SITE ASSESSMENT REPORT – December 2023

Property Identification:

LUST # 06-22-0317

LUST# 06-12-1585

GODDARD ENERGY
530 2ND ST SE
BANDON, OR

Prepared For:
TINA ELAYER
STATE OF OREGON DEQ
WESTERN REGION OFFICE
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Prepared By:

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Date Issued: October 12, 2023
Alpha Project Number: 22-46606

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LUST # 06-22-0317; LUST # 06-12-1585 - 530 2nd St SE, Bandon

This plan was prepared under the supervision and direction of the undersigned.

ALPHA ENVIRONMENTAL SERVICES, INC.

Zachary Goodman
Underground Storage Tank Supervisor

Phillip Brewer
Principal

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ACRONYMS AND ABBREVIATIONS

ASTM	American Society for Testing and Materials
bsg	below surface grade
COC	Contaminants of Concern
CSM	Conceptual Site Model
CR	Commercial Retail Zoning
DEQ	Department of Environmental Quality (Oregon)
IDW	Investigation Derived Waste
NFA	No Further Action
NWTPH-Dx	North West Total Petroleum Hydrocarbons – Diesel & Heavy Oil Quantification
NWTPH-Gx	North West Total Petroleum Hydrocarbons – Gasoline Quantification
OAR	Oregon Administrative Rules
PAHs	Polyaromatic Hydrocarbons
PID	Photoionization Detector
PVC	Poly Vinyl Chloride
RBCs	Risk-based Concentrations
RBDM	Risk-based Decision Making
RCRA	Resource Conservation & Recovery Act
REC	Recognized Environmental Condition
VOCs	Volatile Organic Compounds
WRD	Water Resources Department (Oregon)

1.0 INTRODUCTION

Alpha Environmental Services (Alpha) is submitting this report for the subject property located at 530 2nd St SE, Bandon, Oregon (the Property). This report includes summary of site sampling, laboratory analysis and risk analysis evaluation for site characterization and potential closure. The scope of work proposed is an attempt to define the vertical and lateral extent of the petroleum contamination recently discovered at the Property. The assessment will follow the standard practice of the Oregon Administrative Rules (OAR) 340-122-0205 through 340-122-0360 and Oregon Department of Environmental Quality (DEQ) guidance.

1.1 Project Organization

The following section outlines the project organization, reporting relationships, and lines of communication related to the work to be completed at the Property.

- Donald Goddard: Mr. Goddard is the current owner of the site and will be responsible for the authorization of site work and paying the applicable DEQ fees. Mr. Goddard will contract directly with the consultant (Alpha) to execute the work.
- Oregon Department of Environmental Quality (DEQ): DEQ will be the primary regulatory authority. DEQ will review and approve work plans. The DEQ project manager is Tina Elayer.
- Alpha Environmental Inc (Alpha): Alpha has prepared this work plan for the Property. Alpha will be conducting the site work and submitting reports to the DEQ. The Alpha project manager for the proposed work is Zach Goodman, (503) 292-5346.

1.2 Site Description

The Property is located at 530 2nd St SE, Bandon, Coos County, Oregon. The Property is depicted in Figure 1.

The Property parcel consists of an irregular-shaped lot approximately 0.5 acres in size that is currently used as a commercial/light industrial business. Until April 2022, the property also provided fueling services. The Property is relatively flat and at an approximate elevation of 16 feet above mean sea level.

The vicinity of the Property can generally be described as commercial and residential. Current usage of the adjoining properties includes north – Hwy 101 with commercial; south – residential; east – commercial, and west – Elmira Ave SE with commercial.

1.3 Project Background

Alpha was initially contacted by the client, Mr. Goddard in March 2022 about completing the decommission work. The site does have a previous LUST ID, 06-12-1585 from an assessment from Universal Applicators, Inc. dated November 30, 2012. The report details assessment of Tank 6, the southernmost UST on the property, which was temporarily closed at the time in 2012. The assessment indicated that soil contamination for gasoline and diesel was observed in the west end sample at 472-ppm gasoline, 805-ppm diesel, and 1,180-ppm residual range organics.

An initial site assessment was completed by Alpha in April 2022. Initial assessments of the 6 fuel USTs, 1 heating oil tank, and oil/water separator tank were collected as was shallow surface contamination in dispenser area following dispenser removal. These samples and reports have been previously submitted.

Following discussions with client and DEQ, removal of at least a base amount of contaminated soil in the dispenser area was conducted in May 2022. A total of 97.14 tons of contaminated soil was removed, and

confirmation samples were collected. The results of this investigation were discussed in the initial 20-day report. Most detections are below the applicable commercial Risk-Based Concentrations (RBCs), except for ethylbenzene which exceeded the occupational vapor intrusion pathway. Groundwater was not assessed at time of soil removal due to unsettled nature of soil/contamination/groundwater in the excavation area.

Based on remaining soil contamination and groundwater contamination, Alpha sampled under DEQ direction throughout the facility area in September 2022. Following the receipt of those results and submittal to DEQ in December 2022, 4 additional borings were requested by DEQ to determine soil and groundwater contamination migration.

1.4 Beneficial Land and Water Use

Land Use

The site is zoned Commercial Retail (CR).

Groundwater Use

According to the Oregon Water Resources Department (WRD) online database, a total of 52 water wells were identified within the same township and range section (T28S R14W S30). Of these wells, 57 were identified as domestic wells, 31 as industrial wells and 0 were not specified. The table below summarizes the well use, well status and approximate distance for the Property.

Type of Water Well	Total Wells	Abandoned	No Address	> 1,000 ft	> 500 ft
Domestic	**6**	3	2	3	0
Industrial	**31**	21	0	31	0
Not Specified	**17**	14	11	5	0
Totals	**52**	38	13	39	0

Domestic Wells

Of the 52 wells identified in the section, 6 were labeled as domestic wells. Three of the wells are abandoned and are of no potential concern. The other three wells do not have a well address given and the distance from the Property could not be determined. The nearby domestic wells that do not appear to have been abandoned are well over ¼ mile from the site.

Industrial Wells

Of the 52 wells identified in the section, 31 were labeled as industrial wells. All wells are either abandoned or at least ¼ mi from the site.

Non-Specified Wells

Of the 52 wells identified in the section, 17 were not specified in their use. All wells are either abandoned or at least ¼ mi from the site.

Groundwater Depth

Based on Alpha's observations, groundwater fluctuates from about 6 to 10 feet based on season. Review of the site elevation also indicates flow direction fluctuates from southeast to northwest. All Alpha's borings had static groundwater levels about 11 feet below surface grade in undisturbed areas of the site.

Surface Water Use

The nearest major surface water in the vicinity of the Property is Ferry Creek about 500 feet to the east and flowing to the north. Coquille River is also located about 600 feet to the northwest. Both water bodies provide habitat for wildlife and are used for navigation, fishing and recreation. Stormwater at the site is directed to the City of Bandon's municipal stormwater system and/or into the water/oil tank on site.

1.5 Site Specific Geology

Based on soil boring logs from Universal Applicators, subsurface soils typically consist of fill material and native soils. Fill material consisting of sand was found at depths extending from the surface down to approximately 6 to 8 feet below ground surface in the former tank pit area and then alluvium, clayey and from 6-8 feet to 12 feet below surface grade.

2.0 PREVIOUS INVESTIGATIONS

2.1 Alpha/DEQ Correspondence

Alpha previously collected initial site assessment samples in April 2022 and confirmation excavation samples in May 2022. Additional samples were collected in January 2023 with results and report provided February 2023. Following results, and a work plan was submitted and approved in June 2023 for 9 soil and groundwater samples and 7 soil-gas samples.

3.0 LABORATORY RESULTS

Soil Samples

Per approved work plan, soil samples were collected from the 19 borings (21 were attempted but 2 were not able to be collected from area) and analyzed initially for NWTPH-HCID, and then NWTPH-Dx for detect samples. None of the samples had detections for gasoline on HCID. Constituent data was not analyzed on samples as detections for soil did not exceed soil matrix cleanup levels (100 ppm diesel) for site.

A summary of the initial laboratory analytical results is presented below in Table 1.

Table 1 –Soil Sample Analytical Results

Soil

Sample No.	Location of Sample	Sample Date	Sample Depth in Feet	Represents Soil Remaining at Site	NWTPH-Gx Results in mg/kg	NWTPH-Dx (Diesel Range) Result mg/kg	NWTPH-DX (Heavy Oil Range) Result mg/kg
B1	~30' W of PL, ~ 40' S of Hwy 101	9/8/2023	12'	Yes	**ND**	**ND**	**YES**
B2	~30' W of PL, ~ 60' S of Hwy 101	9/8/2023	12'	Yes	**ND**	**1,450**	**ND**
B3	~30' W of PL, ~80' S of Hwy 101	9/8/2023	12'	Yes	**ND**	**ND**	**ND**
B4	~20' N of building and 40' W of Elmira St	9/8/2023	12'	Yes	**ND**	**ND**	**258**
B5	~ 20' N of building and 60' W of Elmira St	9/8/2023	12'	Yes	**ND**	**ND**	**ND**

Sample No.	Location of Sample	Sample Date	Sample Depth in Feet	Represents Soil Remaining at Site	NWTPH-Gx Results in mg/kg	NWTPH-Dx (Diesel Range) Result mg/kg	NWTPH-DX (Heavy Oil Range) Result mg/kg
B6	~ 20' N of building and 80' W of Elmira St	9/8/2023	12'	Yes	**ND**	**ND**	**ND**
B7	~ 5' S of building and 25' E of Elmira St	9/8/2023	12'	Yes	**ND**	**ND**	**ND**
B8	10' S of building and 10' W of E PL	9/8/2023	12'	Yes	**ND**	**ND**	**ND**
B9	10' N of dispenser island and 20' east	9/8/2023	12'	Yes	**ND**	**1170**	**ND**
B22	W end of heating oil tank (duplicate)	1/20/2023	11'	Yes	**ND**	**ND**	**ND**
B23	W end of heating oil tank (duplicate)	9/19/2022	11'	Yes	**ND**	**1,450**	**ND**
B24	S lateral, 5' S from B1	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B25	W lateral, 5' W from B1	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B1	W end of heating oil tank (duplicate)	9/19/2022	11'	Yes	**N/A**	**ND**	**ND**
B2	W end of heating oil tank (duplicate)	9/19/2022	11'	Yes	**N/A**	**ND**	**ND**
B3	S lateral, 5' S from B1	9/19/2022	11'	Yes	**N/A**	**ND**	**69.7**
B4	W lateral, 5' W from B1	9/19/2022	11'	Yes	**N/A**	**ND**	**ND**
B5	E lateral, 13.5' E from B1	9/19/2022	11'	Yes	**N/A**	**ND**	**ND**
B6	S end of Oil/Water Separator Tank	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B7	N end of excavation area of former dispensers	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B8**	W lateral for Oil/Water Separator Tank, 5' W from N end	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B9	S end of excavation area of former dispensers, 3' S from edge of excavation	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B10	W end of excavation area of former dispensers, 8' W from edge of excavation	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B11**	N lateral for Oil/Water Separator Tank, 5' N from N end	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B12	Assessment sample for NW corner of Tank nest	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B13	E end of excavation	9/19/2022	11'	Yes	**ND**	**56.2**	**ND**

	area of former dispensers, 15' E from edge of excavation						
B14	Assessment sample for E side of Tank nest	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B15	Assessment sample for near SW corner of Tank nest	9/19/2022	11'	Yes	**ND**	**97.1**	**ND**
B16	Assessment sample for SE corner of Tank nest	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B17	Delineation sample for former contamination area, 3' N of B19 (assessment)	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B18	Delineation sample for former contamination area, 3' W of B19 (assessment)	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B19	Assessment sample for SW corner of Tank nest, former contamination area	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B20	Delineation sample for former contamination area, 3' S of B19 (assessment)	9/19/2022	11'	Yes	**ND**	**ND**	**ND**
B21	(Blank for QA/QC)	9/19/2022	N/A	N/A	**ND**	**ND**	**ND**
Generic Risk Based Screening Levels							
Direct Contact (Construction Worker)					9,700	4,600	11,000
Vapor Intrusion into Buildings (Residential)					94	>Max	>Max
Leaching to Groundwater					31	>Max	>Max

ND = Analyte Not Detected at or above laboratory reporting limit (See Laboratory Report) All reporting limits are below the RBCs.

mg/kg = milligram per kilogram or parts per million (ppm)

* Constituents run on sample, see next Table

** Boring required multiple attempts to complete

Soil VOC Analysis

The soil from samples B-23 was detect for diesel, therefore BTEX+N was analyzed. All data was ND.

Groundwater Sampling

The water samples from the 4 borings showed concentrations of gasoline and/or diesel. These detections were significantly lower than previous samples from September 2022 and show contamination is attenuating in down gradient/cross gradient locations. Based on this attenuation, Alpha recommends closure of site without further assessment.

Groundwater Delineation

Groundwater delineation has been conducted with attenuation in west and north locations of source areas.

Table 2a – Initial Groundwater Sample Analytical Results

Sample No.	Location of Sample	Sample Date	Sample Depth in Feet	Sample Collection Method	NWTPH-Gx Results in ug/L	NWTPH-Dx (Diesel Range) Result ug/L	NWTPH-DX (Heavy Oil Range) Result ug/L
B-1	~30' W of PL, ~ 40' S of Hwy 101	9/8/2023	12'	Peristaltic pump	**ND**	**ND**	**ND**
B-2	~30' W of PL, ~ 60' S of Hwy 101	9/8/2023	12'	Peristaltic pump	**ND**	**ND**	**ND**
B-3	~30' W of PL, ~80' S of Hwy 101	9/8/2023	12'	Peristaltic pump	**ND**	**ND**	**ND**
B-4	~20' N of building and 40' W of Elmira St	9/8/2023	12'	Peristaltic pump	**ND**	**ND**	**ND**
B-5	~ 20' N of building and 60' W of Elmira St	9/8/2023	12'	Peristaltic pump	**ND**	**ND**	**ND**
B-6	~ 20' N of building and 80' W of Elmira St	9/8/2023	12'	Peristaltic pump	**ND**	**ND**	**ND**
B-7	~ 5' S of building and 25' E of Elmira St	9/8/2023	12'	Peristaltic pump	**ND**	**367**	**ND**
B-8	10' S of building and 10' W of E PL	9/8/2023	12'	Peristaltic pump	**461**	**1350**	**ND**
B-9	10' N of dispenser island and 20' east	9/8/2023	12'	Peristaltic pump	**172**	**538**	**ND**
B22	Approximately 20' W of NW Corner of Building	1/20/2023	11'	Peristaltic pump	**242**	**2,260**	**ND**
B23	Approximately 20' W and 5' S of SW Corner of Building	1/20/2023	11'	Peristaltic pump	**1,200**	**15,300**	**ND**
B24	Approximately 10' N of B10	1/20/2023	11'	Peristaltic pump	**364**	**8,020**	**ND**
B25	Approximately 6' S of B10	1/20/2023	11'	Peristaltic pump	**700**	**1,340**	**ND**
B1	W end of heating oil tank (duplicate)	9/19/2022	11'	Peristaltic pump	**N/A**	**986**	**ND**
B2	W end of heating oil tank (duplicate)	9/19/2022	11'	Peristaltic pump	**N/A**	**139000**	**ND**
B3	S lateral, 5' S from B1	9/19/2022	11'	Peristaltic pump	**N/A**	**ND**	**ND**

B4	W lateral, 5' W from B1	9/19/2022	11'	Peristaltic pump	**N/A**	**1680000**	**ND**
B5	E lateral, 13.5' E from B1	9/19/2022	11'	Peristaltic pump	**N/A**	**ND**	**ND**
B6	S end of Oil/Water Separator Tank	9/19/2022	11'	Peristaltic pump	**974**	**70800**	**ND**
B7	N end of excavation area of former dispensers	9/19/2022	11'	Peristaltic pump	**9640**	**106000**	**ND**
B8**	W lateral for Oil/Water Separator Tank, 5' W from N end	9/19/2022	11'	Peristaltic pump	**ND**	**9470**	**ND**
B9	S end of excavation area of former dispensers, 3' S from edge of excavation	9/19/2022	11'	Peristaltic pump	**2120**	**2120**	**ND**
B10	W end of excavation area of former dispensers, 8' W from edge of excavation	9/19/2022	11'	Peristaltic pump	**3840**	**5060**	**ND**
B11**	N lateral for Oil/Water Separator Tank, 5' N from N end	9/19/2022	11'	Peristaltic pump	**ND**	**ND**	**ND**
B12	Assessment sample for NW corner of Tank nest	9/19/2022	11'	Peristaltic pump	**ND**	**ND**	**ND**
B13	E end of excavation area of former dispensers, 15' E from edge of excavation	9/19/2022	11'	Peristaltic pump	**1520**	**5940**	**ND**
B14	Assessment sample for E side of Tank nest	9/19/2022	11'	Peristaltic pump	**ND**	**ND**	**ND**
B15	Assessment sample for near SW corner of Tank nest	9/19/2022	11'	Peristaltic pump	**ND**	**97.1**	**ND**
B16	Assessment sample for SE corner of Tank nest	9/19/2022	11'	Peristaltic pump	**ND**	**ND**	**ND**
B17	Delineation sample for former contamination area, 3' N of B19 (assessment)	9/19/2022	11'	Peristaltic pump	**ND**	**ND**	**ND**
B18	Delineation sample for former contamination area, 3' W of B19 (assessment)	9/19/2022	11'	Peristaltic pump	**ND**	**ND**	**ND**
B19	Assessment sample for SW corner of Tank nest, former contamination area	9/19/2022	11'	Peristaltic pump	**ND**	**ND**	**ND**
B20	Delineation sample for former contamination area, 3' S of B19 (assessment)	9/19/2022	11'	Peristaltic pump	**ND**	**ND**	**ND**
B21	(Blank for QA/QC)	9/19/2022	N/A	N/A	**ND**	**ND**	**ND**
Generic Risk Based Screening Levels							
Direct Contact (Construction Worker)					14,000	>S	>S

Sample No.	Location of Sample	Sample Date	Sample Depth in Feet	Sample Collection Method	NWTPH-Gx Results in ug/L	NWTPH-Dx (Diesel Range) Result ug/L	NWTPH-DX (Heavy Oil Range) Result ug/L
Vapor Intrusion into Buildings (Residential)					22,000	>S	>S
Groundwater in Excavation					14,000	>S	>S

ND = Analyte Not Detected at or above laboratory reporting limit (See Laboratory Report) All reporting limits are below the RBCs.

mg/kg = milligram per kilogram or parts per million (ppm)

* Constituents run on sample, see next Table

** Boring required multiple attempts to complete

> S = Exceeds the solubility limit.

Tables 2b,c,d Groundwater Constituent Data

All units in ug/L	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-22	B-23	B-24	B-25	VI Bldg (res.)	GW in Excav.
Depth bsg (feet)	11	11	11	11	11	11	11	11	11	11	11	11	11		
Sample Date	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23	1/20/23	1/20/23	1/20/23	1/20/23	RBC ug/L	RBC ug/L
NWTPH-Gx	ND	ND	ND	ND	ND	ND	ND	461	172	242	1,200	364	700	N/A	>14,000
NWTPH-Dx	ND	ND	ND	ND	ND	ND	367	1,350	538	2,260	15,300	8,020	1,340	N/A	>S
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	<0.200	0.470	0.500	<0.200	<0.0135	0.220	<0.200	210	1,800
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	<1.00	ND	ND	<1.00	<0.0675	<1.00	<1.00	> S	220,000
Ethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	<0.500	ND	2.90	<0.500	<1.00	<1.00	<0.500	620	4,500
Xylenes	N/A	N/A	N/A	N/A	N/A	N/A	<1.50	ND	ND	<1.500	<1.50	<1.50	<1.50	86,000	23,000
Naphthalene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	0.354	ND	ND	ND	ND	840	500
1,2-Dibromoethane (EDB)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND	ND	ND	ND	ND	45	27
1,2-Dichloroethane (EDC)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND	ND	ND	ND	ND	300	630
Isopropylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.33	ND	ND	ND	ND	ND	NE	NE
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND	ND	ND	ND	ND	50,000	6,300
1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND	ND	ND	ND	ND	36,000	7,500
PAH detections	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Below RBCs	Below RBCs	Below RBCs	Below RBCs	Below RBCs	Below RBCs		

ND = Analyte Not Detected at or above laboratory reporting limit

NE = No Cleanup Value Established by DOE

ug/L = milligram per liter or parts per billion (ppb)

> S = Exceeds the solubility limit.

All units in ug/L	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-11	B-12	B-13	VI Bldg (res.)	GW in Excav.
Depth bsg (feet)	11	11	11	11	11	11	11	11	11	11			11		
Sample Date	9/19/22	9/19/22	9/19/22	9/19/22	9/19/22	9/19/22	9/19/22	9/19/22	9/19/22	9/19/22	9/19/22	9/19/22	9/19/22	RBC ug/L	RBC ug/L
NWTPH-Gx	N/A	N/A	N/A	N/A	N/A	974	9,640	ND	2,120	3,840	ND	ND	1,520	N/A	>14,000
NWTPH-Dx	986	139,000	ND	1,680,000	ND	70,800	106,000	9,470	2,120	5,060	ND	ND	5,940	N/A	>S
Benzene	<0.200	<0.400	N/A	<0.200	<0.200	3.71	237	<0.200	126	N/A	N/A	N/A	65.2	210	1,800
Toluene	<1.00	<2.00	N/A	<1.00	<1.00	<1.00	72.6	<1.00	2.96	N/A	N/A	N/A	2.02	> S	220,000
Ethylbenzene	1.25	33.3	N/A	8.94	17.1	0.970	53.9	<0.500	2.84	N/A	N/A	N/A	22.4	620	4,500
Xylenes	1.60	137	N/A	22.8	68.0	<1.50	66.4	ND	88.6	N/A	N/A	N/A	4.85	86,000	23,000
Naphthalene	N/A	N/A	N/A	N/A	N/A	<5.00	112	ND	N/A	N/A	N/A	N/A	7.45	840	500
1,2-Dibromoethane (EDB)	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND	N/A	N/A	N/A	N/A	ND	45	27
1,2-Dichloroethane (EDC)	N/A	N/A	N/A	N/A	N/A	ND	ND	ND	N/A	N/A	N/A	N/A	ND	300	630
Isopropylbenzene	N/A	N/A	N/A	N/A	N/A	ND	ND	1.33	N/A	N/A	N/A	N/A	ND	NE	NE
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	ND	ND	ND	N/A	N/A	N/A	N/A	ND	50,000	6,300
1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	ND	ND	ND	N/A	N/A	N/A	N/A	ND	36,000	7,500
PAHs	ND below RBCs	ND below RBCs	N/A	ND below RBCs	ND below RBCs	ND below RBCs	ND below RBCs	ND below RBCs	ND below RBCs	ND below RBCs	N/A	N/A	ND below RBCs		

All units in ug/L	B-14	B-15	B-16	B-17	B-18	B-19	B-20	B-21	VI Bldg (res.)	GW in Excav.
Depth bsg (feet)	11	11	11	11	11	11	11	11		
Sample Date	9/19/22	9/19/22	9/19/22	9/19/22	9/19/22	9/19/22	9/19/22	9/19/22	RBC ug/L	RBC ug/L
NWTPH-Gx	ND	ND	ND	ND	ND	ND	ND	ND	N/A	>14,000
NWTPH-Dx	ND	97.1	ND	ND	ND	ND	ND	ND	N/A	>S
Benzene	0.330	N/A	N/A	N/A	N/A	N/A	ND	0.470	210	1,800
Toluene	<1.00	N/A	N/A	N/A	N/A	N/A	ND	ND	> S	220,000
Ethylbenzene	<0.500	N/A	N/A	N/A	N/A	N/A	ND	ND	620	4,500
Xylenes	<1.50	N/A	N/A	N/A	N/A	N/A	ND	ND	86,000	23,000
Naphthalene	<0.208	N/A	N/A	N/A	N/A	N/A	0.354	ND	840	500
1,2-Dibromoethane (EDB)	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND	45	27
1,2-Dichloroethane (EDC)	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND	300	630
Isopropylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	ND	1.33	NE	NE
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND	50,000	6,300
1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND	36,000	7,500
	ND Below RBCs	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

Table 3a – Soil-Gas Sample Analytical Results

Sample No.	Location of Sample	Sample Date	Sample Depth in Feet	Sample Collection Method	NWTPH-Gx Results in ug/L	NWTPH-Dx (Diesel Range) Result ug/L	Constituent Data Above RBCs ug/L
SG-1	3' W and 3' N of SW corner of building	9/8/2023	3'	TO-17	**ND**	**ND**	**No**
SG-2	5' S and 10' W of SE corner of building	9/8/2023	3'	TO-17	**ND**	**ND**	**No**
SG-3	Eastern side of building 15' W and 15' N of SE Corner	9/8/2023	3'	TO-17	**ND**	**ND**	**No**
SG-4	Center of building 30' W and 15' N of SE Corner	9/8/2023	3'	TO-17	**ND**	**ND**	**No**
SG-5	Western side of building 10' E and 10' N of SW Corner	9/8/2023	3'	TO-17	**ND**	**ND**	**No**
SG-6	10' S of NE corner of dispenser island and 20' east	9/8/2023	3'	TO-17	**ND**	**ND**	**No**
SG-7	5' E and 5' S of SE Corner of tank pit	9/8/2023	3'	TO-17	**ND**	**ND**	**No**
Generic Risk Based Screening Levels							
Inhalation					14,000	>S	>S
Vapor Intrusion into Buildings (Residential)					22,000	>S	>S
Groundwater in Excavation					14,000	>S	>S

Table 3b – Soil-Gas Constituent Data

VISLs	TPH-Gx	TPH-Dx	Benzene	Toluene	Ethylbenzene	T. Xylenes	Naphthalene
Residential -C	10,000	3,300	12	170,000	37	3,500	2.8
Commercial-C	40,000	14,000	52	730,000	160	15,000	12
Residential-A	N/A	N/A	970	250,000	730,000	290,000	6,700
Commercial-A	N/A	N/A	2,900	770,000	2,200,000	870,000	20,000
SG-1 (9/8/23)	<2500	<1600	<10	6.9	<5	<15	<1
SG-2 (9/8/23)	<2500	<1600	<10	75	11	49	<1
SG-3 (9/8/23)	<2500	<1600	<10	<5	<5	<15	<1
SG-4 (9/8/23)	<2500	<1600	<10	<10	22	23.3	<1
SG-5 (9/8/23)	<2500	<1600	<10	7.7	<5	<15	<1
SG-6 (9/8/23)	<2500	<1600	<10	11	<5	<15	<1
SG-7 (9/8/23)	<2500	<1600	<10	26	<5	<15	<1

Notes: Units- ug/mg^3

TABLE 4: - Conceptual Site Model Risk Table

Potentially Exposed Population	Exposure Route, Medium and Exposure Point	Pathway Selected?	Risk from This Pathway?	Reason for Selection or Exclusion
SOURCE: **GASOLINE AND DIESEL TANKS/DISPENSERS;** CURRENT AND FUTURE LAND USE: **RESIDENTIAL;** IMPACTED MEDIUM: **SOIL**				
Adults (Residential)	Soil Ingestion, Dermal Absorption or Inhalation from on-site soils above 3 feet	No	**No**	The pathway is not complete as no remaining soil contamination was observed.
Potentially Exposed Population	**Exposure Route, Medium and Exposure Point**	**Pathway Selected?**	**Risk from This Pathway?**	**Reason for Selection or Exclusion**
Adults (Construction Workers)	Soil Ingestion, Dermal Absorption or Inhalation from on-site soils below 3 feet	Yes	**No**	The pathway is complete: however, no remaining soil contamination was observed.
Adults (Residential)	Volatilization to Outdoor Air	Yes	**No**	The pathway is complete: however, no remaining soil contamination was observed.
Adults (Residential)	Vapor Intrusion into Buildings	Yes	**No**	The pathway is complete but a previous soil sample with constituent analysis indicated levels are below RBCs. All constituent data above RBCs (in dispenser area) is sufficiently distance
Adults (Residential)	Soil Leaching to Groundwater	No	**No**	The property and vicinity have drinking water provided by the municipal system.

Potentially Exposed Population	Exposure Route, Medium and Exposure Point	Pathway Selected?	Risk from This Pathway?	Reason for Selection or Exclusion
SOURCE: **GASOLINE AND DIESEL TANKS/DISPENSERS;** CURRENT AND FUTURE LAND USE: **RESIDENTIAL;** IMPACTED MEDIUM: **GROUNDWATER**				
Adults (Residential)	Vapor Intrusion into Buildings	Yes	**No**	The pathway is complete: however, all detections are below the RBCs.

Adults	Groundwater in Excavation	Yes	**No**	The pathway is complete for future workers: however, groundwater detections are below the RBCs.

Potentially Exposed Population	Exposure Route, Medium and Exposure Point	Pathway Selected?	Risk from This Pathway?	Reason for Selection or Exclusion
SOURCE: **GASOLINE AND DIESEL TANKS/DISPENSERS;** CURRENT AND FUTURE LAND USE: **RESIDENTIAL;** IMPACTED MEDIUM: **SOIL-GAS**				

Potentially Exposed Population	Exposure Route, Medium and Exposure Point	Pathway Selected?	Risk from This Pathway?	Reason for Selection or Exclusion
Adults (Residential)	Vapor Intrusion into Buildings	Yes	**No**	The pathway is complete: however, all detections are below the RBCs.
Adults	Groundwater in Excavation	Yes	**No**	The pathway is complete for future workers: however, groundwater detections are below the RBCs.

4.0 CONCLUSIONS

In accordance with the scope of services, the tank was decommissioned according to OAR 340-150 and the American Petroleum Institute (API) Recommended Practice 1604.

4.1 Findings

Summary of Decommission

- Tanks were properly pumped, cleaned, and removed.
- Sufficient soil samples were collected to fully delineate site showing remaining contamination is contained to dispenser leak area, around former heating oil tank, and around Oil/Water tank.
- Previous soil sampling indicates all contamination is either below risk levels or sufficiently distant from site building.
- Soil, groundwater, and soil-gas sampling data indicates that contamination levels for soil, groundwater, and soil-gas sampling are below DEQ RBCs for the applicable exposure pathways.
- Based on site data from September 2022, February 2023, and September 2023 Alpha would recommend closure.

4.2 Risk Evaluation

Based on the findings and conclusions discussed above, no environmental conditions were encountered at the Property that would pose an adverse risk to site occupants or the environment.

4.3 Recommendations

Alpha does not have any further recommendations for this site.

10/12/2023
DATE

ZACH GOODMAN
UST DECOMMISSIONING SUPERVISOR - #27202

10/12/2023
DATE

JIM COOPER, R.G.
UST DECOMMISSIONING SUPERVISOR - #27125

ALPHA ENVIRONMENTAL SERVICES, INC.
DEQ LICENSED SERVICE PROVIDER #17703

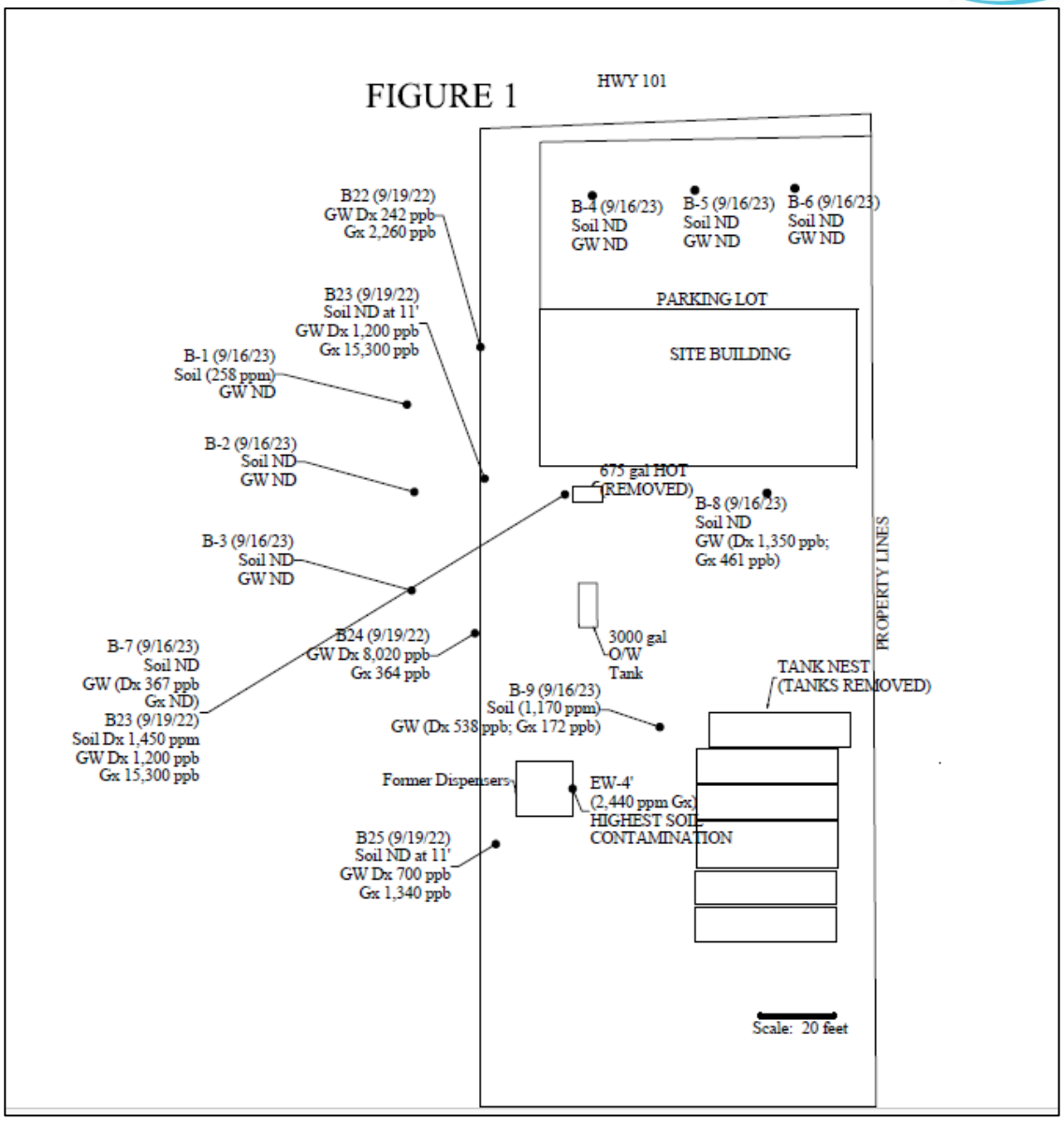

Figure 1. Site Map Combined Groundwater Levels.