs. One soil sample for potential chemical analysis was collected from the 1- to 2-foot-depth interval. No petroleum sheen was observed and volatile organic vapors were not detected. A photograph of drilling GEI010-DP4 is found in Figure 3.

Environmental West backfilled each boring with bentonite and surface completed with gravel. Excess soil cuttings were placed in one 55-gallon steel drum, labeled and placed at a location approved by the property owner (depicted on Figure 2). Boring logs associated with the borings are included in Appendix A.

4.2. Subsurface Conditions

Soil observed in the borings consisted of dark brown fine gravel with sand and silt (base coarse beneath asphalt), brown fine sand with silt and a coarse layer with gravel and cobbles. Several attempts were made to step-off from the original boring locations to drill deeper but similar soil conditions (gravel and cobbles) resulted in refusal conditions. Soil borings terminated between 4 and 12 feet bgs.

4.3. Groundwater Conditions

Groundwater was not observed in explorations advanced at the site.

5.0 CHEMICAL ANALYTICAL RESULTS

Four soil samples were submitted to TestAmerica for the chemical analyses described in “Section 3.0 Scope of Services.” TestAmerica’s laboratory reports are included in Appendix B; chemical analytical results are summarized and compared to MTCA Method A cleanup levels for unrestricted land use in Table I. GRPH, DRPH, ORPH, VOCs and lead were either not detected or detected at concentrations less than the MTCA Method A unrestricted land use cleanup level.

TABLE I. SUMMARY OF CHEMICAL ANALYTICAL RESULTS – SOIL (GRPH, DRPH, ORPH, LEAD AND VOCS)

Sample Identification	Date Sampled	GRPH[2] (mg/kg)	DRPH[3] (mg/kg)	ORPH[3] (mg/kg)	Lead[4] (mg/kg)	VOCs[5]
GEI010-DP1 (9-10')	5/1/2019	<6.1	<10	<26	<2.6	ND
GEI010-DP2 (2-2.5')	5/1/2019	<5.3	<11	<27	**4.4**	ND
GEI010-DP3 (2-2.5')	5/1/2019	<6.7	<12	**44**	**41**	ND
GEI010-DP4 (1-2')	5/1/2019	<7.0	<12	<30	**5.3**	ND
MTCA Method A CUL[1]		30 / 100[6]	2,000	2,000	250	Varies

Notes:

[1]MTCA Method A CUL - Washington State Model Toxics Control Act Method A unrestricted land use cleanup level

[2]GRPH analyzed by Northwest Method NWTPH-Gx.

[3]DRPH and ORPH analyzed by Northwest Method NWTPH-Dx.

[4]Metals [Lead (Pb)] analyzed by Environmental Protection Agency (EPA) Method 6010C.

[5]Volatile organic compounds (VOCs) analyzed using EPA Method 8260C. Refer to laboratory report for full list of VOCs; VOCs were not detected in the samples analyzed.

[6]Gasoline-range hydrocarbons when benzene is present / no detectable benzene

mg/kg = milligrams per kilogram; ND = not detected

U = analyte was not detected above the laboratory reporting limit; J = estimated result

6.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Soil assessment activities were conducted on May 1, 2019, at the Bear Mart Auto Sales site located at 1 East First Avenue in Kennewick, Washington. GRPH, DRPH, ORPH, lead and VOCs were not detected at concentrations greater than MTCA Method A cleanup levels from the soil samples collected.

Based on these assessment results, soil contamination was not identified to the depths advanced by direct-push drilling techniques. However, because the borings were advanced using direct-push drilling methods, refusal was encountered at shallow depths (about 6 feet bgs or less, except DP-1). If Ecology desires more data at greater depths to close the site, then we recommend using air-rotary or sonic drilling methods.

ACT picked up, profiled, and disposed the IDW at Waste Management's Graham Road landfill on June 17, 2019. The accumulated IDW amounted to one, 55-gallon drum.

7.0 LIMITATIONS

We have prepared this report for the exclusive use of Ecology and their authorized agents.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. The conclusions and opinions presented in this report are based on our professional knowledge, judgment and experience. No warranty or other conditions, express or implied, should be understood.

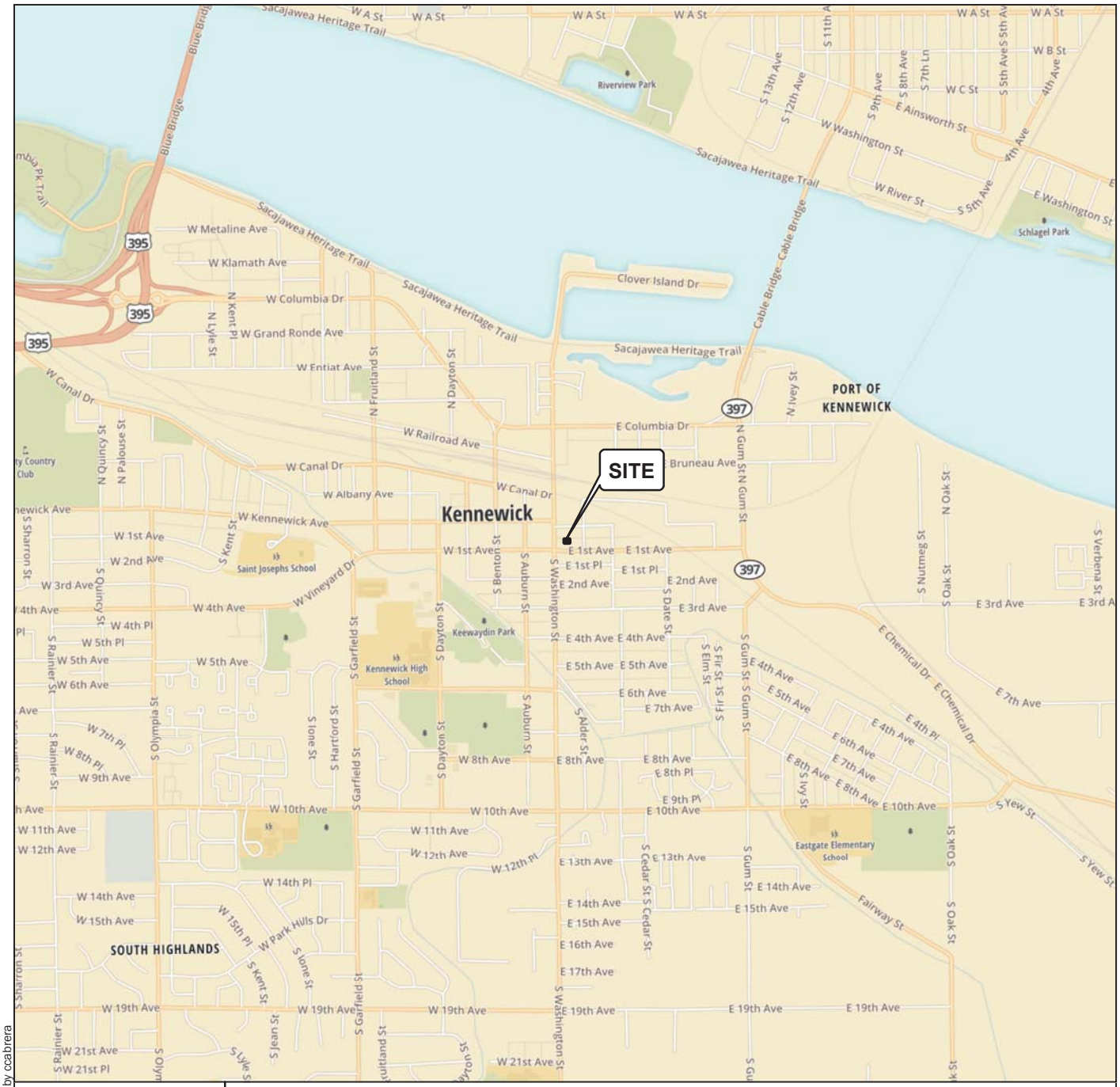
Please refer to "Report Limitations and Guidelines for Use," Appendix C, for additional information pertaining to use of this report.

8.0 REFERENCES

Chen-Northern. 1992. Underground Storage Tank Site Assessment, Bear-Mart Auto Sales, 1 East First Avenue, Kennewick, Washington. Prepared for the City of Kennewick. May 1992.

FIGURES

GeoEngineers



N
W E
S

2,000 0 2,000

Feet

Vicinity Map

Bear Mart Auto Sales
Kennewick, Washington

GeoEngineers

Figure 1

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Mapbox Open Street Map, 2016 & ESRI.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet

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Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. Based on previous work performed by Chen-Northern in the area of the site, the groundwater flow direction is to the Northeast (Chen-Northern, 1992)

Data Source: Clarity, ESRI. Roads from benton County GIS.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet

Legend

- Direct Push Boring Number and Approximate Location
- UST Approximate Location
- Anticipated Groundwater Flow Direction
- IDW Storage Area
- Approximate Remedial Excavation Boundary
- Utilities Approximate Area

N W E S

30 0 30

Feet

Exploration Locations

Bear Mart Auto Sales
Kennewick, Washington

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Figure 2

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Advancing boring location GEI010-DP1 (view looking east).

Advancing boring location GEI010-DP4 (view looking south)

Site Photographs – May 1, 2019	
Bear Mart Auto Sales Kennewick, Washington	
GeoEngineers	Figure 3

APPENDICES

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APPENDIX A
Field Procedures and Boring Logs

APPENDIX A
FIELD PROCEDURES AND BORING LOGS

General

Subsurface conditions at the Bear Mart Auto Sales site were explored on May 1, 2019, by advancing four direct-push borings at the approximate locations shown on Figure 2. Borings were advanced between 4 and 12 feet below existing site grade and using a direct-push drill rig. Boring locations were established in the field using a site plan and measurements from on-site structures. Consequently, exploration locations should be considered accurate to the degree implied by the method used.

Field methods generally were performed in compliance with the project Work Plan assessment procedures.

Soil Sample Collection

Soil samples obtained during direct-push drilling were removed from the sleeve using clean nitrile gloves, and transferred into a laboratory prepared container, labeled with a waterproof pen, and placed on wet ice in a clean plastic-lined cooler.

Drilling operations were observed by GeoEngineers staff who examined and classified the soil encountered, obtained soil samples, and maintained a continuous exploration log. Soil encountered in the borings was classified in general accordance with ASTM International (ASTM) D 2488 and the classification chart listed in Key to Exploration Logs, Figure A-1. Boring logs are presented in Figures A-2 through A-5. The logs are based on field data interpretation and indicate the depth at which subsurface materials, or their characteristics change, although these changes might actually be gradual.

Field Screening of Soil Samples

GeoEngineers' field representative performed field-screening tests on soil samples obtained from the borings. Field screening results were used as a general guideline to assess areas of possible petroleum-related contamination. The field screening methods used include: (1) PID screening; (2) visual screening; and (3) water-sheen screening.

PID screening involves placing soil in a container and after agitating or warming, measuring total volatile organic compounds in the available head space. Visual screening consists of observing soil for stains indicative of metal- or petroleum-related contamination. Water-sheen screening involved placing soil in a pan of water and observing the water surface for signs of sheen. Sheen screening may detect both volatile and nonvolatile petroleum hydrocarbons. Sheens observed are classified as follows:

No Sheen (NS)	No visible sheen on the water surface.
Slight Sheen (SS)	Light, colorless, dull sheen; spread is irregular, not rapid; sheen dissipates rapidly. Natural organic matter in the soil may produce a slight sheen.
Moderate Sheen (MS)	Light to heavy sheen; may have some color/iridescence; spread is irregular to flowing, may be rapid; few remaining areas of no sheen on the water surface.
Heavy Sheen (HS)	Heavy sheen with color/iridescence; spread is rapid; entire water surface may be covered with sheen.

Field screening results can be site specific. The effectiveness of field screening can vary with temperature, moisture content, organic content, soil type, and contaminant type and age.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
	AC	Asphalt Concrete
	CC	Cement Concrete
	CR	Crushed Rock/ Quarry Spalls
	SOD	Sod/Forest Duff
	TS	Topsoil

Groundwater Contact

Measured groundwater level in exploration, well, or piezometer

Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata

Approximate contact between soil strata

Material Description Contact

Contact between geologic units

Contact between soil of the same geologic unit

Sampler Symbol Descriptions

2.4-inch I.D. split barrel

Standard Penetration Test (SPT)

Shelby tube

Piston

Direct-Push

Bulk or grab

Continuous Coring

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

"P" indicates sampler pushed using the weight of the drill rig.

"WOH" indicates sampler pushed using the weight of the hammer.

Laboratory / Field Tests

%F	Percent fines
%G	Percent gravel
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DD	Dry density
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
Mohs	Mohs hardness scale
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PP	Pocket penetrometer
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

Key to Exploration Logs

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Figure A-1

Drilled Start 5/1/2019 End 5/1/2019	Total Depth (ft) 12	Logged By JML Checked By BDW	Driller Environmental West Exploration	Drilling Method Direct Push	
Surface Elevation (ft) Vertical Datum Undetermined NAVD88		Hammer Data 2-inch Macrocore		Drilling Equipment Geoprobe 5400	
Latitude 46° 12' 28.8504" Longitude -119° 06' 58.914"		System Datum WA State Plane South NAD83 (feet)		Groundwater not observed at time of exploration	
Notes:					

Elevation (feet) / Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0							AC	Asphalt			
	0-15	15					GP-GM	Dark brown fine gravel with sand and silt (medium dense, moist) (fill)	NS	0.1	
							SP-SM	Brown fine sand with silt (medium dense, moist) (fill)			
											First attempt refusal at 3 feet
	15-26	26		GEI010-DP1 (4-5)					NS	0.6	
5							GP-GM	Brown fine to coarse gravel with sand, silt, and occasional cobbles (very dense, moist) (native?)			
	26-30	30							NS	0.1	
				GEI010-DP1 (9-10) CA					NS	0.0	
10											Refusal at 12 feet on rock/cobble

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Boring DP-1

GeoEngineers

Project: Bear-Mart Auto Sales
Project Location: Kennewick, Washington
Project Number: 0504-157-00

Figure A-2
Sheet 1 of 1

Drilled	Start 5/1/2019	End 5/1/2019	Total Depth (ft)	6	Logged By	JML	Driller	Environmental West Exploration	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum		Undetermined NAVD88			Hammer Data	2-inch Macrocore			Drilling Equipment	Geoprobe 5400
Latitude Longitude		46° 12' 28.8612" -119° 06' 59.004"			System Datum	WA State Plane South NAD83 (feet)			Groundwater not observed at time of exploration	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		30					AC	Asphalt			
								GP-GM	Dark brown fine gravel with sand and silt (loose, moist)			
								ML	Brown sandy silt (medium stiff, moist) (fill)			
						GEI010-DP2 (2-2.5) CA				NS	0.0	
			6									Four more attempts with refusal at 4 feet, 4.5 feet, 4.6 feet and 5 feet
	5							GP-GM	Brown fine to coarse gravel with silt and occasional cobbles (very dense, moist)			Refusal at 6 feet 2 inches on rock/cobble

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Boring DP-2

GeoEngineers

Project: Bear-Mart Auto Sales
Project Location: Kennewick, Washington
Project Number: 0504-157-00

Figure A-3
Sheet 1 of 1

Drilled Start 5/1/2019 End 5/1/2019	Total Depth (ft) 4	Logged By JML Checked By BDW	Driller Environmental West Exploration	Drilling Method Direct Push	
Surface Elevation (ft) Vertical Datum	Undetermined NAVD88	Hammer Data	2-inch Macrocore	Drilling Equipment	Geoprobe 5400
Latitude Longitude	46° 12' 28.8612" -119° 06' 59.1084"	System Datum	WA State Plane South NAD83 (feet)	Groundwater not observed at time of exploration	
Notes:					

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		30					AC	Asphalt			
								GP-GM	Dark brown fine gravel with sand and silt (medium dense, moist) (fill)	NS	0.0	
								ML	Brown sandy silt			
						GEI010-DP3 (2-2.5) CA				NS	0.1	Refusal at 2 feet on first attempt
								GP-GM	Brown fine to coarse gravel with silt and occasional cobbles (very dense, moist)			
	4											Refusal at 4 feet on rock/cobble on second attempt

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Boring DP-3

GeoEngineers

Project: Bear-Mart Auto Sales
Project Location: Kennewick, Washington
Project Number: 0504-157-00

Figure A-4
Sheet 1 of 1

Drilled	Start 5/1/2019	End 5/1/2019	Total Depth (ft)	4	Logged By	JML	Driller	Environmental West Exploration	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum		Undetermined NAVD88			Hammer Data	2-inch Macrocore			Drilling Equipment	Geoprobe 5400
Latitude Longitude		46° 12' 28.692" -119° 06' 59.04"			System Datum	WA State Plane South NAD83 (feet)			Groundwater not observed at time of exploration	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		24			GEI010-DP4 (1-2) CA		AC	Concrete	NS	0.0	
								GP	Gray fine to coarse gravel (rounded) (loose, moist) (fill)			
								ML	Brown sandy silt with occasional gravel (medium stiff, moist)			
								GP-GM	Brown fine to coarse gravel with silt and occasional cobbles (very dense, moist)			
	4											Refusal at 4 feet on rock/cobble

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Boring DP-4

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Project: Bear-Mart Auto Sales
Project Location: Kennewick, Washington
Project Number: 0504-157-00

Figure A-5
Sheet 1 of 1

APPENDIX B
Chemical Analytical Laboratory Reports and Data Validation

GeoEngineers

523 East Second Avenue, Spokane, Washington 99202, Telephone: 509.363.3125 www.geoengineers.com

Data Validation Report

Project: Bear Mart Auto Sales – Environmental Assessment
May 2019 Soil Samples

GEI File No: 00504-157-00

Date: June 25, 2019

This report documents the results of a United States Environmental Protection Agency (EPA)-defined Stage 2A data validation (EPA Document 540-R-08-005; EPA 2009) of analytical data from the analyses of soil samples collected as part of the May 2019 sampling event, and the associated laboratory and field quality control (QC) samples. The samples were obtained from the former Bear Mart Auto Sales site located at 1 East First Avenue in Kennewick, Washington.

OBJECTIVE AND QUALITY CONTROL ELEMENTS

GeoEngineers, Inc. (GeoEngineers) completed the data validation consistent with the EPA Contract Laboratory Program National Functional Guidelines for Organic Superfund Methods Data Review (EPA 2017a) and Inorganic Superfund Data Review (EPA 2017b) (National Functional Guidelines) to determine if the laboratory analytical results meet the project objectives and are usable for their intended purpose. Data usability was assessed by determining if:

- The samples were analyzed using well-defined and acceptable methods that provide reporting limits below applicable regulatory criteria;
- The precision and accuracy of the data are well-defined and sufficient to provide defensible data; and
- The quality assurance/quality control (QA/QC) procedures utilized by the laboratory meet acceptable industry practices and standards.

In accordance with the Quality Assurance Project Plan (QAPP), Appendix B of the Work Plan (GeoEngineers 2019), the data validation included review of the following QC elements:

- Data Package Completeness
- Chain-of-Custody Documentation
- Holding Times and Sample Preservation
- Surrogate Recoveries
- Method and Trip Blanks
- Matrix Spikes/Matrix Spike Duplicates
- Laboratory Control Samples/Laboratory Control Sample Duplicates
- Laboratory Duplicates

VALIDATED SAMPLE DELIVERY GROUPS

This data validation included review of the sample delivery group (SDG) listed below in Table 1.

TABLE 1: SUMMARY OF VALIDATED SAMPLE DELIVERY GROUPS

Laboratory SDG	Samples Validated
590-10924-1	GEI010-DP1(9-10), GEI010-DP2(2-2.5), GEI010-DP3(2-2.5), GEI010-DP4(1-2), Trip Blank

CHEMICAL ANALYSIS PERFORMED

Eurofins TestAmerica Laboratories, Inc. (TestAmerica), located in Spokane, Washington, performed laboratory analyses on the samples using one or more of the following methods:

- Gasoline-Range Hydrocarbons (NWTPH-Gx) by Method NWTPH-Gx;
- Petroleum Hydrocarbons (NWTPH-Dx) by Method NWTPH-Dx
- Volatile Organic Compounds (VOCs) by Method EPA8260C; and
- Total Metals by Method EPA6010C

DATA VALIDATION SUMMARY

The results for each of the QC elements are summarized below.

Data Package Completeness

TestAmerica provided the required deliverables for the data validation according to the National Functional Guidelines. The laboratory followed adequate corrective action processes and the identified anomalies were discussed in the relevant laboratory case narrative.

Chain-of-Custody Documentation

Chain-of-custody (COC) forms were provided with the laboratory analytical reports. The COCs were accurate and complete when submitted to the laboratory, with the following exception:

SDG 590-10924-1: The laboratory noted that Sample GEI010-DP3(2-2.5) was listed as GEI010-DP3(1.5-2.5) on the sample vial labels and written as GEI010-DP3(2-2.5) on the COC. The sample was logged according to the COC.

Holding Times and Sample Preservation

The sample holding time is defined as the time that elapses between sample collection and sample analysis. Maximum holding time criteria exist for each analysis to help ensure that the analyte concentrations found at the time of analysis reflect the concentration present at the time of sample collection. Established holding times were met for each analysis. The sample cooler arrived at the laboratory outside the appropriate temperatures of between2 and 6 degrees Celsius. The out-of-compliance cooler temperature is detailed below.

SDG 590-10924-1: The sample cooler temperature recorded at the laboratory was 7.8 degrees Celsius. The samples were collected on 5/1/2019, kept on ice during sampling, and stored in GeoEngineers field refrigerator until 5/3/2019. On 5/3/2019, the samples were placed in a cooler on ice and relinquished to the laboratory. It was determined through professional judgment that since the samples were stored in the GeoEngineers field refrigerator until the day they were relinquished on ice to the laboratory, this temperature is likely isolated to the time between transit and being relinquished and should not affect the sample analytical results.

Surrogate Recoveries

A surrogate compound is a compound that is chemically similar to the organic analytes of interest, but unlikely to be found in an environmental sample. Surrogates are used for organic analyses and are added to the samples, standards, and blanks to serve as an accuracy and specificity check of each analysis. The surrogates are added to the samples at a known concentration and percent recoveries are calculated following analysis. The surrogate percent recoveries for field samples were within the laboratory control limits.

Method and Trip Blanks

Method Blanks

Method blanks are analyzed to ensure that laboratory procedures and reagents do not introduce measurable concentrations of the analytes of interest. A method blank was analyzed with each batch of samples, at a frequency of 1 per 20 samples. For each sample batch, method blanks for the applicable methods were analyzed at the required frequency. None of the analytes of interest were detected in the method blanks.

Trip Blanks

Trip blanks are analyzed to provide an indication as to whether volatile compounds have cross-contaminated other like samples within the transportation process to the laboratory. None of the analytes of interest were detected in the trip blank.

Matrix Spikes/Matrix Spike Duplicates

Since the actual analyte concentration in an environmental sample is not known, the accuracy of a particular analysis is usually inferred by performing a matrix spike (MS) analysis on one sample from the associated batch, known as the parent sample. One aliquot of the sample is analyzed in the normal manner and then a second aliquot of the sample is spiked with a known amount of analyte concentration and analyzed. From these analyses, a percent recovery is calculated. Matrix spike duplicate (MSD) analyses are generally performed for organic analyses as a precision check and analyzed in the same sequence as a matrix spike. Using the result values from the MS and MSD, the relative percent difference (RPD) is calculated. The percent recovery control limits for MS and MSD analyses are specified in the laboratory documents, as are the RPD control limits for MS/MSD sample sets.

One MS/MSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for each analysis and the percent recovery and RPD values were within the proper control limits.

Laboratory Control Samples/Laboratory Control Sample Duplicates

A laboratory control sample (LCS) is a blank sample that is spiked with a known amount of analyte and then analyzed. An LCS is similar to an MS, but without the possibility of matrix interference. Given that matrix interference is not an issue, the LCS/LCSD control limits for accuracy and precision are usually more rigorous than for MS/MSD analyses. Additionally, data qualification based on LCS/LCSD analyses would apply to all samples in the associated batch, instead of just the parent sample. The percent recovery control limits for LCS and LCSD analyses are specified in the laboratory documents, as are the RPD control limits for LCS/LCSD sample sets.

One LCS/LCSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the percent recovery and RPD values were within the proper control limits.

Laboratory Duplicates

Internal laboratory duplicate analyses are performed to monitor the precision of the analyses. Two separate aliquots of a sample are analyzed as distinct samples in the laboratory and the RPD between the two results is calculated. Duplicate analyses should be performed once per analytical batch. If one or more of the samples used has a concentration less than five times the reporting limit for that sample, the absolute difference is used instead of the RPD. The RPD control limits are specified in the laboratory documents. Laboratory duplicates were analyzed at the proper frequency and the specified acceptance criteria were met.

OVERALL ASSESSMENT

As was determined by this data validation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the surrogate, LCS/LCSD, and MS/MSD percent recovery values. Precision was acceptable, as demonstrated by the LCS/LCSD, MS/MSD, and laboratory duplicate RPD values.

No analytical results were qualified. The data are acceptable for the intended use.

REFERENCES

GeoEngineers, Inc. (GeoEngineers). 2019. "Work Plan, Former Bear Mart Auto Sales," prepared for Washington State Department of Ecology. April 23, 2019.

U.S. Environmental Protection Agency (EPA). 2009. "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use," EPA-540-R-08-005. January 2009.

U.S. Environmental Protection Agency (EPA), 2017a. "Contract Laboratory Program National Functional Guidelines for Organic Superfund Methods Data Review," EPA-540-R-2017-002. January 2017.

U.S. Environmental Protection Agency (EPA), 2017b. "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Methods Data Review," EPA-540-R-2017-001. January 2017.

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ANALYTICAL REPORT

Eurofins TestAmerica, Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

Laboratory Job ID: 590-10924-1
Client Project/Site: Bear Mart Auto Sales/00504-157-00

For:
GeoEngineers Inc
523 East Second Ave
Spokane, Washington 99202

Attn: Scott Lathen

Authorized for release by:
5/15/2019 10:33:16 AM

Randee Arrington, Project Manager II
(509)924-9200
randee.arrington@testamericainc.com

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Case Narrative

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Job ID: 590-10924-1

Laboratory: Eurofins TestAmerica, Spokane

Narrative

Receipt
The samples were received on 5/3/2019 11:55 AM; the samples arrived in good condition. The temperature of the cooler at receipt was 7.8º C.

Receipt Exceptions
The following samples were received at the laboratory outside the required temperature criteria: GEI010-DP1(4-5) (590-10924-1), GEI010-DP1(9-10) (590-10924-2), GEI010-DP2(2-2.5) (590-10924-3), GEI010-DP3(2-2.5) (590-10924-4), GEI010-DP4(1-2) (590-10924-5) and Trip Blank (590-10924-6). Samples were received in the original boxes with an ice bag placed on top without a temp blank.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): GEI010-DP3(2-2.5) (590-10924-4). The container labels list GEI010-DP3(1.5-2.5), while the COC lists GEI010-DP3(2-2.5). The sample was logged in per the COC.

GC/MS VOA
Method 8260C: The continuing calibration verification (CCV) associated with batch 590-22082 recovered above the upper control limit for 1,1-Dichloroethene, Bromochloromethane and Methylene Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. Because the %D for Methylene Chloride was greater than 40, the results are estimates. The following samples are impacted: GEI010-DP1(9-10) (590-10924-2), GEI010-DP2(2-2.5) (590-10924-3), GEI010-DP3(2-2.5) (590-10924-4), GEI010-DP4(1-2) (590-10924-5), Trip Blank (590-10924-6) and (CCVIS 590-22082/3).

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

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

Metals
Method 6010C: The post digestion spike % associated with batch 590-22160 was below acceptance limits at 77% (acceptance range 80%-120%). The following samples are impacted: GEI010-DP1(9-10) (590-10924-2), GEI010-DP2(2-2.5) (590-10924-3), GEI010-DP3(2-2.5) (590-10924-4) and GEI010-DP4(1-2) (590-10924-5).

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

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

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

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

Sample Summary

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-10924-2	GEI010-DP1(9-10)	Solid	05/01/19 08:50	05/03/19 11:55
590-10924-3	GEI010-DP2(2-2.5)	Solid	05/01/19 10:00	05/03/19 11:55
590-10924-4	GEI010-DP3(2-2.5)	Solid	05/01/19 12:10	05/03/19 11:55
590-10924-5	GEI010-DP4(1-2)	Solid	05/01/19 13:00	05/03/19 11:55
590-10924-6	Trip Blank	Solid	05/01/19 08:30	05/03/19 11:55

Definitions/Glossary

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Client Sample ID: GEI010-DP1(9-10)
Lab Sample ID: 590-10924-2
Date Collected: 05/01/19 08:50
Matrix: Solid
Date Received: 05/03/19 11:55
Percent Solids: 90.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,1,1-Trichloroethane	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,1,2,2-Tetrachloroethane	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,1,2-Trichloroethane	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,1,2-Trichlorotrifluoroethane	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,1-Dichloroethane	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,1-Dichloroethene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,1-Dichloropropene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,2,3-Trichlorobenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,2,3-Trichloropropane	ND		0.24		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,2,4-Trichlorobenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,2,4-Trimethylbenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,2-Dibromo-3-Chloropropane	ND		0.61		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,2-Dibromoethane (EDB)	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,2-Dichlorobenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,2-Dichloroethane	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,2-Dichloropropane	ND		0.15		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,3,5-Trimethylbenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,3-Dichlorobenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,3-Dichloropropane	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
1,4-Dichlorobenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
2,2-Dichloropropane	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
2-Butanone (MEK)	ND		1.2		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
2-Chlorotoluene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
4-Chlorotoluene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
4-Methyl-2-pentanone (MIBK)	ND		1.2		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Acetone	ND		3.6		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Allyl chloride	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Benzene	ND		0.024		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Bromobenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Bromochloromethane	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Bromodichloromethane	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Bromoform	ND		0.24		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Bromomethane	ND		0.61		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Carbon tetrachloride	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Chlorobenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Chloroethane	ND		0.24		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Chloroform	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Chloromethane	ND		0.61		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
cis-1,2-Dichloroethene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
cis-1,3-Dichloropropene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Dibromochloromethane	ND		0.24		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Dibromomethane	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Dichlorodifluoromethane	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Dichlorofluoromethane	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Ethyl ether	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Ethylbenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Hexachlorobutadiene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Isopropylbenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Client Sample ID: GEI010-DP1(9-10)
Lab Sample ID: 590-10924-2
Date Collected: 05/01/19 08:50
Matrix: Solid
Date Received: 05/03/19 11:55
Percent Solids: 90.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		0.48		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Methyl tert-butyl ether	ND		0.061		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Methylene Chloride	ND		0.42		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Naphthalene	ND		0.24		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
n-Butylbenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
N-Propylbenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
o-Xylene	ND		0.24		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
p-Isopropyltoluene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
sec-Butylbenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Styrene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
tert-Butylbenzene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Tetrachloroethene	ND		0.048		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Tetrahydrofuran	ND		0.24		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Toluene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
trans-1,2-Dichloroethene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
trans-1,3-Dichloropropene	ND		0.12		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Trichloroethene	ND		0.030		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Trichlorofluoromethane	ND		0.24		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1
Vinyl chloride	ND		0.073		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 120*	*05/08/19 09:38*	*05/08/19 12:44*	*1*
4-Bromofluorobenzene (Surr)	*96*		*76 - 122*	*05/08/19 09:38*	*05/08/19 12:44*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*	*05/08/19 09:38*	*05/08/19 12:44*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*05/08/19 09:38*	*05/08/19 12:44*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		6.1		mg/Kg	☼	05/08/19 09:38	05/08/19 12:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*41.5 - 162*	*05/08/19 09:38*	*05/08/19 12:44*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		10		mg/Kg	☼	05/13/19 11:14	05/13/19 18:52	1
Residual Range Organics (RRO) (C25-C36)	ND		26		mg/Kg	☼	05/13/19 11:14	05/13/19 18:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*83*		*50 - 150*	*05/13/19 11:14*	*05/13/19 18:52*	*1*
n-Triacontane-d62	*88*		*50 - 150*	*05/13/19 11:14*	*05/13/19 18:52*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.6		mg/Kg	☼	05/09/19 11:33	05/13/19 11:44	1

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Client Sample ID: GEI010-DP2(2-2.5)
Lab Sample ID: 590-10924-3
Date Collected: 05/01/19 10:00
Matrix: Solid
Date Received: 05/03/19 11:55
Percent Solids: 90.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,1,1-Trichloroethane	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,1,2,2-Tetrachloroethane	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,1,2-Trichloroethane	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,1,2-Trichlorotrifluoroethane	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,1-Dichloroethane	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,1-Dichloroethene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,1-Dichloropropene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,2,3-Trichlorobenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,2,3-Trichloropropane	ND		0.21		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,2,4-Trichlorobenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,2,4-Trimethylbenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,2-Dibromo-3-Chloropropane	ND		0.53		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,2-Dibromoethane (EDB)	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,2-Dichlorobenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,2-Dichloroethane	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,2-Dichloropropane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,3,5-Trimethylbenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,3-Dichlorobenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,3-Dichloropropane	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
1,4-Dichlorobenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
2,2-Dichloropropane	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
2-Butanone (MEK)	ND		1.1		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
2-Chlorotoluene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
4-Chlorotoluene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
4-Methyl-2-pentanone (MIBK)	ND		1.1		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Acetone	ND		3.2		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Allyl chloride	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Benzene	ND		0.021		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Bromobenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Bromochloromethane	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Bromodichloromethane	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Bromoform	ND		0.21		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Bromomethane	ND		0.53		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Carbon tetrachloride	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Chlorobenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Chloroethane	ND		0.21		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Chloroform	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Chloromethane	ND		0.53		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
cis-1,2-Dichloroethene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
cis-1,3-Dichloropropene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Dibromochloromethane	ND		0.21		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Dibromomethane	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Dichlorodifluoromethane	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Dichlorofluoromethane	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Ethyl ether	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Ethylbenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Hexachlorobutadiene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Isopropylbenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Client Sample ID: GEI010-DP2(2-2.5)
Lab Sample ID: 590-10924-3
Date Collected: 05/01/19 10:00
Matrix: Solid
Date Received: 05/03/19 11:55
Percent Solids: 90.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		0.43		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Methyl tert-butyl ether	ND		0.053		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Methylene Chloride	ND		0.37		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Naphthalene	ND		0.21		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
n-Butylbenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
N-Propylbenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
o-Xylene	ND		0.21		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
p-Isopropyltoluene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
sec-Butylbenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Styrene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
tert-Butylbenzene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Tetrachloroethene	ND		0.043		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Tetrahydrofuran	ND		0.21		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Toluene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
trans-1,2-Dichloroethene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
trans-1,3-Dichloropropene	ND		0.11		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Trichloroethene	ND		0.027		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Trichlorofluoromethane	ND		0.21		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1
Vinyl chloride	ND		0.064		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 120*	*05/08/19 09:38*	*05/08/19 13:05*	*1*
4-Bromofluorobenzene (Surr)	*102*		*76 - 122*	*05/08/19 09:38*	*05/08/19 13:05*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*	*05/08/19 09:38*	*05/08/19 13:05*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*05/08/19 09:38*	*05/08/19 13:05*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.3		mg/Kg	☼	05/08/19 09:38	05/08/19 13:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41.5 - 162*	*05/08/19 09:38*	*05/08/19 13:05*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		11		mg/Kg	☼	05/13/19 11:14	05/13/19 19:12	1
Residual Range Organics (RRO) (C25-C36)	ND		27		mg/Kg	☼	05/13/19 11:14	05/13/19 19:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*		*50 - 150*	*05/13/19 11:14*	*05/13/19 19:12*	*1*
n-Triacontane-d62	*84*		*50 - 150*	*05/13/19 11:14*	*05/13/19 19:12*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**4.4**		2.8		mg/Kg	☼	05/09/19 11:33	05/13/19 12:06	1

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Client Sample ID: GEI010-DP3(2-2.5)
Lab Sample ID: 590-10924-4
Date Collected: 05/01/19 12:10
Matrix: Solid
Date Received: 05/03/19 11:55
Percent Solids: 83.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,1,1-Trichloroethane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,1,2,2-Tetrachloroethane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,1,2-Trichloroethane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,1,2-Trichlorotrifluoroethane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,1-Dichloroethane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,1-Dichloroethene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,1-Dichloropropene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,2,3-Trichlorobenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,2,3-Trichloropropane	ND		0.27		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,2,4-Trichlorobenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,2,4-Trimethylbenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,2-Dibromo-3-Chloropropane	ND		0.67		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,2-Dibromoethane (EDB)	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,2-Dichlorobenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,2-Dichloroethane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,2-Dichloropropane	ND		0.16		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,3,5-Trimethylbenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,3-Dichlorobenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,3-Dichloropropane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
1,4-Dichlorobenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
2,2-Dichloropropane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
2-Butanone (MEK)	ND		1.3		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
2-Chlorotoluene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
4-Chlorotoluene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
4-Methyl-2-pentanone (MIBK)	ND		1.3		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Acetone	ND		4.0		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Allyl chloride	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Benzene	ND		0.027		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Bromobenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Bromochloromethane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Bromodichloromethane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Bromoform	ND		0.27		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Bromomethane	ND		0.67		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Carbon tetrachloride	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Chlorobenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Chloroethane	ND		0.27		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Chloroform	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Chloromethane	ND		0.67		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
cis-1,2-Dichloroethene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
cis-1,3-Dichloropropene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Dibromochloromethane	ND		0.27		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Dibromomethane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Dichlorodifluoromethane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Dichlorofluoromethane	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Ethyl ether	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Ethylbenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Hexachlorobutadiene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Isopropylbenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Client Sample ID: GEI010-DP3(2-2.5)
Lab Sample ID: 590-10924-4
Date Collected: 05/01/19 12:10
Matrix: Solid
Date Received: 05/03/19 11:55
Percent Solids: 83.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		0.54		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Methyl tert-butyl ether	ND		0.067		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Methylene Chloride	ND		0.47		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Naphthalene	ND		0.27		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
n-Butylbenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
N-Propylbenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
o-Xylene	ND		0.27		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
p-Isopropyltoluene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
sec-Butylbenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Styrene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
tert-Butylbenzene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Tetrachloroethene	ND		0.054		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Tetrahydrofuran	ND		0.27		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Toluene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
trans-1,2-Dichloroethene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
trans-1,3-Dichloropropene	ND		0.13		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Trichloroethene	ND		0.034		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Trichlorofluoromethane	ND		0.27		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1
Vinyl chloride	ND		0.081		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 120*	*05/08/19 09:38*	*05/08/19 13:26*	*1*
4-Bromofluorobenzene (Surr)	*102*		*76 - 122*	*05/08/19 09:38*	*05/08/19 13:26*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*	*05/08/19 09:38*	*05/08/19 13:26*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*	*05/08/19 09:38*	*05/08/19 13:26*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		6.7		mg/Kg	☼	05/08/19 09:38	05/08/19 13:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41.5 - 162*	*05/08/19 09:38*	*05/08/19 13:26*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		12		mg/Kg	☼	05/13/19 11:14	05/13/19 19:52	1
Residual Range Organics (RRO) (C25-C36)	**44**		29		mg/Kg	☼	05/13/19 11:14	05/13/19 19:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*05/13/19 11:14*	*05/13/19 19:52*	*1*
n-Triacontane-d62	*97*		*50 - 150*	*05/13/19 11:14*	*05/13/19 19:52*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**41**		2.9		mg/Kg	☼	05/09/19 11:33	05/13/19 12:19	1

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Client Sample ID: GEI010-DP4(1-2)
Lab Sample ID: 590-10924-5
Date Collected: 05/01/19 13:00
Matrix: Solid
Date Received: 05/03/19 11:55
Percent Solids: 79.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,1,1-Trichloroethane	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,1,2,2-Tetrachloroethane	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,1,2-Trichloroethane	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,1,2-Trichlorotrifluoroethane	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,1-Dichloroethane	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,1-Dichloroethene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,1-Dichloropropene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,2,3-Trichlorobenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,2,3-Trichloropropane	ND		0.28		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,2,4-Trichlorobenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,2,4-Trimethylbenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,2-Dibromo-3-Chloropropane	ND		0.70		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,2-Dibromoethane (EDB)	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,2-Dichlorobenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,2-Dichloroethane	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,2-Dichloropropane	ND		0.17		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,3,5-Trimethylbenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,3-Dichlorobenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,3-Dichloropropane	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
1,4-Dichlorobenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
2,2-Dichloropropane	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
2-Butanone (MEK)	ND		1.4		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
2-Chlorotoluene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
4-Chlorotoluene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
4-Methyl-2-pentanone (MIBK)	ND		1.4		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Acetone	ND		4.2		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Allyl chloride	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Benzene	ND		0.028		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Bromobenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Bromochloromethane	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Bromodichloromethane	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Bromoform	ND		0.28		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Bromomethane	ND		0.70		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Carbon tetrachloride	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Chlorobenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Chloroethane	ND		0.28		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Chloroform	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Chloromethane	ND		0.70		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
cis-1,2-Dichloroethene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
cis-1,3-Dichloropropene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Dibromochloromethane	ND		0.28		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Dibromomethane	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Dichlorodifluoromethane	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Dichlorofluoromethane	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Ethyl ether	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Ethylbenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Hexachlorobutadiene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Isopropylbenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1

Client Sample ID: GEI010-DP4(1-2)
Lab Sample ID: 590-10924-5
Date Collected: 05/01/19 13:00
Matrix: Solid
Date Received: 05/03/19 11:55
Percent Solids: 79.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		0.56		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Methyl tert-butyl ether	ND		0.070		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Methylene Chloride	ND		0.49		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Naphthalene	ND		0.28		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
n-Butylbenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
N-Propylbenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
o-Xylene	ND		0.28		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
p-Isopropyltoluene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
sec-Butylbenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Styrene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
tert-Butylbenzene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Tetrachloroethene	ND		0.056		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Tetrahydrofuran	ND		0.28		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Toluene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
trans-1,2-Dichloroethene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
trans-1,3-Dichloropropene	ND		0.14		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Trichloroethene	ND		0.035		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Trichlorofluoromethane	ND		0.28		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1
Vinyl chloride	ND		0.084		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 120*	*05/08/19 09:38*	*05/08/19 14:08*	*1*
4-Bromofluorobenzene (Surr)	*99*		*76 - 122*	*05/08/19 09:38*	*05/08/19 14:08*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*	*05/08/19 09:38*	*05/08/19 14:08*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*05/08/19 09:38*	*05/08/19 14:08*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		7.0		mg/Kg	☼	05/08/19 09:38	05/08/19 14:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41.5 - 162*	*05/08/19 09:38*	*05/08/19 14:08*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		12		mg/Kg	☼	05/13/19 11:14	05/13/19 20:12	1
Residual Range Organics (RRO) (C25-C36)	ND		30		mg/Kg	☼	05/13/19 11:14	05/13/19 20:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*78*		*50 - 150*	*05/13/19 11:14*	*05/13/19 20:12*	*1*
n-Triacontane-d62	*80*		*50 - 150*	*05/13/19 11:14*	*05/13/19 20:12*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**5.3**		2.8		mg/Kg	☼	05/09/19 11:33	05/13/19 12:23	1

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Client Sample ID: Trip Blank
Lab Sample ID: 590-10924-6
Date Collected: 05/01/19 08:30
Matrix: Solid
Date Received: 05/03/19 11:55

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,1,1-Trichloroethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,1,2,2-Tetrachloroethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,1,2-Trichloroethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,1,2-Trichlorotrifluoroethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,1-Dichloroethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,1-Dichloroethene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,1-Dichloropropene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,2,3-Trichlorobenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,2,3-Trichloropropane	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,2,4-Trichlorobenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,2,4-Trimethylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,2-Dibromo-3-Chloropropane	ND		0.50		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,2-Dibromoethane (EDB)	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,2-Dichlorobenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,2-Dichloroethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,2-Dichloropropane	ND		0.12		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,3,5-Trimethylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,3-Dichlorobenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,3-Dichloropropane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
1,4-Dichlorobenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
2,2-Dichloropropane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
2-Butanone (MEK)	ND		1.0		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
2-Chlorotoluene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
4-Chlorotoluene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
4-Methyl-2-pentanone (MIBK)	ND		1.0		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Acetone	ND		3.0		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Allyl chloride	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Benzene	ND		0.020		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Bromobenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Bromochloromethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Bromodichloromethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Bromoform	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Bromomethane	ND		0.50		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Carbon tetrachloride	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Chlorobenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Chloroethane	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Chloroform	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Chloromethane	ND		0.50		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
cis-1,2-Dichloroethene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
cis-1,3-Dichloropropene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Dibromochloromethane	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Dibromomethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Dichlorodifluoromethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Dichlorofluoromethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Ethyl ether	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Ethylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Hexachlorobutadiene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Isopropylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Client Sample ID: Trip Blank
Lab Sample ID: 590-10924-6
Date Collected: 05/01/19 08:30
Matrix: Solid
Date Received: 05/03/19 11:55

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		0.40		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Methyl tert-butyl ether	ND		0.050		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Methylene Chloride	ND		0.35		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Naphthalene	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
n-Butylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
N-Propylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
o-Xylene	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
p-Isopropyltoluene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
sec-Butylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Styrene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
tert-Butylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Tetrachloroethene	ND		0.040		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Tetrahydrofuran	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Toluene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
trans-1,2-Dichloroethene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
trans-1,3-Dichloropropene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Trichloroethene	ND		0.025		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Trichlorofluoromethane	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 14:29	1
Vinyl chloride	ND		0.060		mg/Kg		05/08/19 09:38	05/08/19 14:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 120*	*05/08/19 09:38*	*05/08/19 14:29*	*1*
4-Bromofluorobenzene (Surr)	*102*		*76 - 122*	*05/08/19 09:38*	*05/08/19 14:29*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*	*05/08/19 09:38*	*05/08/19 14:29*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*05/08/19 09:38*	*05/08/19 14:29*	*1*

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 590-22089/1-A
Matrix: Solid
Analysis Batch: 22082

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 22089

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,1,1-Trichloroethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,1,2,2-Tetrachloroethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,1,2-Trichloroethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,1,2-Trichlorotrifluoroethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,1-Dichloroethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,1-Dichloroethene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,1-Dichloropropene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,2,3-Trichlorobenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,2,3-Trichloropropane	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,2,4-Trichlorobenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,2,4-Trimethylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,2-Dibromo-3-Chloropropane	ND		0.50		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,2-Dibromoethane (EDB)	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,2-Dichlorobenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,2-Dichloroethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,2-Dichloropropane	ND		0.12		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,3,5-Trimethylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,3-Dichlorobenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,3-Dichloropropane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
1,4-Dichlorobenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
2,2-Dichloropropane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
2-Butanone (MEK)	ND		1.0		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
2-Chlorotoluene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
4-Chlorotoluene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
4-Methyl-2-pentanone (MIBK)	ND		1.0		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Acetone	ND		3.0		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Allyl chloride	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Benzene	ND		0.020		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Bromobenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Bromochloromethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Bromodichloromethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Bromoform	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Bromomethane	ND		0.50		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Carbon tetrachloride	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Chlorobenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Chloroethane	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Chloroform	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Chloromethane	ND		0.50		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
cis-1,2-Dichloroethene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
cis-1,3-Dichloropropene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Dibromochloromethane	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Dibromomethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Dichlorodifluoromethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Dichlorofluoromethane	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Ethyl ether	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Ethylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Hexachlorobutadiene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 590-22089/1-A
Matrix: Solid
Analysis Batch: 22082

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 22089

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
m,p-Xylene	ND		0.40		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Methyl tert-butyl ether	ND		0.050		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Methylene Chloride	ND		0.35		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Naphthalene	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
n-Butylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
N-Propylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
o-Xylene	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
p-Isopropyltoluene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
sec-Butylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Styrene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
tert-Butylbenzene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Tetrachloroethene	ND		0.040		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Tetrahydrofuran	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Toluene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
trans-1,2-Dichloroethene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
trans-1,3-Dichloropropene	ND		0.10		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Trichloroethene	ND		0.025		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Trichlorofluoromethane	ND		0.20		mg/Kg		05/08/19 09:38	05/08/19 09:40	1
Vinyl chloride	ND		0.060		mg/Kg		05/08/19 09:38	05/08/19 09:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 120*	*05/08/19 09:38*	*05/08/19 09:40*	*1*
4-Bromofluorobenzene (Surr)	*99*		*76 - 122*	*05/08/19 09:38*	*05/08/19 09:40*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*	*05/08/19 09:38*	*05/08/19 09:40*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*05/08/19 09:38*	*05/08/19 09:40*	*1*

Lab Sample ID: LCS 590-22089/2-A
Matrix: Solid
Analysis Batch: 22082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22089

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	0.500	0.503		mg/Kg		101	80 - 128
1,1,1-Trichloroethane	0.500	0.544		mg/Kg		109	74 - 138
1,1,2,2-Tetrachloroethane	0.500	0.495		mg/Kg		99	68 - 128
1,1,2-Trichloroethane	0.500	0.515		mg/Kg		103	74 - 125
1,1,2-Trichlorotrifluoroethane	0.500	0.526		mg/Kg		105	75 - 132
1,1-Dichloroethane	0.500	0.546		mg/Kg		109	70 - 139
1,1-Dichloroethene	0.500	0.577		mg/Kg		115	73 - 135
1,1-Dichloropropene	0.500	0.542		mg/Kg		108	78 - 132
1,2,3-Trichlorobenzene	0.500	0.414		mg/Kg		83	62 - 127
1,2,3-Trichloropropane	0.500	0.507		mg/Kg		101	67 - 131
1,2,4-Trichlorobenzene	0.500	0.464		mg/Kg		93	67 - 126
1,2,4-Trimethylbenzene	0.500	0.507		mg/Kg		101	76 - 132
1,2-Dibromo-3-Chloropropane	0.500	0.466	J	mg/Kg		93	49 - 132
1,2-Dibromoethane (EDB)	0.500	0.463		mg/Kg		93	71 - 121
1,2-Dichlorobenzene	0.500	0.493		mg/Kg		99	73 - 124
1,2-Dichloroethane	0.500	0.490		mg/Kg		98	70 - 129

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 590-22089/2-A
Matrix: Solid
Analysis Batch: 22082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22089

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	0.500	0.516		mg/Kg		103	75 - 129
1,3,5-Trimethylbenzene	0.500	0.522		mg/Kg		104	76 - 133
1,3-Dichlorobenzene	0.500	0.499		mg/Kg		100	80 - 130
1,3-Dichloropropane	0.500	0.494		mg/Kg		99	76 - 125
1,4-Dichlorobenzene	0.500	0.502		mg/Kg		100	72 - 125
2,2-Dichloropropane	0.500	0.579		mg/Kg		116	60 - 150
2-Butanone (MEK)	2.50	2.85		mg/Kg		114	61 - 144
2-Chlorotoluene	0.500	0.507		mg/Kg		101	77 - 129
4-Chlorotoluene	0.500	0.512		mg/Kg		102	77 - 133
4-Methyl-2-pentanone (MIBK)	2.50	2.48		mg/Kg		99	68 - 131
Acetone	2.50	3.21		mg/Kg		128	40 - 150
Allyl chloride	0.500	0.587		mg/Kg		117	63 - 143
Benzene	0.500	0.550		mg/Kg		110	76 - 129
Bromobenzene	0.500	0.511		mg/Kg		102	75 - 129
Bromochloromethane	0.500	0.626		mg/Kg		125	69 - 139
Bromodichloromethane	0.500	0.518		mg/Kg		104	72 - 128
Bromoform	0.500	0.479		mg/Kg		96	64 - 133
Bromomethane	0.500	0.438	J	mg/Kg		88	56 - 138
Carbon tetrachloride	0.500	0.533		mg/Kg		107	74 - 135
Chlorobenzene	0.500	0.496		mg/Kg		99	80 - 129
Chloroethane	0.500	0.484		mg/Kg		97	61 - 142
Chloroform	0.500	0.554		mg/Kg		111	73 - 130
Chloromethane	0.500	0.416	J	mg/Kg		83	46 - 120
cis-1,2-Dichloroethene	0.500	0.541		mg/Kg		108	73 - 135
cis-1,3-Dichloropropene	0.500	0.533		mg/Kg		107	70 - 126
Dibromochloromethane	0.500	0.471		mg/Kg		94	67 - 127
Dibromomethane	0.500	0.497		mg/Kg		99	67 - 129
Dichlorodifluoromethane	0.500	0.356		mg/Kg		71	20 - 120
Dichlorofluoromethane	0.500	0.546		mg/Kg		109	66 - 150
Ethyl ether	0.500	0.528		mg/Kg		106	69 - 137
Ethylbenzene	0.500	0.534		mg/Kg		107	77 - 133
Hexachlorobutadiene	0.500	0.497		mg/Kg		99	72 - 130
Isopropylbenzene	0.500	0.506		mg/Kg		101	78 - 131
m,p-Xylene	0.500	0.521		mg/Kg		104	78 - 130
Methyl tert-butyl ether	0.500	0.544		mg/Kg		109	67 - 130
Methylene Chloride	0.500	0.655		mg/Kg		131	46 - 150
Naphthalene	0.500	0.402		mg/Kg		80	62 - 128
n-Butylbenzene	0.500	0.519		mg/Kg		104	73 - 131
N-Propylbenzene	0.500	0.525		mg/Kg		105	77 - 131
o-Xylene	0.500	0.506		mg/Kg		101	77 - 129
p-Isopropyltoluene	0.500	0.518		mg/Kg		104	73 - 130
sec-Butylbenzene	0.500	0.527		mg/Kg		105	76 - 130
Styrene	0.500	0.512		mg/Kg		102	70 - 128
tert-Butylbenzene	0.500	0.516		mg/Kg		103	76 - 130
Tetrachloroethene	0.500	0.508		mg/Kg		102	77 - 134
Tetrahydrofuran	1.00	0.999		mg/Kg		100	56 - 140
Toluene	0.500	0.524		mg/Kg		105	77 - 131
trans-1,2-Dichloroethene	0.500	0.546		mg/Kg		109	73 - 133
trans-1,3-Dichloropropene	0.500	0.503		mg/Kg		101	74 - 124

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 590-22089/2-A
Matrix: Solid
Analysis Batch: 22082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22089

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Trichloroethene			0.500	0.529		mg/Kg		106	79 - 133		
Trichlorofluoromethane			0.500	0.504		mg/Kg		101	64 - 133		
Vinyl chloride			0.500	0.516		mg/Kg		103	57 - 129		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 120*
4-Bromofluorobenzene (Surr)	*100*		*76 - 122*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 590-22089/3-A
Matrix: Solid
Analysis Batch: 22082

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 22089

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane			0.500	0.507		mg/Kg		101	80 - 128	1	25
1,1,1-Trichloroethane			0.500	0.583		mg/Kg		117	74 - 138	7	32
1,1,2,2-Tetrachloroethane			0.500	0.503		mg/Kg		101	68 - 128	2	31
1,1,2-Trichloroethane			0.500	0.507		mg/Kg		101	74 - 125	2	31
1,1,2-Trichlorotrifluoroethane			0.500	0.555		mg/Kg		111	75 - 132	5	25
1,1-Dichloroethane			0.500	0.570		mg/Kg		114	70 - 139	4	25
1,1-Dichloroethene			0.500	0.615		mg/Kg		123	73 - 135	6	25
1,1-Dichloropropene			0.500	0.577		mg/Kg		115	78 - 132	6	33
1,2,3-Trichlorobenzene			0.500	0.481		mg/Kg		96	62 - 127	15	25
1,2,3-Trichloropropane			0.500	0.511		mg/Kg		102	67 - 131	1	40
1,2,4-Trichlorobenzene			0.500	0.507		mg/Kg		101	67 - 126	9	25
1,2,4-Trimethylbenzene			0.500	0.533		mg/Kg		107	76 - 132	5	34
1,2-Dibromo-3-Chloropropane			0.500	0.457	J	mg/Kg		91	49 - 132	2	37
1,2-Dibromoethane (EDB)			0.500	0.472		mg/Kg		94	71 - 121	2	32
1,2-Dichlorobenzene			0.500	0.538		mg/Kg		108	73 - 124	9	25
1,2-Dichloroethane			0.500	0.532		mg/Kg		106	70 - 129	8	25
1,2-Dichloropropane			0.500	0.531		mg/Kg		106	75 - 129	3	35
1,3,5-Trimethylbenzene			0.500	0.546		mg/Kg		109	76 - 133	4	31
1,3-Dichlorobenzene			0.500	0.531		mg/Kg		106	80 - 130	6	34
1,3-Dichloropropane			0.500	0.499		mg/Kg		100	76 - 125	1	31
1,4-Dichlorobenzene			0.500	0.517		mg/Kg		103	72 - 125	3	34
2,2-Dichloropropane			0.500	0.608		mg/Kg		122	60 - 150	5	40
2-Butanone (MEK)			2.50	2.92		mg/Kg		117	61 - 144	2	37
2-Chlorotoluene			0.500	0.543		mg/Kg		109	77 - 129	7	31
4-Chlorotoluene			0.500	0.543		mg/Kg		109	77 - 133	6	25
4-Methyl-2-pentanone (MIBK)			2.50	2.50		mg/Kg		100	68 - 131	1	35
Acetone			2.50	3.38		mg/Kg		135	40 - 150	5	39
Allyl chloride			0.500	0.593		mg/Kg		119	63 - 143	1	25
Benzene			0.500	0.580		mg/Kg		116	76 - 129	5	25
Bromobenzene			0.500	0.523		mg/Kg		105	75 - 129	2	25
Bromochloromethane			0.500	0.655		mg/Kg		131	69 - 139	5	25
Bromodichloromethane			0.500	0.546		mg/Kg		109	72 - 128	5	34
Bromoform			0.500	0.487		mg/Kg		97	64 - 133	2	34

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 590-22089/3-A
Matrix: Solid
Analysis Batch: 22082

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 22089

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromomethane			0.500	0.445	J	mg/Kg		89	56 - 138	2	32
Carbon tetrachloride			0.500	0.556		mg/Kg		111	74 - 135	4	25
Chlorobenzene			0.500	0.498		mg/Kg		100	80 - 129	0	25
Chloroethane			0.500	0.497		mg/Kg		99	61 - 142	3	25
Chloroform			0.500	0.576		mg/Kg		115	73 - 130	4	25
Chloromethane			0.500	0.416	J	mg/Kg		83	46 - 120	0	38
cis-1,2-Dichloroethene			0.500	0.564		mg/Kg		113	73 - 135	4	33
cis-1,3-Dichloropropene			0.500	0.568		mg/Kg		114	70 - 126	6	31
Dibromochloromethane			0.500	0.477		mg/Kg		95	67 - 127	1	25
Dibromomethane			0.500	0.528		mg/Kg		106	67 - 129	6	31
Dichlorodifluoromethane			0.500	0.384		mg/Kg		77	20 - 120	7	40
Dichlorofluoromethane			0.500	0.561		mg/Kg		112	66 - 150	3	31
Ethyl ether			0.500	0.567		mg/Kg		113	69 - 137	7	25
Ethylbenzene			0.500	0.540		mg/Kg		108	77 - 133	1	25
Hexachlorobutadiene			0.500	0.582		mg/Kg		116	72 - 130	16	25
Isopropylbenzene			0.500	0.501		mg/Kg		100	78 - 131	1	31
m,p-Xylene			0.500	0.537		mg/Kg		107	78 - 130	3	32
Methyl tert-butyl ether			0.500	0.558		mg/Kg		112	67 - 130	3	25
Methylene Chloride			0.500	0.707		mg/Kg		141	46 - 150	8	40
Naphthalene			0.500	0.448		mg/Kg		90	62 - 128	11	36
n-Butylbenzene			0.500	0.548		mg/Kg		110	73 - 131	6	34
N-Propylbenzene			0.500	0.558		mg/Kg		112	77 - 131	6	25
o-Xylene			0.500	0.516		mg/Kg		103	77 - 129	2	31
p-Isopropyltoluene			0.500	0.555		mg/Kg		111	73 - 130	7	36
sec-Butylbenzene			0.500	0.550		mg/Kg		110	76 - 130	4	34
Styrene			0.500	0.516		mg/Kg		103	70 - 128	1	25
tert-Butylbenzene			0.500	0.553		mg/Kg		111	76 - 130	7	35
Tetrachloroethene			0.500	0.540		mg/Kg		108	77 - 134	6	33
Tetrahydrofuran			1.00	0.993		mg/Kg		99	56 - 140	1	36
Toluene			0.500	0.536		mg/Kg		107	77 - 131	2	36
trans-1,2-Dichloroethene			0.500	0.564		mg/Kg		113	73 - 133	3	25
trans-1,3-Dichloropropene			0.500	0.511		mg/Kg		102	74 - 124	2	34
Trichloroethene			0.500	0.548		mg/Kg		110	79 - 133	3	25
Trichlorofluoromethane			0.500	0.519		mg/Kg		104	64 - 133	3	25
Vinyl chloride			0.500	0.547		mg/Kg		109	57 - 129	6	33

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 120*
4-Bromofluorobenzene (Surr)	*103*		*76 - 122*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*96*		*80 - 120*

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

Lab Sample ID: MB 590-22089/1-A
Matrix: Solid
Analysis Batch: 22084

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 22089

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0		mg/Kg		05/08/19 09:38	05/08/19 09:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41.5 - 162*	*05/08/19 09:38*	*05/08/19 09:40*	*1*

Lab Sample ID: LCS 590-22089/4-A
Matrix: Solid
Analysis Batch: 22084

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22089

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			50.0	56.3		mg/Kg		112	74.4 - 124		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41.5 - 162*

Lab Sample ID: LCSD 590-22089/5-A
Matrix: Solid
Analysis Batch: 22084

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 22089

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline			50.0	56.0		mg/Kg		112	74.4 - 124	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41.5 - 162*

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

Lab Sample ID: MB 590-22157/1-A
Matrix: Solid
Analysis Batch: 22155

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 22157

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		10		mg/Kg		05/13/19 11:14	05/13/19 12:31	1
Residual Range Organics (RRO) (C25-C36)	ND		25		mg/Kg		05/13/19 11:14	05/13/19 12:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*73*		*50 - 150*	*05/13/19 11:14*	*05/13/19 12:31*	*1*
n-Triacontane-d62	*71*		*50 - 150*	*05/13/19 11:14*	*05/13/19 12:31*	*1*

Lab Sample ID: LCS 590-22157/2-A
Matrix: Solid
Analysis Batch: 22155

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22157

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (DRO) (C10-C25)			66.7	63.6		mg/Kg		95	50 - 150		

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

Lab Sample ID: LCS 590-22157/2-A
Matrix: Solid
Analysis Batch: 22155

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22157

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Residual Range Organics (RRO) (C25-C36)	66.7	67.3		mg/Kg		101	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*100*		*50 - 150*
n-Triacontane-d62	*96*		*50 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 590-22110/2-A
Matrix: Solid
Analysis Batch: 22160

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 22110

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		3.0		mg/Kg		05/09/19 11:33	05/13/19 11:41	1

Lab Sample ID: LCS 590-22110/1-A
Matrix: Solid
Analysis Batch: 22160

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22110

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	50.0	55.2		mg/Kg		110	80 - 120

Lab Sample ID: 590-10924-2 MS
Matrix: Solid
Analysis Batch: 22160

Client Sample ID: GEI010-DP1(9-10)
Prep Type: Total/NA
Prep Batch: 22110

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		44.3	36.9		mg/Kg	☼	79	75 - 125

Lab Sample ID: 590-10924-2 MSD
Matrix: Solid
Analysis Batch: 22160

Client Sample ID: GEI010-DP1(9-10)
Prep Type: Total/NA
Prep Batch: 22110

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND		44.3	35.9		mg/Kg	☼	77	75 - 125	3	20

Lab Sample ID: 590-10924-2 DU
Matrix: Solid
Analysis Batch: 22160

Client Sample ID: GEI010-DP1(9-10)
Prep Type: Total/NA
Prep Batch: 22110

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lead	ND		ND		mg/Kg	☼	NC	20

Lab Chronicle

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Client Sample ID: GEI010-DP1(9-10)
Lab Sample ID: 590-10924-2
Date Collected: 05/01/19 08:50
Matrix: Solid
Date Received: 05/03/19 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			22073	05/07/19 15:20	SJK	TAL SPK

Client Sample ID: GEI010-DP1(9-10)
Lab Sample ID: 590-10924-2
Date Collected: 05/01/19 08:50
Matrix: Solid
Date Received: 05/03/19 11:55
Percent Solids: 90.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	22089	05/08/19 09:38	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	22082	05/08/19 12:44	MRS	TAL SPK
Total/NA	Prep	5035			5.01 g	5 mL	22089	05/08/19 09:38	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	22084	05/08/19 12:44	MRS	TAL SPK
Total/NA	Prep	3550C			15.94 g	5 mL	22157	05/13/19 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			22155	05/13/19 18:52	NMI	TAL SPK
Total/NA	Prep	3050B			1.26 g	50 mL	22110	05/09/19 11:33	JSP	TAL SPK
Total/NA	Analysis	6010C		1			22160	05/13/19 11:44	JSP	TAL SPK

Client Sample ID: GEI010-DP2(2-2.5)
Lab Sample ID: 590-10924-3
Date Collected: 05/01/19 10:00
Matrix: Solid
Date Received: 05/03/19 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			22073	05/07/19 15:20	SJK	TAL SPK

Client Sample ID: GEI010-DP2(2-2.5)
Lab Sample ID: 590-10924-3
Date Collected: 05/01/19 10:00
Matrix: Solid
Date Received: 05/03/19 11:55
Percent Solids: 90.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.69 g	5 mL	22089	05/08/19 09:38	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	22082	05/08/19 13:05	MRS	TAL SPK
Total/NA	Prep	5035			5.69 g	5 mL	22089	05/08/19 09:38	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	22084	05/08/19 13:05	MRS	TAL SPK
Total/NA	Prep	3550C			15.44 g	5 mL	22157	05/13/19 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			22155	05/13/19 19:12	NMI	TAL SPK
Total/NA	Prep	3050B			1.16 g	50 mL	22110	05/09/19 11:33	JSP	TAL SPK
Total/NA	Analysis	6010C		1			22160	05/13/19 12:06	JSP	TAL SPK

Client Sample ID: GEI010-DP3(2-2.5)
Lab Sample ID: 590-10924-4
Date Collected: 05/01/19 12:10
Matrix: Solid
Date Received: 05/03/19 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			22073	05/07/19 15:20	SJK	TAL SPK

Lab Chronicle

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Client Sample ID: GEI010-DP3(2-2.5)
Lab Sample ID: 590-10924-4
Date Collected: 05/01/19 12:10
Matrix: Solid
Date Received: 05/03/19 11:55
Percent Solids: 83.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.16 g	5 mL	22089	05/08/19 09:38	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	22082	05/08/19 13:26	MRS	TAL SPK
Total/NA	Prep	5035			5.16 g	5 mL	22089	05/08/19 09:38	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	22084	05/08/19 13:26	MRS	TAL SPK
Total/NA	Prep	3550C			15.37 g	5 mL	22157	05/13/19 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			22155	05/13/19 19:52	NMI	TAL SPK
Total/NA	Prep	3050B			1.23 g	50 mL	22110	05/09/19 11:33	JSP	TAL SPK
Total/NA	Analysis	6010C		1			22160	05/13/19 12:19	JSP	TAL SPK

Client Sample ID: GEI010-DP4(1-2)
Lab Sample ID: 590-10924-5
Date Collected: 05/01/19 13:00
Matrix: Solid
Date Received: 05/03/19 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			22073	05/07/19 15:20	SJK	TAL SPK

Client Sample ID: GEI010-DP4(1-2)
Lab Sample ID: 590-10924-5
Date Collected: 05/01/19 13:00
Matrix: Solid
Date Received: 05/03/19 11:55
Percent Solids: 79.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.57 g	5 mL	22089	05/08/19 09:38	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	22082	05/08/19 14:08	MRS	TAL SPK
Total/NA	Prep	5035			5.57 g	5 mL	22089	05/08/19 09:38	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	0.86 mL	43 mL	22084	05/08/19 14:08	MRS	TAL SPK
Total/NA	Prep	3550C			15.72 g	5 mL	22157	05/13/19 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			22155	05/13/19 20:12	NMI	TAL SPK
Total/NA	Prep	3050B			1.34 g	50 mL	22110	05/09/19 11:33	JSP	TAL SPK
Total/NA	Analysis	6010C		1			22160	05/13/19 12:23	JSP	TAL SPK

Client Sample ID: Trip Blank
Lab Sample ID: 590-10924-6
Date Collected: 05/01/19 08:30
Matrix: Solid
Date Received: 05/03/19 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5 g	5 mL	22089	05/08/19 09:38	MRS	TAL SPK
Total/NA	Analysis	8260C		1	0.86 mL	43 mL	22082	05/08/19 14:29	MRS	TAL SPK

Laboratory References:
TAL SPK = Eurofins TestAmerica, Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Laboratory: Eurofins TestAmerica, Spokane

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-025	12-07-19
Oregon	NELAP	10	4137	12-07-19
Washington	State Program	10	C569	01-06-20

Method Summary

Client: GeoEngineers Inc
Job ID: 590-10924-1
Project/Site: Bear Mart Auto Sales/00504-157-00

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	TAL SPK
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK
6010C	Metals (ICP)	SW846	TAL SPK
Moisture	Percent Moisture	EPA	TAL SPK
3050B	Preparation, Metals	SW846	TAL SPK
3550C	Ultrasonic Extraction	SW846	TAL SPK
5035	Closed System Purge and Trap	SW846	TAL SPK

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = Eurofins TestAmerica, Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Eurofins TestAmerica, Spokane
11922 East 1st Ave
Spokane, WA 99206
Phone (509) 924-9200 Fax (509) 924-9290

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: JML	Lab PM:	Carrier Tracking No(s):	COC No: 590-4564-1472.1
Client Contact: Scott Lathen	Phone: 406-239-7816	E-Mail:		Page: Page 1 of 1
Company: GeoEngineers Inc				Job #:
Address: 523 East Second Ave	Due Date Requested:			
City: Spokane	TAT Requested (days):			
State, Zip: WA, 99202				
Phone:	PO #:			
Email: slathen@geoengineers.com	WO #:			
Project Name: Bear Mart	Project #: 0504-157-00			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Gx	NWTPH-Dx	VOCs - 8260C	Pb - 200.8/6020A	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
GEI010-DP1(4-5)	5/1/2019	0830	G	S			X	X	X	X	2	—
GEI010-DP1(9-10)		0850					X	X	X	X	4	
GEI010-DP2(2-2.5)		1000					X	X	X	X	4	
GEI010-DP3(2-2.5)		1210					X	X	X	X	4	
GEI010-DP4(1-2)		1300					X	X	X	X	4	
Trip Blank											1	

590-10924 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Joel Lu	5/3/19 1030	GEI	Matt Peterson	5/3/19 1030	GEI
Matt Peterson	5/3/19 1155	GEI	Maria Olote	5/3/19 11:55	ASPU
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 7.8

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 590-10924-1

Login Number: 10924
List Number: 1
Creator: Arrington, Randee E

List Source: Eurofins TestAmerica, Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX C
Report Limitations and Guidelines for Use

APPENDIX C
REPORT LIMITATIONS AND GUIDELINES FOR USE[1]

This Appendix provides information to help you manage your risks with respect to the use of this report.

Environmental Services Are Performed for Specific Purposes, Persons and Projects

This report has been prepared for the exclusive use of the Washington State Department of Ecology (Ecology). This report is not intended for use by others, and the information contained herein is not applicable to other sites.

GeoEngineers structures our services to meet the specific needs of our clients. For example, an environmental site assessment study conducted for a property owner may not fulfill the needs of a prospective purchaser of the same property. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and project site. No one except Ecology should rely on this environmental report without first conferring with GeoEngineers. This report should not be applied for any purpose or project except the one originally contemplated.

This Environmental Report is Based on a Unique Set of Project-Specific Factors

This report has been prepared for the Bear Mart Auto Sales site located at 1 East First Avenue in Kennewick, Washington. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, do not rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

If important changes are made after the date of this report, GeoEngineers should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

Reliance Conditions for Third Parties

Our report was prepared for the exclusive use of Ecology. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide our firm and Ecology with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with Ecology and generally accepted environmental practices in this area at the time this report was prepared.

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[1] Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

Environmental Regulations are Always Evolving

Some substances may be present in the site vicinity in quantities or under conditions that may have led, or may lead, to contamination of the subject site, but are not included in current local, state or federal regulatory definitions of hazardous substances or do not otherwise present current potential liability. GeoEngineers cannot be responsible if the standards for appropriate inquiry, or regulatory definitions of hazardous substance, change or if more stringent environmental standards are developed in the future.

Uncertainty May Remain Even After This Phase II ESA is Completed

No ESA can wholly eliminate uncertainty regarding the potential for contamination in connection with a property. Our interpretation of subsurface conditions in this study is based on field observations and chemical analytical data from widely spaced sampling locations. It is always possible that contamination exists in areas that were not explored, sampled or analyzed.

Subsurface Conditions Can Change

This environmental report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the site, by new releases of hazardous substances, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Always contact GeoEngineers before applying this report to determine if it is still applicable.

Most Environmental Findings are Professional Opinions

Our interpretations of subsurface conditions are based on field observations and chemical analytical data from widely spaced sampling locations at the site. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ – sometimes significantly – from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

Do Not Redraw the Exploration Logs

Environmental scientists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in an environmental report should never be redrawn for inclusion in other design drawings. Only photographic or electronic reproductions are acceptable but recognize that separating logs from the report can elevate risk.

Read These Provisions Closely

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering, geology and environmental science) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. GeoEngineers includes these explanatory “limitations” provisions in our reports to help reduce such risks. Please confer with GeoEngineers if you are unclear how these “Report Limitations and Guidelines for Use” apply to your project or site.

Geotechnical, Geologic and Geoenvironmental Reports Should Not be Interchanged

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project.

Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. Accordingly, this report does not include any interpretations, recommendations, findings, or conclusions regarding the detecting, assessing, preventing or abating of Biological Pollutants and no conclusions or inferences should be drawn regarding Biological Pollutants, as they may relate to this project. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts.

If Ecology desires these specialized services, they should be obtained from a consultant who offers services in this specialized field.

GeoEngineers