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By Alameda County Environmental Health 2:23 pm, May 16, 2017

May 11, 2017

Mr. Delong Liu
Delong Petroleum, Inc.
2501 North Main Street
Walnut Creek, California 94597

RE: Revised Off-Site Soil & Groundwater Investigation Work Plan

76 Gas Station/Circle K
1716 Webster Street
Alameda, California
ACEH Case # RO0003140

"I have read and acknowledged the content, recommendations and/or conclusions in the attached document or report submitted on my behalf to ACDEH's FTP server and the SWRCB's Geotracker Website."

Submitted by;

Delong Liu
President

4115 Blackhawk Plaza Circle, Suite 100, Danville, CA 94506 (925) 648-2008 Fax (925) 648-2797

Compliance & Closure, Inc.

May 11, 2017

Alameda County Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Attention: Mr. Mark Detterman

RE: Revised Off-Site Soil & Groundwater Investigation Work Plan
Delong Oil, Inc.
1716 Webster Street, Alameda, California 94501
Fuel Leak Case No. RO0003140; (Global ID No. T10000005974)
(CCI Project No. 12214-3)

Dear Mr. Detterman:

Compliance & Closure, Inc. (CCI) is pleased to present this Revised Off-Site Soil & Groundwater Investigation Work Plan for the Delong Oil site located at 1716 Webster Street, Alameda, California. The Work Plan was requested from the Alameda County Environmental Health (ACEH) in its letter dated March 17, 2017.

CCI appreciates your comments and if you have any questions, please contact our office at 925-648-2008 or e-mail gary@cci-envr.com.

Sincerely,
Compliance & Closure, Inc.

Gary R. Mulkey

Gary R. Mulkey, P.G. 5842

Professional Geologist
Gary R. Mulkey
NO. 5842
State of California

Cc: Mr. Delong Liu, Delong Oil, Inc.

Revised Off-Site Soil & Groundwater Investigation Work Plan

For

Delong Oil, Inc.
1716 Webster Street, Alameda County, California

Introduction

Compliance & Closure, Inc. (CCI) has prepared this Revised Off-Site Soil & Groundwater Investigation Work Plan on behalf of Delong Oil, Inc., owner of the property located at 1716 Webster, Alameda, California (Figure 1). The revised work plan was requested by the Alameda County Environmental Health (ACEH) in its letter dated March 17, 2017. The ACEH has requested that CCI's May 23, 2016 Work Plan for Additional Soil and Groundwater Investigation which included soil borings be put on hold.

In its March 17, 2017 letter, the ACEH stated that the sites diesel underground storage tank (UST) release on the northwest side of the site and the waste oil UST release on the southeast side of the site be investigated as separate environmental cases. The Waste Oil UST investigation will continue to be conducted as Fuel Leak Case No. RO0003140, (Global ID # T10000005974). ACEH has requested a work plan be prepared by May 19, 2017 to investigate the extent of soil and groundwater contamination emanating from the former waste oil tank. CCI will also investigate the construction of the residential home to determine if the house has a basement structure or sump where soil gas could collect.

Depending on the results of the off-site soil and groundwater investigation, CCI may collect subsurface soil vapors samples and atmospheric vapor samples to determine any impact to the residential home east of the former waste oil tank location.

Site Setting

The site is currently an operating 76 gas station with a Circle K convenience store located on the southeast corner of Webster Street and Buena Vista Avenue in the City and County of Alameda, California. Adjacent to the property on the east side are residences, across Buena Vista Avenue

to the north is an operating Chevron gas station and commercial properties are located south and west of the site.

Background Information

In 1983, three single-walled, fiberglass gasoline fuel tanks (12,000-gallon, 10,000-gallon and 6,000-gallon) and one waste oil tank were installed underground (USTs) at the site. In 1987, Mobil Oil Corporation replaced the waste oil tank with a 1,000-gallon tank. The site was later sold to British Petroleum, which operated the site until 1994. In 1994, the site was sold to ConocoPhillips, which operated the site until 2009. Between 1990 and 2009, several environmental site investigations and monitoring activates were conducted by several environmental consulting firms including Kaprealian Engineering, Inc., Hydro-Environmental Technologies, Inc., Fugro West and TRC Alton Geoscience.

In 2009, ConocoPhillips sold the site to United Brothers Enterprises, Inc., also doing business as Delong Oil, Inc., the current owner of the property. In early November 2009, Delong Oil converted the 6,000-gallon gasoline tank to a diesel tank. In July 2011, free-phase product was discovered in well RW-1, located adjacent to the converted diesel tank. Fingerprint analysis later identified the liquid as diesel fuel. Since Delong Oil was the only operator to sell diesel fuel at the site, the ACHE named it as a responsible party for the unauthorized release of the fuel. On September 6, 2013, the 1,000-gallon waste oil tank was removed from the site. Two soil samples and one grab water sample were collected from the excavation. The laboratory reported the soil samples contained detectable total petroleum hydrocarbons as diesel (TPHd) at 30.9 milligrams per kilogram (mg/kg) and total petroleum hydrocarbons as motor oil (TPHmo) at 231 mg/kg. The groundwater sample was also reported to contain detectable TPHd at 18,200 micrograms per liter (ug/L) and TPHmo at 46,200 ug/L. Based on these results, Delong Oil was again named a responsible party for an unauthorized release of product in the vicinity of the former waste oil tank.

On June 10, 2014, ACEH issued a letter directing Delong Oil to prepare a scope of work to characterize the downgradient and lateral extent of the free-phase product and groundwater contamination associated with the waste oil tank. ACEH also directed Delong Oil to evaluate potential impacts from the waste oil tank release to adjacent down-gradient residential buildings.

On January 25, 2016, CCI conducted a soil and groundwater investigation in the vicinity of the former was oil and hydraulic lift area of the former gas station building. CCI was following the scope of work in the approved work plan from June 2014.

Results from the investigation showed that the soil and groundwater samples collected from the area just north and west of the former waste oil tank and the area of the former hydraulic lifts were

reported by the laboratory to contain detectable concentrations of TPHd. Soil sample SB-6-5, collected from a depth of 5 feet was reported by the laboratory to contain the highest TPHd concentration, at 32.1 mg/kg. This soil sample was also reported to contain TPHmo at 178 mg/kg and total petroleum hydrocarbons as hydraulic oil (THPho) at 34.7 mg/kg. The concentration of TPHd in the other 11 soil samples were much lower. No other compounds were detected in the soil samples.

Six groundwater samples collected from the borings were reported to contain relatively low concentrations of TPHd. All the TPHd samples were below the ESLs for groundwater where groundwater is a current or potential drinking water source. Four of the water samples, however, were reported to contain TPHmo ranging from 0.221 mg/L at SB-5-W to 0.493 mg/L at SB-6-W. All four of these water samples (SB-1-W, SB-2-W, SB-5-W and SB-6-W) exceeded the 100 ug/L ESLs for TPHmo where groundwater is a current or potential drinking water resource. The extent of the TPHmo in the groundwater to the east was not defined. The current and past groundwater gradient at the site indicates the groundwater flow direction is generally toward the north.

PID readings recorded during the investigation generally ranged from 15 to 1440 ppm in several of the soil borings. These PID readings did not correlate with results from the laboratory analysis.

On October 19, 2016, The ACEH requested a new work plan that addressed the residential foundations of the homes to the east of the site, on site soil vapor sampling and further delineation of the groundwater diesel plume to the northwest of the site. CCI submitted the work plan to ACEH on December 5, 2016. However, in its March 17, 2017, the ACEH issued a letter indicated that the sites diesel underground storage tank (UST) release and the waste oil UST release would be investigated as separate environmental cases. ACEH has requested a work plan be prepared for Fuel Leak Case No. RO0003140 to investigate the extent of off-site soil and groundwater contamination emanating from the former waste oil tank to the east and northeast of the former waste oil tank location. Base on that request, CCI provides the following scope of work.

Scope of Work

In response to the ACEH directive, CCI proposes to do the following;

1) Send a letter to the property owner of the adjacent residence immediately east of the gas station site to request access to the property to investigate the building foundation and obtain permission to collect soil and water samples from the site;

2) Use a hand auger to collect soil samples and grab water samples from the back yard of the residence;

3) Depending on the results of the off-site soil and groundwater investigation, CCI may collect subsurface soil vapors samples and atmospheric vapor samples to determine any impact to the residential home east of the former waste oil tank location;

4) Presented the results of the investigation in a report.

Residential Foundation Investigation

On September 6, 2013, the 1,000-gallon waste oil tank was removed from the southwest side of the site. Two soil samples and one grab water sample were collected from the excavation. The laboratory reported the soil samples contained detectable total petroleum hydrocarbons as diesel (TPHd) at 30.9 milligrams per kilogram (mg/kg) and total petroleum hydrocarbons as motor oil (TPHmo) at 231 mg/kg. The groundwater sample was also reported to contain detectable TPHd at 18,200 micrograms per liter (ug/L) and TPHmo at 46,200 ug/L. Due to the soil and groundwater contamination detected from the waste oil tank removal, the ACEH has requested that the residential home to the east of the Delong Oil site have its foundation investigated for the presence of any petroleum vapors.

CCI will send a letter to the property owner located at 706 Buena Vista Avenue, to request access to the property to investigate building foundation for any sign of petroleum vapors and collect soil and groundwater samples. If access is denied, CCI will use a Geoprobe rig to collect soil and groundwater sampling in the street in front of 706 Buena Vista Avenue (Figure 2). Assuming that access is granted, CCI will attempt to determine if the residential structure has a basement or uses a sump pump to remove water from underneath the homes. CCI will use a PID meter to determine if any measurable vapors are present under the home.

Soil and Groundwater Sampling

Due to limit site access to the backyard of the adjacent residence along the east side of the gas station site, CCI proposes to use a hand auger to bore down and collect soil and grab water samples. It is assumed the borehole will remain open after boring to approximately 10 feet. CCI will collect two soil samples, one from a depth between 1 and 5 feet and the second between depths of 5 to 10 feet. These two samples will be collected using a slide hammer and sampling tube fitted with a 2 x 6 inch brass liner. Upon retrieval, the brass liner will be sealed with Teflon® sheets and plastic caps, labeled, logged onto a chain of custody form and placed into an ice chest for transport to the laboratory. This process will be repeated for the soil sample collected from between 5 and 10 feet.

Groundwater is anticipated to encounter at depths between 5 and 10 feet below the ground surface. CCI will install at least ten feet of ¾-inch diameter PVC tubing with 5 feet of machined slots. A groundwater sample will be collected from the boring by inserting 3/8-inch diameter Teflon tubing into the temporary well. The Teflon tubing will be connected to a peristaltic pump and

groundwater will be pumped into laboratory supplied sample containers. Upon completion of the sampling, the boring will be grouted with Portland cement. CCI will use a tremie pipe installed to the bottom of the boring and poured grout down the pipe into the boring until grout reaches the surface.

Laboratory Analysis for Soil and Groundwater Samples

It is estimated that a total of two soil samples and one water sample will be collected during the investigation. The samples will be submitted to SGS Accutest Laboratories (Accutest), a state-certified laboratory located in San Jose, California, for chemical analysis. Accutest will employ methods approved by the California Regional Water Quality Control Board (CRWQCB) and the EPA. The samples will be analyzed for the presence of total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and total xylenes (BTEX), naphthalene and fuel oxygenates using EPA Test Method 8260B and total petroleum hydrocarbons as diesel (TPHd) using EPA Test Method 8015B. All the water samples analyzed for TPHd and will be analyzed with silica gel cleanup.

Contingency Soil Vapor Sampling

Based on the laboratory results from the soil boring, soil vapor samples may be required to be collected. If that is the case, CCI proposes to collect soil gas samples from three sample locations along the east side of the gas station site and one from the back yard of the residence at 706 Buena Vista Avenue, Figure 2. Do to the shallow groundwater table, the soil vapor samples will be collected from depths of approximately 3 feet. The subsurface vapor sampling will be performed using a Direct-Push Technology (DPT) system provided by Gregg Drilling and Testing of Martinez, California under the supervision of a California Professional Geologist. Soil gas analysis will be performed by Eurofins/Air Toxics of Folsom, California. The soil gas samples collected during the investigation will be analyzed for volatile organic compounds (VOCs) using ASTM D-1946 use TO-15. The sample results will be evaluated using screening levels developed by the DTSC Human and Ecological Risk Office (HERO). In addition, CCI will compare the results to the San Francisco Bay, Regional Water Quality Control Boards, Environmental Screening Levels (ESLs) for soil vapor gas to determine if any VOC soil gas will be an issue at the subject site.

Temporary Soil Gas Sampling Probe Installation

Prior to commencing field work, CCI will notify Underground Service Alert (USA) and a private line location firm to clear the proposed boring locations of any underground utilities. CCI will install the three temporary sampling points by “direct-pushing” small diameter rods into the subsurface with a Geoprobe® System. The fourth soil vapor probe installation will be done with a hand auger. The rods will be pushed to a depth of approximately 3 feet. Once the probe reaches the designated sampling depth, ¼-inch outside diameter (O.D.) Teflon tubing with a

vapor implant will be inserted through the direct push probe, (Figure 3). The vapor implant will be placed at the vertical midpoint of the sand pack having a thickness of 6-inches to 1 foot. A minimum of 6 inches of dry granular bentonite will be placed on the sand pack. Hydrated granular bentonite with then be placed on top of the 6-inches of the dry granular bentonite and brought to the surface. After construction of each temporary soil gas probe, samples will not be collected for at least 2 hours in order to allow subsurface conditions to equilibrate.

Shut in Test

The shut in test will be used to determine whether there are any leaks in the sample train between the Summa canister and the vapor tight valve atop the sample probe. This test is performed prior to connecting the sample train to the ¼-inch Teflon tubing on the vapor sample probe. The sample train consists of a Summa canister, a flow regulator (150-millilters/minute), vacuum gauges, purge port, sample port and micro-filter (Figure 4). The Summa canister will be attached to the sample manifold; the sample port valve will then be closed. A vacuum pump will then be attached to the purge port and a vacuum of at least -20 inches of mercury (hg) will be applied. Once the vacuum is applied, the purge port valve will be closed. The vacuum in the manifold will be monitored for at least 5 minutes using an attached vacuum gauge. The vacuum reading should be constant. If it is not, there is a leak and the manifold needs to be sealed.

Leak Test

A leak test will be used to determine whether ambient air is leaking into the soil gas sample during collection of the sample. The test will be conducted at every soil gas probe sample location. Isopropyl Alcohol (IPA) will be used as a liquid tracer compound to evaluate sample integrity. A leak test shroud will be used and placed over the sample train at the surface to create background atmosphere with the tracer gas. The shroud is designed to contain the entire sampling train and the soil gas well annulus (Figure 5). The seal integrity of the sample train and soil sampling probe will be confirmed by analyzing the soil gas sample for the tracer compound Isopropyl Alcohol (IPA).

Vapor Probe Purge Volume

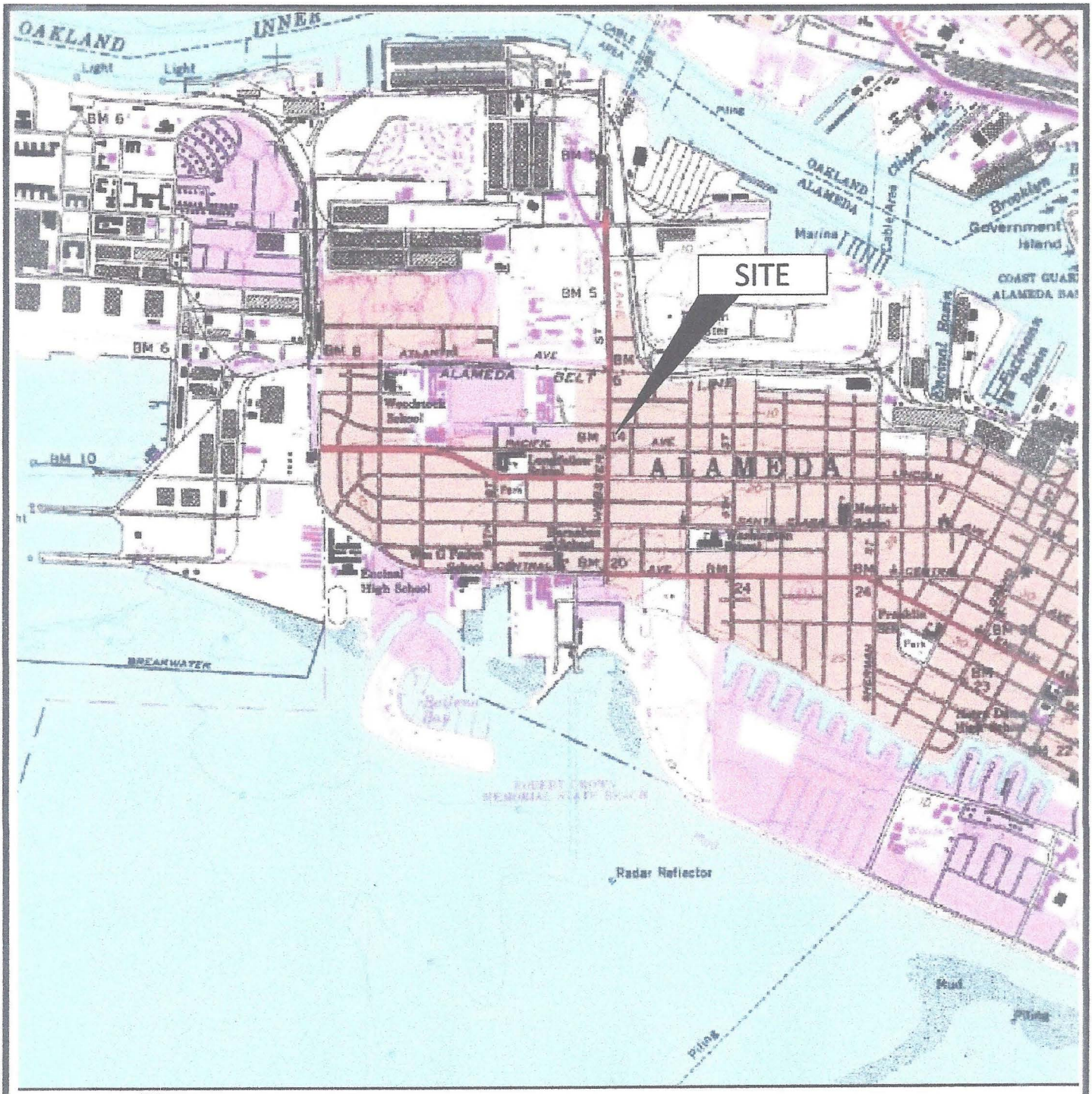
To ensure stagnant or ambient air is removed from the sampling point and to assure samples collected are representative of subsurface conditions, the air in the sample probe will be purged. CCI will use a default of three (3) purge volumes at each sample location and will calculate the purge volume based on purge volume tables (Appendix A). Three sampling tube volumes will be purged using a 6-liter SUMMA® canister. Purge time will be based on the pressure drop on the purge canister, approximately 3 to 5 psi.

Subsurface Vapor Sampling

Once the Shut in Test, Leak Test and Vapor Probe Purge are completed, the probe is then pulled up approximately 6-inches to expose the screen to the open borehole. Soil vapor samples will then be collected in a 1-liter Summa canister equipped with a pressure gauge. For each sample canister, initial and final pressure readings and sampling times will be recorded. Following soil vapor sample collection, the Summa canister valve will be closed, labeled, recorded on a chain of custody form and placed into a cooler for transport to the laboratory. The probe boreholes will then backfilled with Portland cement.

Report

At the conclusion of all field activity, a report of the findings of the investigation will be prepared. The report will include a summary of the investigation activities, including the soil and groundwater results and if warranted, soil vapor sample results, a description of the nature and extent of groundwater contamination and CCI's conclusion and recommendations for any further work.

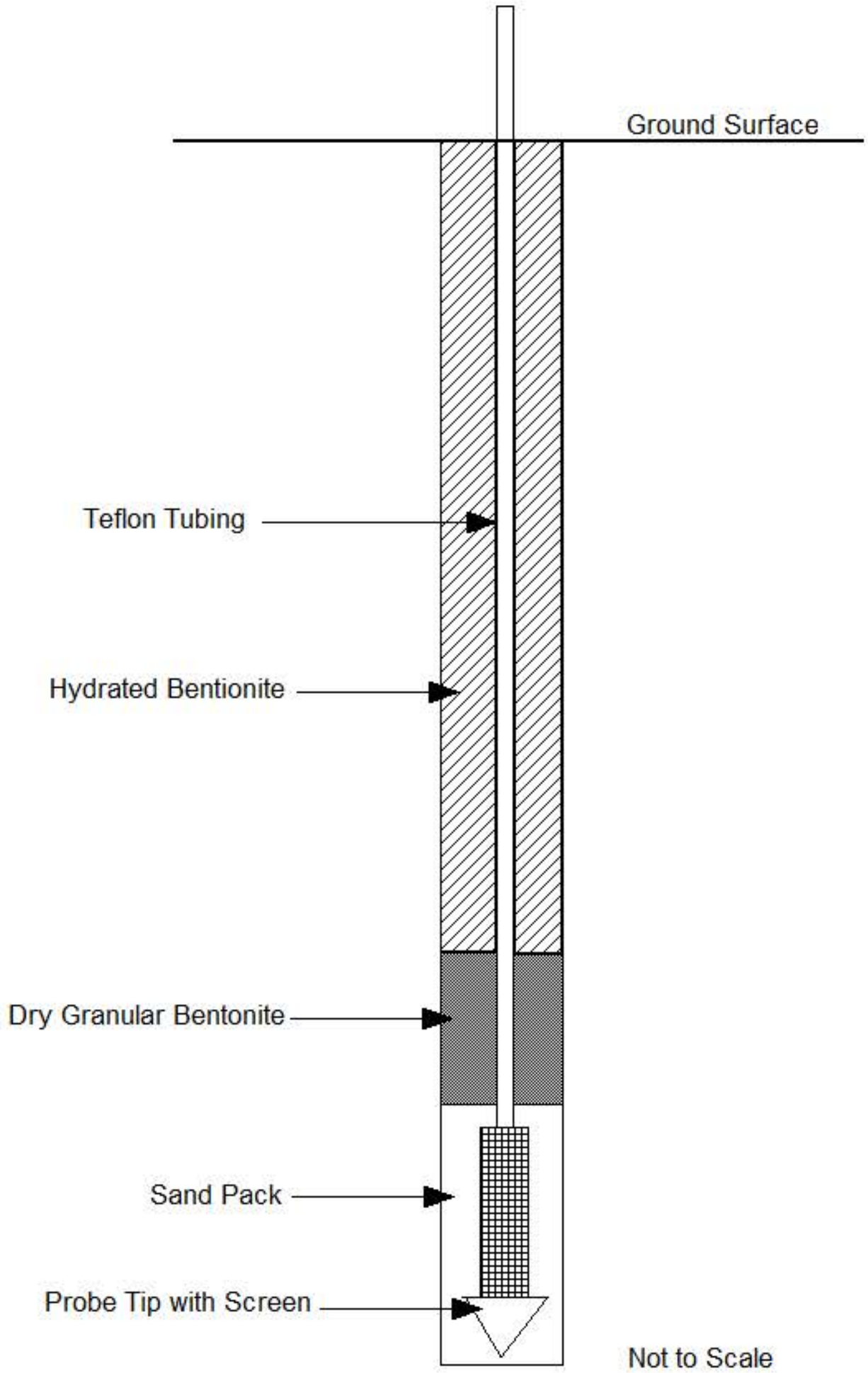


Base Map USGS

Reviewed By: GM	**Vicinity Map**	**Compliance & Closure, Inc.**
Approved By: GM	**Delong Petroleum** **1716 Webster Street** **Alameda, California**	Job No.: 12214-1 / Drawn By: GM Date: 2/3/2016 / Fig. No.: 1

Base: Broadbent, 2013

Job No.: 12214-2	Site Plan Delong Oil 1716 Webster Street Alameda, California	**Compliance & Closure, Inc.**
Date: 5/24/2016		Drawn by: NLN Figure No.: 2



Not to Scale

Reviewed By: GM	**SCHEMATIC DIAGRAM OF SAMPLING PROBE**	**Compliance & Closure, Inc.**
Approved By: GM	**Delong Oil, Inc.** **1716 Webster Street** **Alameda, California**	Job No.: 12214-3 / Drawn By: GM Date: 11/17/2016 / Fig. No.: 3

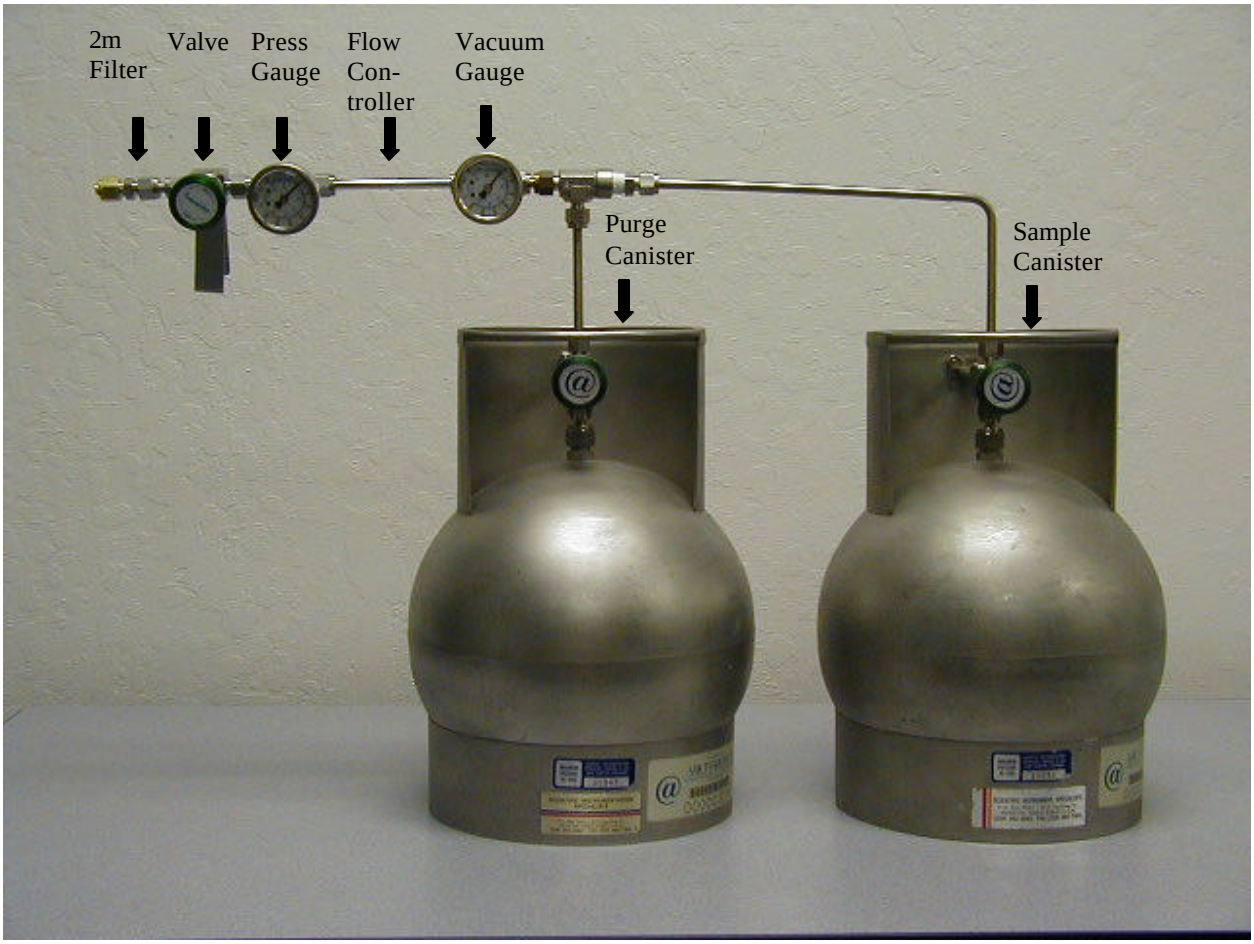
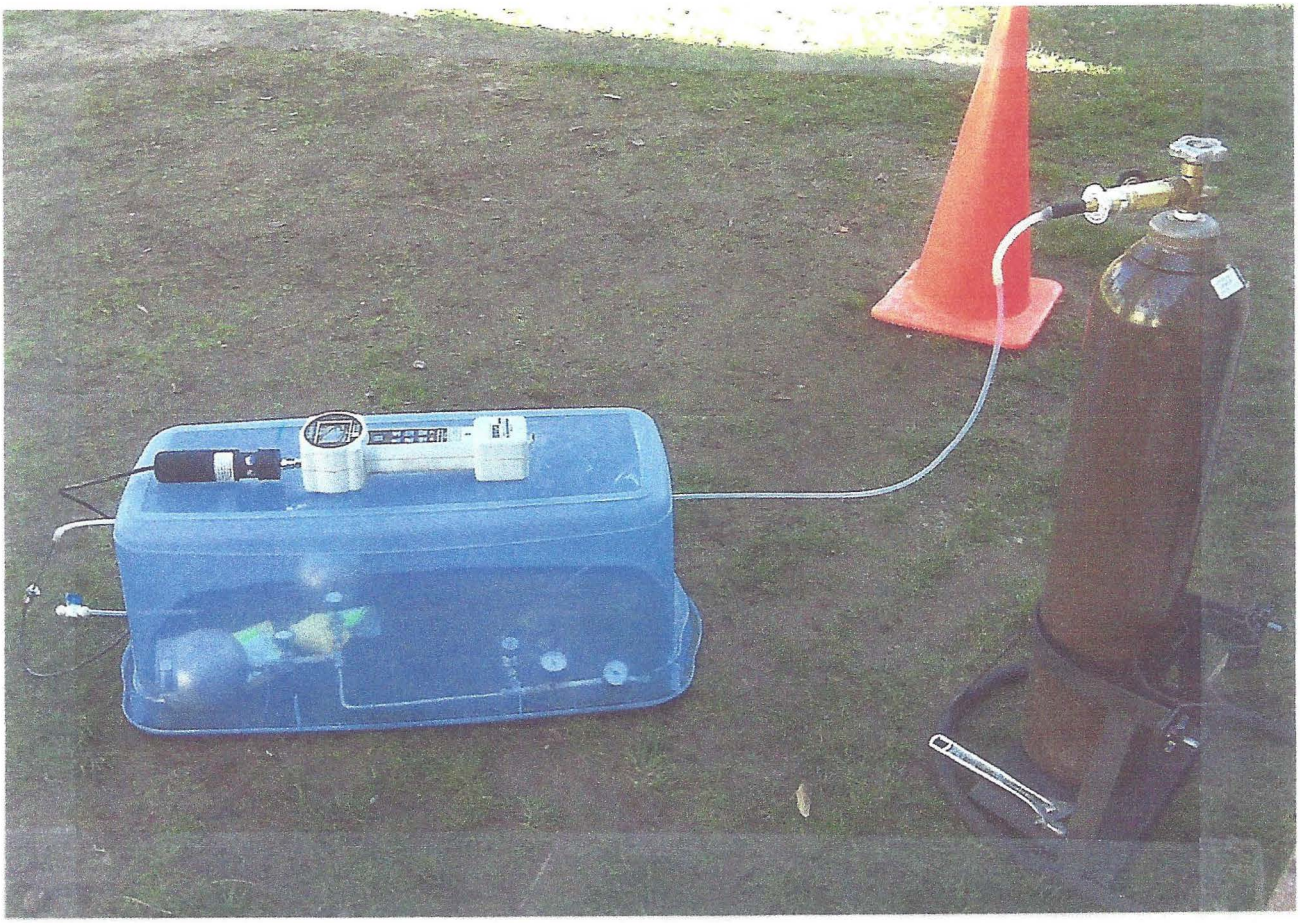


Figure 4, Sampling Manifold Set-up.



Reviewed By: GM	**SOIL VAPOR SAMPLE SHROUD**	**Compliance & Closure, Inc.**	
Approved By: GM	**Delong Oil, Inc.** **1716 Webster Street** **Alameda, California**	Job No.: 12214-3	Drawn By: GM
		Date: 11/17/2016	Fig. No.: 5

APPENDIX A

Purge Volume Tables

Delong Oil, Inc.
CCI No. 12214-3

Soil Vapor Sample Purge Volume Table

Purge Volumes for Temporaty Sampling Points (PRT System)

	5 feet Sample Depth	10 feet Sample Depth	15 feet Sample Depth	20 feet Sample Depth	25 feet Sample Depth	30 feet Sample Depth	35 feet Sample Depth	40 feet Sample Depth	45 feet Sample Depth	50 feet Sample Depth
One Purge Volume	28.3 ml 0 min 8.4 sec	50.6 ml 0 min 15.1 sec	72.9 ml 0 min 21.8 sec	95.2 ml 0 min 28.5 sec	117.5 ml 0 min 35.2 sec	139.8 ml 0 min 41.94 sec	162.1 ml 0 min 48.6 sec	184.4 ml 0 min 55.3 sec	206.7 ml 1 min 2.0 sec	229.0 ml 1 min 8.7 sec
Three Purge Volume	84.9 ml 0 min 25.2 sec	151.8 ml 0 min 45.3 sec	218.7 ml 1 min 5.4 sec	285.6 ml 1 min 25.5 sec	352. ml 1 min 45.6 sec	419.4 ml 2 min 5.82 sec	486.3 ml 2 min 25.8 sec	553.2 ml 2 min 45.9 sec	620.1 ml 3 min 6.0 sec	687.0 ml 3 min 26.1 sec
Seven Purge Volume	198.1 ml 0 min 58.8 sec	354.2 ml 1 min 45.7 sec	510.3 ml 2 min 32.6 sec	666.4 ml 3 min 19.5 sec	822.5 ml 4 min 6.4 sec	978.6 ml 4 min 53.8 sec	1,134.4 ml 5 min 40.2 sec	1,290.8 ml 6 min 27.1 sec	1,446.9 ml 7 min 14.0 sec	1,603.0 ml 8 min 0.9 sec

Purge calculation Factors

1. Tubing (0.25 in OD, 0.17 in ID)
    a. Volume = 4.46 ml per foot internal volume
2. Vapor Point Holder and Post Run Tubing Adapter
    a. Volume = 6 ml internal volume
3. Calculations assume a 4-foot section of tubing is being used to extend from the boring surface to the pump

volume Formula A ((B x C) + D) = E

A = Number of purge volumes
B = 1 foot of tubing, 4.46 ml
C = Depth
D = Point Holder Volume, 6 ml
E = Volume to be purged

Time Formula (F + E) x G = H

E = Volume to be purged
P = Purge Rate, 200 ml (cc) per min
G = 60 Seconds
H = Purg Time in seconds at 200 ml (cc) per min

Data Table Provided by Cascade Drilling/Vironex 2013