Data Gap Investigation

Model Remedy LUST Sites
Chelan Fire District
206 Easy Street
Wenatchee, Washington

for
Washington State Department of Ecology

December 29, 2016

GeoEngineers
Earth Science + Technology

Data Gap Investigation

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GeoEngineers

523 East Second Avenue
Spokane, Washington 99202
509.363.3125

Data Gap Investigation

Model Remedy LUST Sites
Chelan Fire District
206 Easy Street
Wenatchee, Washington

File No. 0504-112-00

December 29, 2016

Prepared for:

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

Attention: Jeff Newschwander

Prepared by:

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APP:SHL:BDW:tjh

GeoEngineers

Table of Contents

1.0 INTRODUCTION

This report describes soil assessment activities conducted at the Chelan County Fire District site located at 206 Easy Street in Wenatchee, 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 former underground storage tank (UST) operation was present beneath 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 site is occupied by the Chelan County Fire District headquarters, an administrative building, a fire tower, and other buildings associated with the fire district and the sheriff's office, as shown in Site Plan, Figure 2. A fuel system, including a dispenser and two USTs, were located east of the fire tower. The site is located north of the intersection of Easy Street and Ohme Garden Road.

On January 20 and 21, 1995, the 500-gallon diesel and 1,000-gallon gasoline tanks located east of the tower structure were decommissioned and removed. About 60 cubic yards of petroleum-impacted soil were removed from beneath the fuel dispenser; however, to avoid undermining the fire tower some petroleum-impacted soil was left in place. Residual diesel-range soil contamination with concentrations greater than the Washington State Model Toxics Control Act (MTCA) cleanup levels remained beneath the base of the fire tower at approximately 11 feet.

3.0 SCOPE OF SERVICES

The scope of services included the following:

1. Prepared a Master Work Plan and site specific addendum that included a Sampling and Analysis Plan (SAP), Quality Assurance Project Plan (QAPP), and Health and Safety Plan (HASP).
2. Coordinated underground utility locating using the one-call system and Utilities Plus, a private utility locator. Per state regulations, the proposed boring locations were marked prior to initiating the locate request.
3. Coordinated subcontractors (drillers, locators and waste disposal contractors) and provided project management services.
4. Conducted field assessment activities including the following:
    a. Observing Environmental West Explorations, Inc. (Environmental West) drill three soil borings (B-1 through B-3) using direct-push drilling techniques. Continuous soil samples were collected using 4-foot-long acrylic slip-sleeve samplers.

b. Observing and documenting subsurface soil conditions. At least one soil sample was retained from each slip-sleeve sampler for field screening and potential chemical analysis. Field screening consisted of photo-ionization detector (PID) screening, visual observation and water-sheen testing.

c. Drumming and labeling investigation-derived waste (IDW).

5. Submitting one soil sample from each boring to TestAmerica Laboratories, Inc. (TestAmerica) for chemical analysis. The soil sample with the greatest field screening indication of potential contamination or the sample collected from the bottom of the boring was submitted for chemical analysis. Soil samples were submitted for analysis of diesel- and oil-range petroleum hydrocarbons (DRPH and ORPH, respectively) using Northwest Method NWTPH-Dx.
6. Entering analytical data into Ecology's Environmental Information Management (EIM) database.
7. Preparing this assessment report.

4.0 FIELD ACTIVITIES

4.1. General

Field assessment activities were conducted on November 2, 2016. Site utilities, located near the boring locations, were identified and marked by Utilities Plus prior to drilling. Environmental West advanced three borings (B-1 through B-3) near the former UST excavation to depths of 12, 13 and 15 feet below ground surface (bgs) using direct-push drilling methods. The direct-push boring locations are summarized by the following:

- Soil boring B-1 was drilled northwest of the former UST excavation to the planned 15-foot depth. Soil samples from the ½-, 4-, 8½- and 12½-foot intervals were retained for potential chemical analysis.
- Soil boring B-2 was drilled north of the former UST excavation. B-2 was advanced to a depth of 13 feet bgs before encountering refusal on a cobble or boulder. Soil samples from the 1½-, 4½-, 8- and 12-foot intervals were retained for potential chemical analysis.
- Soil boring B-3 was drilled southwest of the former UST excavation. B-3 was advanced to a maximum depth of 12 feet bgs before encountering refusal on a cobble or boulder. Soil samples from the 1½-, 3-, 4- and 8-foot intervals were retained for potential chemical analysis.

Environmental West backfilled each boring with bentonite. Excess soil cuttings were placed in a 55-gallon steel drum, labeled and placed west of the fire tower, as directed by site employees (depicted on Figure 2). Boring logs are included in Appendix A.

4.2. Subsurface Conditions

Observed soil conditions were consistent in the borings; with silty fine to coarse gravel with sand, cobbles and boulders encountered. Groundwater was not encountered during drilling operations.

4.3. Field Screening and Sampling

Soil samples from each boring were field-screened for the potential presence of petroleum contamination by PID, visual examination and water-sheen testing. PID headspace vapor measurements were not

measured above 1 part per million (ppm). Field screening procedures are further described in Appendix A. Contaminated soil field screening indicators were not observed in collected soil samples. One soil sample per slip-sleeve sampler was collected in laboratory supplied containers for potential chemical analysis.

5.0 CHEMICAL ANALYTICAL RESULTS

5.1. Soil Chemical Analytical Results

Three soil samples were submitted to TestAmerica for the chemical analyses described in "Section 3.0 Scope of Services." Samples from the three borings were submitted from varying depths ranging between 8 to 12½ feet bgs. Field screening evidence of contamination was not observed in soil samples collected from each boring. TestAmerica's laboratory report is included in Appendix B; chemical analytical results are summarized and compared to MTCA Method A cleanup levels for unrestricted land use in Summary of Chemical Analytical Results – Soil, Table 1.

DRPH and ORPH concentrations were not reported greater than the laboratory method detection limits in the three samples submitted.

TABLE 1. SUMMARY OF CHEMICAL ANALYTICAL RESULTS - SOIL

Sample Identification	Date Samples	DRPH[1] (mg/kg)	ORPH[1] (mg/kg)
Site-1: B-1 (12.5-13)	11/02/16	<9.9	<25
Site 1: B-2 (12-12.5)	11/02/16	<9.9	<25
Site-1: B-3 (8-8.5)	11/02/16	<10	<25
MTCA Method A CUL[2]		2,000	2,000

Notes:

[1]DRPH and ORPH analyzed using Northwest Method NWTPH-Dx

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

mg/kg – milligrams per kilogram

6.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Soil assessment activities were conducted November 2, 2016, at the Chelan Fire District site located at 206 Easy Street in Wenatchee, Washington. Three soil borings (B-1 through B-3) were advanced to depths of 12, 13 and 15 feet bgs. Observed soil consisted of silty fine to coarse gravel with sand, cobbles and boulders. Groundwater was not encountered in the borings.

One soil sample from each boring was submitted for DRPH and ORPH analysis. DRPH and ORPH were not detected in the submitted samples. Based on the chemical analytical results, in our opinion, a SHA ranking is unnecessary and we recommend a No Further Action designation for the site.

Based on the chemical analytical results, petroleum contaminant concentrations in the IDW do not exceed MTCA Method A unrestricted land use cleanup levels and can therefore be reused onsite or disposed as solid waste. The accumulated IDW amounted to less than a drum. Alternatively, a contractor can be retained to pick up, transport and dispose the IDW at an appropriate facility.

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.

Any electronic form, facsimile or hard copy of the original document (email, text, table and/or figure), if provided, and any attachments should be considered a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

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

FIGURES

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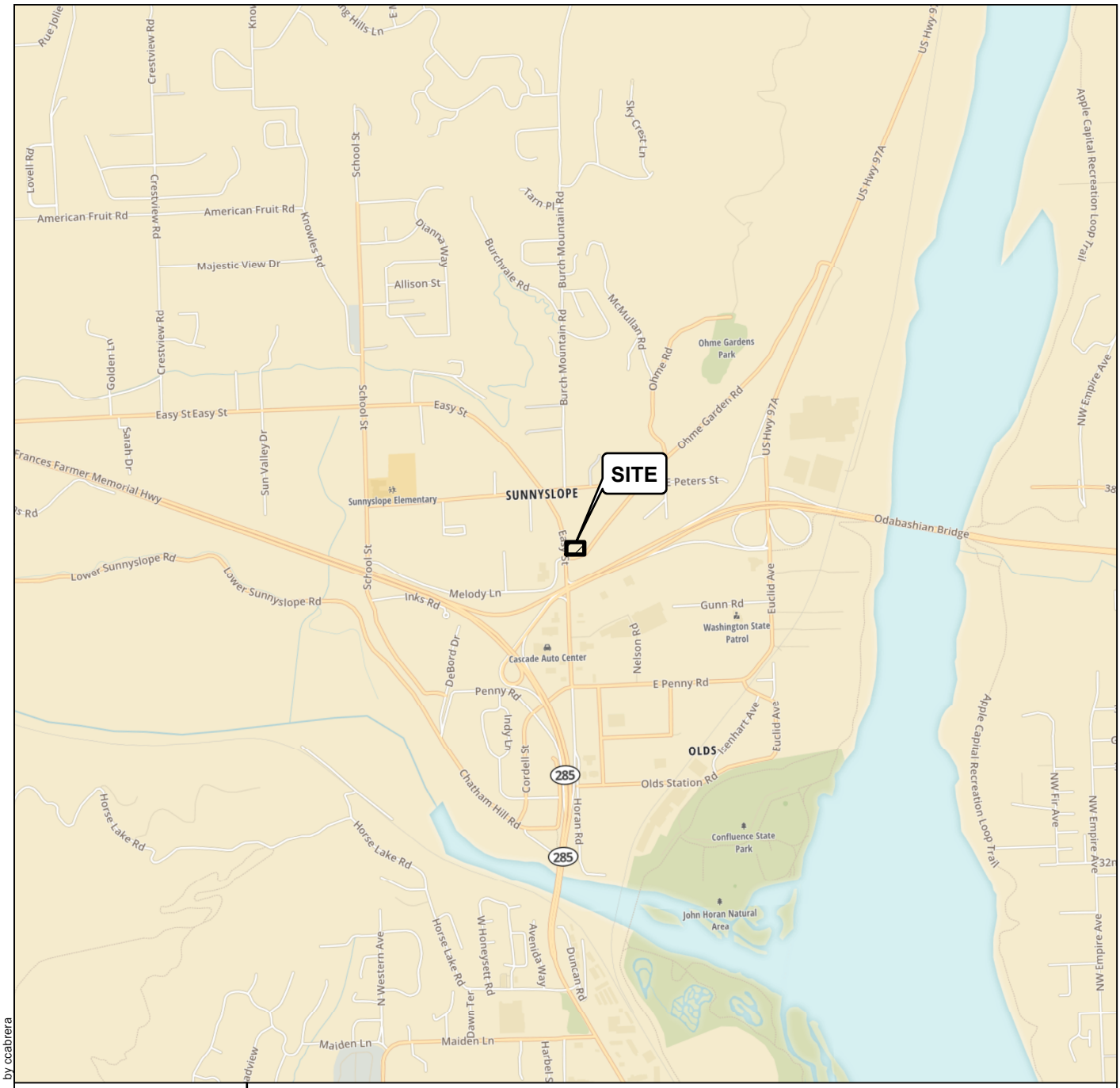

N
W E
S

2,000 0 2,000

Feet

Vicinity Map

Chelan Fire District
206 Easy Street
Wenatchee, Washington

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Figure 1

Notes:

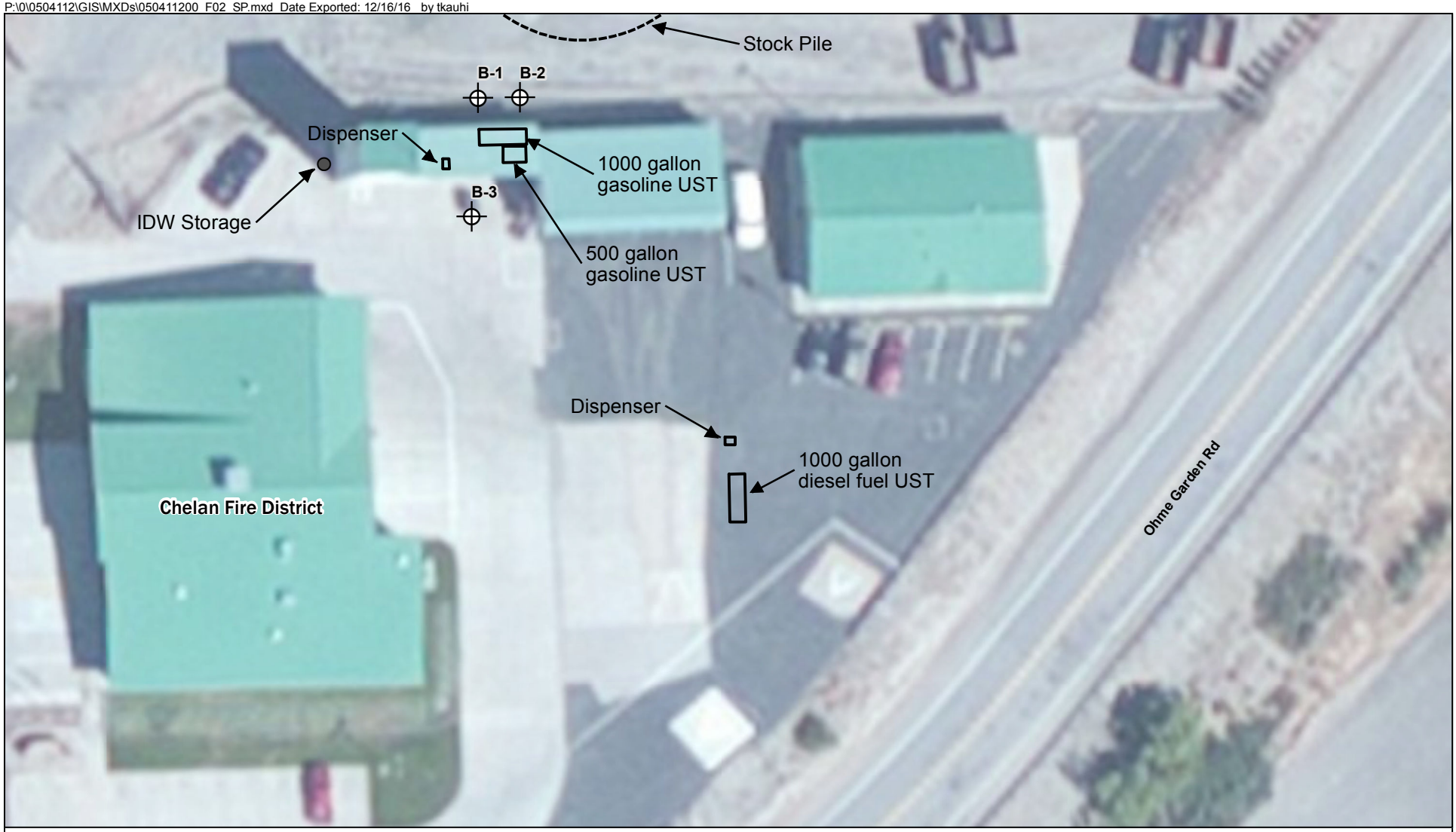
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers,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

Data Source: Mapbox Open Street Map, 2016

Projection: NAD 1983 UTM Zone 10N

P:\0\0504112\GIS\MXDs\0504112200_F01_VM.mxd Date Exported: 09/27/16 by ccabrera

P:\0\0504112\GIS\MXDs\050411200_F02_SP.mxd Date Exported: 12/16/16 by tkauhi



N
W E
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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.

Data Source: Aerial image from ESRI Data Online.

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

Legend

- Investigated Derived Waste (IDW) Storage
- Boring Number and Approximate Location
- Former Underground Storage Tank (UST) Approximate Location

20 0 20
Feet

Site Plan

Chelan Fire District
206 Easy Street
Wenatchee, Washington

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Figure 2

APPENDICES

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APPENDIX A
Field Procedures and Boring Logs

APPENDIX A
FIELD PROCEDURES AND BORING LOGS

General

Subsurface conditions at the Chelan Fire District site were explored on November 2, 2016, by advancing three direct-push borings at the approximate locations shown on Figure 2. The borings were advanced to 12, 13 and 15 feet below existing site grade using a direct-push drill rig. Boring locations were established in the field using a site plan and measurements from onsite 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 Master Work Plan assessment procedures.

Soil Sample Collection

Soil samples 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.

Direct-push 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-4. 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 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 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
	TS	Topsoil/ Forest Duff/Sod

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.

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

A "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
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PP	Pocket penetrometer
PPM	Parts per million
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
NT	Not Tested

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

Rev. 02/16

Drilled Start 11/2/2016 End 11/2/2016	Total Depth (ft) 16	Logged By CMD Checked By SHL	Driller Environmental West Exploration, Inc.	Drilling Method Direct-Push
Surface Elevation (ft) Vertical Datum Undetermined		Hammer Data NA		Drilling Equipment 5400 Geoprobe
Easting (X) Northing (Y)		System Datum		Groundwater Date Measured / Depth to Water (ft) / Elevation (ft)
Notes:				None Observed

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Dry Density (pcf)	REMARKS
	0		14			B-1 (0.5-1)		CR	Gray crushed gravel base course (medium dense, moist)			
								GP	Gray fine to coarse gravel with trace silt, sand and cobbles (dense, moist)			
			8			B-1 (4-4.5)						
	5											
			20			B-1 (8.5-9)						
								GP	Gray fine to coarse gravel with sand (medium dense, moist) (pea gravel, fill)			
	10											
			24			B-1 (12.5-13) CA						
	15											

Note: See Figure A-1 for explanation of symbols.

Log of Direct-Push Boring B-1

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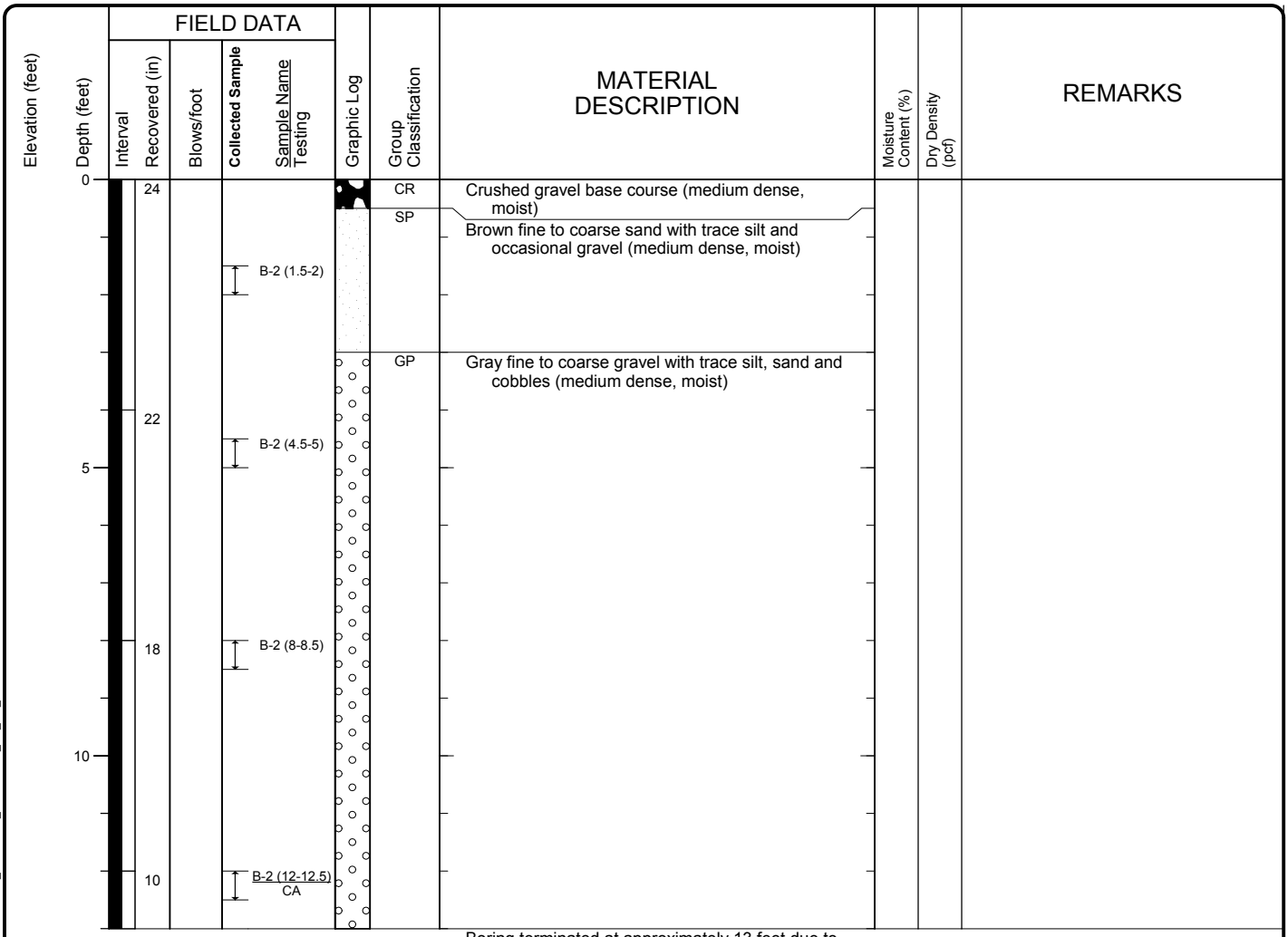
Project: Chelan Fire District, 206 Easy Street
Project Location: Wenatchee, Washington
Project Number: 0504-112-00

Figure A-2
Sheet 1 of 1

Drilled	Start 11/2/2016	End 11/2/2016	Total Depth (ft)	13	Logged By / Checked By	CMD / SHL	Driller	Environmental West Exploration, Inc.	Drilling Method	Direct-Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	NA	Drilling Equipment	5400 Geoprobe				
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)			
Notes:					None Observed					



Note: See Figure A-1 for explanation of symbols.

Log of Direct-Push Boring B-2

GeoEngineers

Project: Chelan Fire District, 206 Easy Street
Project Location: Wenatchee, Washington
Project Number: 0504-112-00

Figure A-3
Sheet 1 of 1

Drilled	Start 11/2/2016	End 11/2/2016	Total Depth (ft)	12	Logged By / Checked By	CMD / SHL	Driller	Environmental West Exploration, Inc.	Drilling Method	Direct-Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	NA	Drilling Equipment	5400 Geoprobe				
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)			
Notes:					None Observed					

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Dry Density (pcf)	REMARKS
	0		24					CC	Approximately 6 inches of concrete cement			
						B-3 (1.5-2)		SP	Brown fine to coarse sand with occasional gravel (medium dense, moist) (fill)			
			6			B-3 (3-3.5)		GP-GM	Gray fine to coarse gravel with silt, sand and occasional cobbles (dense, moist) (fill)			
			8			B-3 (4-4.5)						
	5											
			18			B-3 (8-8.5) CA		GP	Gray fine to medium gravel with trace silt and sand (medium dense, moist) (fill)			
	10											
									Boring terminated at approximately 12 feet due to refusal on a cobble or boulder			

Note: See Figure A-1 for explanation of symbols.

Log of Direct-Push Boring B-3

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Project: Chelan Fire District, 206 Easy Street
Project Location: Wenatchee, Washington
Project Number: 0504-112-00

Figure A-4
Sheet 1 of 1

APPENDIX B
Chemical Analytical Laboratory Reports

APPENDIX B
CHEMICAL ANALYTICAL LABORATORY REPORTS

Samples

Chain-of-custody procedures were followed during the transport of the field samples to TestAmerica located in Spokane, Washington. The samples were held in cold storage pending extraction and/or analysis. The analytical results and quality control records are included in this appendix.

Analytical Data Review

The laboratory maintains an internal quality assurance/quality control (QA/QC) program as documented in its laboratory quality assurance manual. The laboratory uses a combination of blanks, surrogate recoveries, duplicates, matrix spike recoveries, matrix spike duplicate recoveries, blank spike recoveries and blank spike duplicate recoveries to evaluate the analytical results. The laboratory also uses data quality goals for individual chemicals or groups of chemicals based on the long-term performance of the test methods. The data quality goals were included in the two laboratory reports, each dated November 14, 2016.

Analytical Data Review Summary

We reviewed the laboratory internal QA/QC in the context of data quality goals. Based on our review, in our opinion, the quality of the analytical data is acceptable for the intended use.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 590-4930-1
Client Project/Site: Chelan Fire Site 1/0504-112-00

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

Attn: Scott Lathen

Authorized for release by:
11/14/2016 11:24:59 AM

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

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Case Narrative

Client: GeoEngineers Inc
Project/Site: Chelan Fire Site 1/0504-112-00

TestAmerica Job ID: 590-4930-1

Job ID: 590-4930-1

Laboratory: TestAmerica Spokane

Narrative

Receipt
The samples were received on 11/4/2016 11:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.6º C.

GC Semi VOA
No analytical or quality issues were noted, other than those described 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.

Sample Summary

Client: GeoEngineers Inc
Project/Site: Chelan Fire Site 1/0504-112-00

TestAmerica Job ID: 590-4930-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-4930-4	Site -1:B-1 (12.5-13)	Solid	11/02/16 13:40	11/04/16 11:30
590-4930-8	Site -1:B-2 (12-12.5)	Solid	11/02/16 11:45	11/04/16 11:30

Glossary

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

Client: GeoEngineers Inc
Project/Site: Chelan Fire Site 1/0504-112-00

TestAmerica Job ID: 590-4930-1

Client Sample ID: Site -1:B-1 (12.5-13)

Lab Sample ID: 590-4930-4
Date Collected: 11/02/16 13:40
Matrix: Solid
Date Received: 11/04/16 11:30
Percent Solids: 96.5

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		9.9		mg/Kg	☼	11/10/16 09:22	11/10/16 13:23	1
Residual Range Organics (RRO) (C25-C36)	ND		25		mg/Kg	☼	11/10/16 09:22	11/10/16 13:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*115*		*50 - 150*	*11/10/16 09:22*	*11/10/16 13:23*	*1*
n-Triacontane-d62	*113*		*50 - 150*	*11/10/16 09:22*	*11/10/16 13:23*	*1*

Client Sample ID: Site -1:B-2 (12-12.5)

Lab Sample ID: 590-4930-8
Date Collected: 11/02/16 11:45
Matrix: Solid
Date Received: 11/04/16 11:30
Percent Solids: 96.3

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		9.9		mg/Kg	☼	11/10/16 09:22	11/10/16 13:41	1
Residual Range Organics (RRO) (C25-C36)	ND		25		mg/Kg	☼	11/10/16 09:22	11/10/16 13:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*103*		*50 - 150*	*11/10/16 09:22*	*11/10/16 13:41*	*1*
n-Triacontane-d62	*108*		*50 - 150*	*11/10/16 09:22*	*11/10/16 13:41*	*1*

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

Lab Sample ID: MB 590-9547/1-A
Matrix: Solid
Analysis Batch: 9553

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 9547

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		10		mg/Kg		11/10/16 09:22	11/10/16 12:47	1
Residual Range Organics (RRO) (C25-C36)	ND		25		mg/Kg		11/10/16 09:22	11/10/16 12:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*104*		*50 - 150*	*11/10/16 09:22*	*11/10/16 12:47*	*1*
n-Triacontane-d62	*105*		*50 - 150*	*11/10/16 09:22*	*11/10/16 12:47*	*1*

Lab Sample ID: LCS 590-9547/2-A
Matrix: Solid
Analysis Batch: 9553

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 9547

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (DRO) (C10-C25)			67.1	62.4		mg/Kg		93	50 - 150		
Residual Range Organics (RRO) (C25-C36)			66.8	66.3		mg/Kg		99	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*100*		*50 - 150*
n-Triacontane-d62	*103*		*50 - 150*

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Chelan Fire Site 1/0504-112-00

TestAmerica Job ID: 590-4930-1

Client Sample ID: Site -1:B-1 (12.5-13)

Lab Sample ID: 590-4930-4

Date Collected: 11/02/16 13:40
Matrix: Solid
Date Received: 11/04/16 11:30

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			9538	11/09/16 14:39	EAF	TAL SPK

Client Sample ID: Site -1:B-1 (12.5-13)

Lab Sample ID: 590-4930-4

Date Collected: 11/02/16 13:40
Matrix: Solid
Date Received: 11/04/16 11:30
Percent Solids: 96.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.63 g	5 mL	9547	11/10/16 09:22	EAF	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			9553	11/10/16 13:23	NMI	TAL SPK

Client Sample ID: Site -1:B-2 (12-12.5)

Lab Sample ID: 590-4930-8

Date Collected: 11/02/16 11:45
Matrix: Solid
Date Received: 11/04/16 11:30

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			9538	11/09/16 14:39	EAF	TAL SPK

Client Sample ID: Site -1:B-2 (12-12.5)

Lab Sample ID: 590-4930-8

Date Collected: 11/02/16 11:45
Matrix: Solid
Date Received: 11/04/16 11:30
Percent Solids: 96.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.69 g	5 mL	9547	11/10/16 09:22	EAF	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			9553	11/10/16 13:41	NMI	TAL SPK

Laboratory References:

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

Certification Summary

Client: GeoEngineers Inc
Project/Site: Chelan Fire Site 1/0504-112-00

TestAmerica Job ID: 590-4930-1

Laboratory: TestAmerica Spokane

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-071	10-31-17
Washington	State Program	10	C569	01-06-17

Method Summary

Client: GeoEngineers Inc
Project/Site: Chelan Fire Site 1/0504-112-00

TestAmerica Job ID: 590-4930-1

Method	Method Description	Protocol	Laboratory
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK
Moisture	Percent Moisture	EPA	TAL SPK

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

Laboratory References:

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

TestAmerica
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2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

11/14/2016

CHAIN OF CUSTODY REPORT

Work Order #:

CLIENT: GEI

REPORT TO: Scott Lathen
ADDRESS: slathen@geiengineers.com

PHONE: FAX:

INVOICE TO:

P.O. NUMBER:

PROJECT NAME: Cullen Fire Site 1
PROJECT NUMBER: 0504-113-00
SAMPLED BY: Cullen Driscoll

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: 10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: 5 STD. | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE: HNO3	REQUESTED ANALYSES	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	Site-1: B-1 (0.5-1)	11/2/16 1300			S	3		
2	Site-1: B-1 (4-4.5)	11/2/16 1310						
3	Site-1: B-1 (8.5-9)	11/2/16 1330						
4	Site-1: B-1 (12.5-13)	11/2/16 1340						
5	Site-1: B-2 (1.5-2)	11/2/16 1120						
6	Site-1: B-2 (4.5-5)	11/2/16 1130						
7	Site-1: B-2 (8-8.5)	11/2/16 1135						
8	Site-1: B-2 (12-12.5)	11/2/16 1145						
9	Site-1: B-3 (1.5-2)	11/2/16 1430						
10	Site-1: B-3 (3-3.5)	11/2/16 1440						

RELEASED BY: Cullen Driscoll		DATE: 11/4/16	RECEIVED BY: Sheila Krady		DATE: 11/4/16
PRINT NAME: Cullen Driscoll	FIRM: GEI	TIME: 1130	PRINT NAME: Sheila Krady	FIRM: TA Spok	TIME: 1130
RELEASED BY:		DATE:	RECEIVED BY:		DATE:
PRINT NAME:	FIRM:	TIME:	PRINT NAME:	FIRM:	TIME:

ADDITIONAL REMARKS:

TEMP: 4.1 C

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IR003

TAL-1000 (0714)

590-4930 Chain of Custody

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2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #:

CLIENT:

INVOICE TO:

REPORT TO:
ADDRESS:

PHONE: FAX:

P.O. NUMBER:

PROJECT NAME:

PROJECT NUMBER:

SAMPLED BY:

TURNAROUND REQUEST

in Business Days *

Organic & Inorganic Analyses

10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses

5 STD. | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	Site-1: B-1 (0.5-1)	11/2/16 1300			S	3		
2	Site-1: B-1 (4-4.5)	11/2/16 1310						
3	Site-1: B-1 (8.5-9)	11/2/16 1330						
4	Site-1: B-1 (12.5-13)	11/2/16 1340	X					
5	Site-1: B-2 (1.5-2)	11/2/16 1120						
6	Site-1: B-2 (4.5-5)	11/2/16 1130						
7	Site-1: B-2 (8-8.5)	11/2/16 1135						
8	Site-1: B-2 (12-12.5)	11/2/16 1145	X					
9	Site-1: B-3 (1.5-2)	11/2/16 1430						
10	Site-1: B-3 (7-7.5)	11/2/16 1440						

RELEASED BY:	DATE: 11/4/16	RECEIVED BY:	DATE: 11/4/16
PRINT NAME: Colleen Dickson	FIRM: GeoI TIME: 1130	PRINT NAME:	FIRM: TACHOR TIME: 1130
RELEASED BY:	DATE:	RECEIVED BY:	DATE
PRINT NAME:	FIRM: TIME:	PRINT NAME:	FIRM: TIME:

ADDITIONAL REMARKS:

TEMP: 4.1 C

PAGE OF

TAL-1000 (0714)

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 590-4930-1

Login Number: 4930

List Source: TestAmerica Spokane

List Number: 1

Creator: Kratz, Sheila J

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.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (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.	True	
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	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 590-4932-1
Client Project/Site: Chelan Fire Site 1/0504-112-00

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

Attn: Scott Lathen

Authorized for release by:
11/14/2016 11:38:10 AM

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

Table of Contents

Case Narrative

Client: GeoEngineers Inc
Project/Site: Chelan Fire Site 1/0504-112-00

TestAmerica Job ID: 590-4932-1

Job ID: 590-4932-1

Laboratory: TestAmerica Spokane

Narrative

Receipt
The samples were received on 11/4/2016 11:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.6º C.

GC Semi VOA
No analytical or quality issues were noted, other than those described 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.

Sample Summary

Client: GeoEngineers Inc
Project/Site: Chelan Fire Site 1/0504-112-00

TestAmerica Job ID: 590-4932-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-4932-2	Site-1:B-3 (8-8.5)	Solid	11/02/16 14:55	11/04/16 11:30

Glossary

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

Client: GeoEngineers Inc
Project/Site: Chelan Fire Site 1/0504-112-00

TestAmerica Job ID: 590-4932-1

Client Sample ID: Site-1:B-3 (8-8.5)
Date Collected: 11/02/16 14:55
Date Received: 11/04/16 11:30

Lab Sample ID: 590-4932-2
Matrix: Solid
Percent Solids: 97.5

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	☼	11/10/16 09:22	11/10/16 14:54	1
Residual Range Organics (RRO) (C25-C36)	ND		25		mg/Kg	☼	11/10/16 09:22	11/10/16 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*105*		*50 - 150*	*11/10/16 09:22*	*11/10/16 14:54*	*1*
n-Triacontane-d62	*108*		*50 - 150*	*11/10/16 09:22*	*11/10/16 14:54*	*1*

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

Lab Sample ID: MB 590-9547/1-A
Matrix: Solid
Analysis Batch: 9553

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 9547

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		10		mg/Kg		11/10/16 09:22	11/10/16 12:47	1
Residual Range Organics (RRO) (C25-C36)	ND		25		mg/Kg		11/10/16 09:22	11/10/16 12:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*104*		*50 - 150*	*11/10/16 09:22*	*11/10/16 12:47*	*1*
n-Triacontane-d62	*105*		*50 - 150*	*11/10/16 09:22*	*11/10/16 12:47*	*1*

Lab Sample ID: LCS 590-9547/2-A
Matrix: Solid
Analysis Batch: 9553

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 9547

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO) (C10-C25)	67.1	62.4		mg/Kg		93	50 - 150
Residual Range Organics (RRO) (C25-C36)	66.8	66.3		mg/Kg		99	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*100*		*50 - 150*
n-Triacontane-d62	*103*		*50 - 150*

Lab Chronicle

Client: GeoEngineers Inc
Project/Site: Chelan Fire Site 1/0504-112-00

TestAmerica Job ID: 590-4932-1

Client Sample ID: Site-1:B-3 (8-8.5)

Lab Sample ID: 590-4932-2

Date Collected: 11/02/16 14:55

Matrix: Solid

Date Received: 11/04/16 11:30

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			9538	11/09/16 14:39	EAF	TAL SPK

Client Sample ID: Site-1:B-3 (8-8.5)

Lab Sample ID: 590-4932-2

Date Collected: 11/02/16 14:55

Matrix: Solid

Date Received: 11/04/16 11:30

Percent Solids: 97.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			15.44 g	5 mL	9547	11/10/16 09:22	EAF	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			9553	11/10/16 14:54	NMI	TAL SPK

Laboratory References:

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

Certification Summary

Client: GeoEngineers Inc
Project/Site: Chelan Fire Site 1/0504-112-00

TestAmerica Job ID: 590-4932-1

Laboratory: TestAmerica Spokane

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-071	10-31-17
Washington	State Program	10	C569	01-06-17

Method Summary

Client: GeoEngineers Inc
Project/Site: Chelan Fire Site 1/0504-112-00

TestAmerica Job ID: 590-4932-1

Method	Method Description	Protocol	Laboratory
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK
Moisture	Percent Moisture	EPA	TAL SPK

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

Laboratory References:

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

TestAmerica
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2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

11/14/2016

CHAIN OF CUSTODY REPORT

Work Order #:

CLIENT: GEI

REPORT TO: Scott Lathen
ADDRESS: slathe@geoengineers.com

PHONE: FAX:

INVOICE TO:

P.O. NUMBER:

PROJECT NAME: Site 1 Chelan Fire
PROJECT NUMBER: 0504-112-00
SAMPLED BY: Callan Driscoll

TURNAROUND REQUEST
in Business Days *

Organic & Inorganic Analyses
10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses
5 STD. | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	Site-1:B-3(4-4.5)	11/3/16 1450	HCL		S	3		
2	Site-1:B-3(8-8.5)	11/3/16 1455			1	1		
3								
4								
5								
6								
7								
8								
9								
10								

RELEASED BY: Callan Driscoll DATE: 11/4/16
PRINT NAME: Callan Driscoll FIRM: GEI TIME: 1130

RECEIVED BY: Sheila Richz DATE: 11/4/16
PRINT NAME: Sheila Richz FIRM: TA-Spok TIME: 1130

RELEASED BY: DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY: DATE:
PRINT NAME: TIME:

ADDITIONAL REMARKS:

TEMP: 4.6°C PAGE 1 OF 1

PROOB

590-4932 Chain of Custody

TAL-1000 (0714)

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2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #:

CLIENT:

INVOICE TO:

REPORT TO:
ADDRESS:

PHONE: FAX:

P.O. NUMBER:

PROJECT NAME:

PROJECT NUMBER:

SAMPLED BY:

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses
10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses
5 STD. | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	Site-LB-3(4-4.5)	11/3/16 1350			S	3		
2	Site-LB-3(8-8.5)	11/3/16 1455		X	S	1		
3								
4								
5								
6								
7								
8								
9								
10								

RELEASED BY:		DATE: 11/4/16	RECEIVED BY:		DATE: 11/4/16
PRINT NAME:	FIRM:	TIME: 1130	PRINT NAME:	FIRM:	TIME: 1130
RELEASED BY:		DATE:	RECEIVED BY:		DATE:
PRINT NAME:	FIRM:	TIME:	PRINT NAME:	FIRM:	TIME:

ADDITIONAL REMARKS:

TEMP: 4 | PAGE OF

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11/14/2016

Login Sample Receipt Checklist

Client: GeoEngineers Inc

Job Number: 590-4932-1

Login Number: 4932
List Number: 1
Creator: Kratz, Sheila J

List Source: 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.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (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.	True	
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 Chelan Fire District site located at 206 Easy Street in Wenatchee, 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.

[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.

Have we delivered World Class Client Service?

Please let us know by visiting **www.geoengineers.com/feedback**.

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