

## PHASE II SUBSURFACE INVESTIGATION REPORT

Gas Station Property  
8445 Los Coches Road  
El Cajon, California 92021

October 19, 2018  
Partner Project Number: 18-226305.2

Prepared for:  
OnPoint Development, LLC  
7514 Girard Avenue  
La Jolla, California 92037



**SDC PDS RCVD 05-15-20**  
**TM5640**

Engineers who understand your business

October 19, 2018

Todd Dwyer  
OnPoint Development, LLC  
7514 Girard Avenue  
La Jolla, California 92037

Subject: Phase II Subsurface Investigation Report  
Gas Station Property  
8445 Los Coches Road  
El Cajon, California 92021  
Partner Project Number: 18-226305.2

Dear Mr. Dwyer:

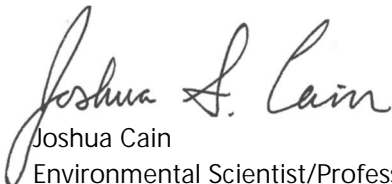
Partner Engineering and Science, Inc. (Partner) is pleased to provide the results of the assessment performed on the above-referenced property. The following report describes the field activities, methods, and findings of the Phase II Subsurface Investigation conducted at the above-referenced property.

This assessment was performed utilizing methods and procedures consistent with good commercial or customary practices designed to conform to acceptable industry standards. The independent conclusions represent Partner's best professional judgment based upon existing conditions and the information and data available to us during the course of this assignment.

We appreciate the opportunity to provide these services. If you have any questions concerning this report, or if we can assist you in any other matter, please contact Cody Taylor at (559) 742-1520.

Sincerely,

Partner Engineering and Science, Inc.



Joshua Cain  
Environmental Scientist/Professional



Samantha J. Fujita, PG  
Regional Manager – Subsurface Investigation



Cody Taylor  
National Client Manager



## TABLE OF CONTENTS

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<b>1.0</b>	<b>Introduction .....</b>	<b>1</b>
1.1	Purpose .....	1
1.2	Limitations .....	1
1.3	User Reliance .....	1
<b>2.0</b>	<b>Site Background.....</b>	<b>2</b>
2.1	Site Description.....	2
2.2	Site History .....	2
2.3	Geology and Hydrogeology .....	3
<b>3.0</b>	<b>Field Activities .....</b>	<b>4</b>
3.1	Preparatory Activities.....	4
3.1.1	Utility Clearance.....	4
3.1.2	Permitting .....	4
3.1.3	Health and Safety Plan.....	4
3.2	Geophysical Survey .....	4
3.3	Drilling Equipment.....	5
3.4	Boring Locations.....	5
3.5	Soil Sampling .....	5
3.6	Soil Gas Sampling .....	6
3.7	Post-Sampling Activities.....	7
<b>4.0</b>	<b>Laboratory Analysis.....</b>	<b>8</b>
4.1	Laboratory Analysis .....	8
4.2	Laboratory Analytical Results .....	8
4.2.1	Soil Sample Analytical Results .....	8
4.2.2	Soil Gas Sample Analytical Results.....	8
<b>5.0</b>	<b>Discussion and Conclusions .....</b>	<b>9</b>
5.1	Regulatory Agency Guidance.....	9
5.2	Discussion .....	9
5.3	Summary and Conclusions.....	10

## ATTACHMENTS

Tables	<ol style="list-style-type: none"><li>1. Summary of Investigation Scope</li><li>2. Soil Sample TPH-cc Laboratory Results</li><li>3. Soil Sample VOCs Laboratory Results</li><li>4. Soil Gas Sample VOCs Laboratory Results</li></ol>
Figures	<ol style="list-style-type: none"><li>1. Site Plan</li><li>2. Topographic Map</li><li>3. Sample Location Map</li></ol>
Appendices	<ol style="list-style-type: none"><li>A. Boring Logs</li><li>B. Permit</li><li>C. Geophysical Survey Report</li><li>D. Laboratory Analytical Reports</li></ol>



## 1.0 INTRODUCTION

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### 1.1 Purpose

The purpose of the investigation was to identify the location of former clarifiers, lifts, and/or other associated features and to evaluate the potential impact of petroleum hydrocarbons and/or volatile organic compounds (VOCs) to soil, groundwater, and/or soil gas as a consequence of a release or releases from the current on-site gasoline station and former on-site automotive repair activities. OnPoint Development, LLC provided project authorization of Partner Proposal Number P18-226305.2.

### 1.2 Limitations

This report presents a summary of work conducted by Partner. The work includes observations of site conditions encountered and the analytical results provided by an independent third-party laboratory of samples collected during the course of the project. The number and location of samples were selected to provide the required information. However, it cannot be assumed that the limited available data are representative of subsurface conditions in areas not sampled.

Conclusions and/or recommendations are based on the observations, laboratory analyses, and the governing regulations. Conclusions and/or recommendations beyond those stated and reported herein should not be inferred from this document.

Partner warrants that the environmental consulting services contained herein were accomplished in accordance with generally-accepted practices in the environmental engineering, geology, and hydrogeology fields that existed at the time and location of work. No other warranties are implied or expressed.

### 1.3 User Reliance

Partner was engaged by OnPoint Development, LLC (the Addressee), or their authorized representative, to perform this investigation. The engagement agreement specifically states the scope and purpose of the investigation, as well as the contractual obligations and limitations of both parties. This report and the information therein, are for the exclusive use of the Addressee. This report has no other purpose and may not be relied upon, or used, by any other person or entity without the written consent of Partner. Third parties that obtain this report, or the information therein, shall have no rights of recourse or recovery against Partner, its officers, employees, vendors, successors or assigns. Any such unauthorized user shall be responsible to protect, indemnify and hold Partner, the Addressee and their respective officers, employees, vendors, successors and assigns harmless from any and all claims, damages, losses, liabilities, expenses (including reasonable attorneys' fees) and costs attributable to such use. Unauthorized use of this report shall constitute acceptance of, and commitment to, these responsibilities, which shall be irrevocable and shall apply regardless of the cause of action or legal theory pled or asserted.

This report has been completed under specific Terms and Conditions relating to scope, relying parties, limitations of liability, indemnification, dispute resolution, and other factors relevant to any reliance on this report. Any parties relying on this report do so having accepted Partner's standard Terms and Conditions, a copy of which can be found at <http://www.partneresi.com/terms-and-conditions.php>

## **2.0 SITE BACKGROUND**

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### **2.1 Site Description**

The subject property consists of one parcel of land comprising 2.88 acres located on the west side of Los Coches Road within a mixed residential and commercial area of San Diego County, California. The subject property is currently developed with a gasoline station and convenience store, which were constructed in 1973 (gasoline station) and 2011 (convenience store). In addition to the structures, the subject property is also improved with asphalt-paved parking areas and associated landscaping.

The subject property is bound by residential properties to the north and east, vacant land followed by Interstate 8 to the south, and single- and multi-family residential properties across Los Coches Road to the west. Refer to Figure 1 for a site plan showing site features and surrounding properties.

### **2.2 Site History**

Partner conducted a Phase I Environmental Site Assessment Report (Phase I), dated October 4, 2018 and prepared on behalf of OnPoint Development, LLC. According to the reviewed historical sources, the subject property was previously agricultural land from at least 1953 until 1963; vacant land in 1964; graded land in 1968; developed with the current gasoline station in 1973; developed with service bays for automotive repair from 1987 until 2010; and developed with the current convenience store in 2011.

The subject property is currently equipped with four underground storage tanks (USTs) including one 12,000-gallon gasoline tank, two 10,000-gallon gasoline/diesel tanks, and one 1,000-gallon waste oil tank, which were installed in 1987. The USTs and associated piping are reported to be of double-walled fiberglass construction and are equipped with continuous electronic monitoring via Veeder Root in-station diagnostic system. Required testing and permitting for the USTs are up to date and no reported leaks or open violations were found. Two subsurface investigations related to a previous generation of USTs and associated product piping at the property were closed in 1988 and 2007, respectively, with the last subsurface sampling occurring in 2003. Based on the length of time that the USTs have been in use (31 years) and the lack of recent subsurface sampling data, the on-site UST systems are considered a recognized environmental condition (REC).

According to previous environmental reports and the current property owner, automotive repair operations were previously performed on site, and the subject property was previously equipped with two automotive lifts with below-ground oil reservoirs. The lifts were located within the present-day convenience store and were used in connection with former on-site automotive servicing/repair activities until circa 2010. According to the current subject property owner, Mr. Fred Mokou, the lifts were removed from the subject property in 2010. According to a 2012 Phase I for the subject property, no subsurface testing was conducted at the time of the lift removals. The installation date of the underground lifts is unknown; however, according to a former subject property owner, Mr. Javan Monjazebe, the lifts were in place as early as 1987. The subject property was developed with the current building in 1969. Based on the presumed age of the lifts and the absence of prior subsurface investigations to confirm the presence or absence of a release of hydraulic fluid, the former underground lifts are considered a REC.

According to previous Phase Is, the subject property was equipped with a clarifier located within the present-day convenience store and was used in connection with former automotive servicing/repair activities until circa 2010. It is unknown if the clarifier was removed from the subject property. Additionally, during Partner's site reconnaissance, a drain with a metal grate in the asphalt pavement was observed to the east of the subject property building. The drain appeared to be routed by underground piping to the north, adjacent to the subject property building, and then to Los Coches Road and the sanitary sewer system. The drain is located adjacent to the area formerly used for automotive servicing/repair, and may have been connected to the clarifier. The clarifier and drain potentially could have impacted the subsurface conditions of the subject property if the systems were compromised. Based on the reported use of the clarifier and drain on the subject property in connection with the former on-site automotive repair operations and the absence of prior subsurface investigations to confirm the presence or absence of a release from these features, the former clarifier and the drain are considered a REC.

## **2.3 Geology and Hydrogeology**

Based on a review of the United States Geological Survey (USGS) El Cajon, California Quadrangle topographic map, the subject property is situated at an elevation approximately 700 feet above mean sea level, and the local topography is sloping gently to the northeast. Refer to Figure 2 for a topographic map of the site vicinity.

According to the California Geological Survey, the subject property is situated in the Peninsular Ranges which are a series of ranges separated by northwest trending valleys, subparallel to faults branching from the San Andreas Fault. The trend of topography is similar to the Coast Ranges, but the geology is more like the Sierra Nevada, with granitic rock intruding the older metamorphic rocks. The Peninsular Ranges extend into lower California and are bound on the east by the Colorado Desert. The Los Angeles Basin and the island group (Santa Catalina, Santa Barbara, and the distinctly terraced San Clemente and San Nicolas islands), together with the surrounding continental shelf (cut by deep submarine fault troughs), are included in the province.

Based on borings advanced during this investigation, the underlying subsurface consists predominantly of grayish brown, loose to very dense, damp, fine- to coarse-grained silty sand [SM] from the ground surface to approximately 35 feet below ground surface (bgs). Refer to Appendix A for boring logs from this investigation.

Groundwater was not encountered during this investigation due to hard subsurface lithology and drought conditions despite being encountered on site at 30 feet bgs in a former well in years prior. The soil encountered at 35 feet bgs in the deeper borings was found to be dense, damp and not indicative of a nearby capillary fringe. According to the GeoTracker Website, the subject property was a Leaking Underground Storage Tank (LUST) site that was overseen by the San Diego Regional Water Quality Control Board (SDRWQCB) as Case Number H05422-002. The site formerly maintained one groundwater monitoring well on-site. The most recent monitoring data available on the GeoTracker Website was for March 8, 2010, with depth to groundwater ranging from 30.35 to 39.19 feet bgs.

## 3.0 FIELD ACTIVITIES

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The scope of the Phase II Subsurface Investigation included a geophysical survey and the advancement of eight borings (B1 through B8) for the collection of representative soil and/or groundwater and/or soil gas samples. Due to dense subsurface lithology and drought conditions, groundwater was not encountered during this investigation and; therefore, was not sampled. Refer to Table 1 for a summary of the borings, sampling schedule and laboratory analyses for this investigation.

### 3.1 Preparatory Activities

Prior to the initiation of fieldwork, Partner completed the following activities.

#### 3.1.1 Utility Clearance

Partner delineated the work area with white spray paint and notified Underground Service Alert (USA) to clear public utility lines as required by law at least 48 hours prior to drilling activities. USA issued ticket number A182811571-00A for the project.

#### 3.1.2 Permitting

Prior to drilling, Partner secured Well Permit Number LMWP-003660 from the County of San Diego Department of Environmental Health (DEH) for grab groundwater sampling. Refer to Appendix B for a copy of the permit acquired for this investigation.

#### 3.1.3 Health and Safety Plan

Partner prepared a site-specific Health and Safety Plan, which was reviewed with on-site personnel involved in the project prior to the commencement of drilling activities.

### 3.2 Geophysical Survey

On October 12, 2018, SubSurface Surveys (SSS) conducted a geophysical survey under the supervision of Partner. The purpose of the geophysical survey was to identify USTs remaining in place, former hydraulic lifts and clarifier locations and/ or backfilled tankholds and clear boring locations of utilities. The geophysical survey was conducted with a Geonics EM-61 and a Fischer M-Scope electromagnetic induction (EM) equipment, a Schonstedt GA-52 magnetic gradiometer, a Sensors and Software Noggin ground penetrating radar (GPR) unit, and a Metrotech 9890 utility locator with line-tracing capabilities.

SSS systematically free-traversed the investigation area with the aforementioned equipment. The equipment data were interpreted in real time and compiled as necessary in order to identify subsurface anomalies consistent with USTs, disturbed soil resembling backfilled tankholds, piping trenches, utility lines, and/or other subsurface conduits/features.

The geophysical survey identified one anomaly in the northern portion of the subject property to the north of the current site building. The location and shape of the anomaly, which consists of a backfilled excavation, generally corresponds to the location of the former clarifier. No large metallic features were identified within the anomaly, which confirms that the clarifier has likely been removed. The geophysical

survey also identified the current gasoline USTS, associated vents and product lines, as well as the waste oil UST in the south and southeastern areas of the subject property, respectively.

In addition, SSS systematically free-traversed each proposed boring location with the aforementioned equipment and the equipment data were interpreted in real time for evidence of utility lines and/or other subsurface features of potential concern. Boring placement was modified as necessary based on the geophysical survey results to avoid damaging underground features and utility lines.

Refer to Figure 3 for a map of the boring locations, UST locations, and the anomaly detected during the geophysical survey. Refer to Appendix C for a copy of the geophysical survey report, which provides additional details regarding the geophysical survey equipment and methodology.

### **3.3 Drilling Equipment**

On October 12, 2018, Partner subcontracted with Strongarm Environmental Field Services, Inc. (Strongarm) (State of California Water Well Drilling Contractor License Number 766463) to provide and operate drilling equipment. Strongarm, under the direction of Partner, advanced borings B1 through B6 with a truck-mounted Geoprobe Model 6600 direct-push drill rig and advanced borings B7 and B8 using a 3.5-inch stainless steel hand auger. Sampling equipment was decontaminated between sample intervals and boring locations to prevent cross-contamination.

### **3.4 Boring Locations**

Borings B1 through B3 were advanced to the west, south, and east of the current USTS in the southern portion of the subject property, respectively. Boring B4 was advanced to the southeast of the waste oil UST. Borings B5 and B6 were advanced to the northeast and west of the former clarifier, respectively. Borings B7 and B8 were advanced in the central and northeast interior areas of the former automotive repair shop, respectively, in areas of the former hydraulic lifts. Refer to Figure 3 for a map indicating boring locations.

### **3.5 Soil Sampling**

Borings B1 through B6 were overlain by asphalt, which was penetrated using a punch bit attachment advanced by the direct-push drill rig. Borings B7 and B8 were overlain by concrete, which was penetrated using a hand held rotary hammer drill. Borings B1 through B3 were advanced to a terminal depth of 35 feet bgs. Borings B4 through B6 were advanced to a terminal depth of 15 feet bgs and boring B8 was advanced to a terminal depth of 12 feet bgs. Boring B7 was advanced to drilling refusal at eight feet bgs.

Soil was manually excavated from borings B7 and B8 with a 3.5-inch diameter hand-auger. At the desired sampling depths, soil was collected in a pre-cleaned six-inch long by two-inch diameter stainless steel liner that was manually driven into and retrieved from the subsurface using a slide hammer. Samples were collected from the liners using a disposable plastic syringe and retained in two laboratory-supplied, 40-milliliter, sodium bisulfate-preserved volatile organics analysis (VOA) vials in accordance with United States Environmental Protection Agency (EPA) Method 5035 sampling protocol. The liners were capped on either end with Teflon tape and plastic caps. The capped liners and VOA vials were labeled for identification and stored in an iced cooler. Soil cuttings generated during the advancement of the hand-auger borings were visually inspected for discoloration, monitored for odors, and classified in accordance with the Unified Soil

Classification System (USCS). Soil from selected depths was placed in a sealable plastic bag and field-screened with a photoionization detector (PID) calibrated to isobutylene.

Soil samples from borings B1 through B6 were collected using a dual-tube sampler. The direct-push drill rig advanced four-foot long by 2.25-inch outer diameter (OD) outer casing into the subsurface. An inner drill string consisting of a four-foot long by 1.375-inch OD acetate liner connected to 1.25-inch OD center rods was driven into the subsurface flush with the lead outer casing to allow undisturbed soil to enter the open liner. The inner drill string was retrieved from the cased boring to recover the soil-filled liner and soil sampling proceeded as described until the terminal depth was reached.

At the desired sampling depth, an approximately six-inch section of the acetate liner was cut using a hacksaw. Soil subcores were collected from the cut liner using a dedicated disposable plastic syringe and retained in two pre-weighed, laboratory-supplied, 40-milliliter, sodium bisulfate-preserved VOA vials and one methanol-preserved VOA vial in accordance with EPA Method 5035 sampling protocol, which were sealed with Teflon-lined septum caps. The remainder of the six-inch liner was capped on either end with Teflon tape and plastic caps. The capped liners and VOA vials were labeled for identification and stored in an iced cooler.

Lengthwise sections of the remaining acetate liners were removed with a splitting tool to expose the soil. The soil column was visually inspected for discoloration, monitored for odors, and classified in general accordance with the USCS. Soils from select intervals were placed in sealable plastic bags and field-screened for the presence of volatile organics with a PID calibrated to isobutylene.

None of the samples exhibited discoloration or an odor and none of the PID readings suggested the presence of elevated volatile organics concentrations.

Soil samples were collected from borings B1 through B3 at five, 10, 15, 20, 25, 30, and 35 feet bgs. Soil samples were collected from borings B4 through B6 at five, 10 and 15 feet bgs. Soil samples were collected from boring B7 at four and eight feet bgs and from B8 at four, eight, and 12 feet bgs.

### **3.6 Soil Gas Sampling**

#### **Soil Gas Probe Construction**

Soil gas probes screened at five feet bgs were constructed within two of the boreholes (B5 and B6) upon completion of soil sampling. Boreholes were backfilled with dry, granular bentonite to approximately six inches below the desired sampling depth. A new section of ¼-inch diameter polyethylene tubing with a new ¼-inch diameter polypropylene filter at the terminal end was inserted into the borehole to the desired sampling depth. One-inch diameter polyvinyl chloride (PVC) casing was used as a guide for the tubing to ensure that the desired sampling depth was achieved. Sand was poured into the boring annulus to form an approximately one-foot long sand pack around the polypropylene filter, at which time the PVC piping was withdrawn. Approximately one foot of dry, granular bentonite was placed atop the sand pack and the remainder of the borehole was backfilled with hydrated bentonite to the ground surface to form a seal. The sampling end of the tubing was fitted with a valve and the probe was labeled for identification.

## Soil Gas Sampling Methodology

Soil gas samples were collected in general accordance with the July 2015 Department of Toxic Substances Control (DTSC) and Los Angeles Regional Water Quality Control Board (LARWQCB) "Advisory – Active Soil Gas Investigations."

Soil gas samples were collected using one-liter, stainless-steel, cylindrical SUMMA canisters. The sampling containers were provided by Jones Environmental, Inc. (JEI), [California Department of Public Health (CDPH) Environmental Laboratory Accreditation Program (ELAP) certificate number 6C73103] in the City of Santa Fe Springs, California, which subjected each canister to a rigorous cleaning process using a combination of dilution, heat, and high vacuum. After cleaning, the canisters were batch-certified to be free of target contaminants to a specified reporting limit via gas chromatography/mass spectroscopy prior to delivery.

Partner received the SUMMA canisters evacuated to approximately minus 30 inches of mercury. The SUMMA canisters were fitted with stainless-steel flow controllers, which JEI calibrated to maintain constant flow (approximately 0.1 liter per minute) for approximately five to 10 minutes of sampling time.

Each probe was allowed to equilibrate for a minimum of two hours after installation prior to sampling. After equilibration, the sample tubing and sampler screen were purged of ambient air using a peristaltic pump. A tracer gas mixture of n-pentane, n-heptane, and n-hexane was placed around each probe at the ground surface while sampling to detect ambient air intrusion. The tracer gas was not detected in any sample, indicating that the integrity of the bentonite seal was maintained. Once the purge was complete, the sampling end of the tubing was fitted to the sampling canister and the port valve was opened, causing air to enter the sample container due to the pressure differential. Partner closed the valves after the canister was evacuated to approximately minus one to two inches of mercury, with pertinent data (e.g., time, canister vacuum) recorded at the start and end of sampling.

The SUMMA canisters were labeled for identification and stored away from direct sunlight prior to analysis.

Partner successfully connected individual one-liter SUMMA canisters to each sampling point.

Soil gas samples were collected from borings B5 and B6 at five feet bgs.

### **3.7 Post-Sampling Activities**

Probes were removed from the subsurface and the boreholes were backfilled with hydrated bentonite chips following sampling activities. Boreholes advanced in improved areas were capped with concrete patch after being backfilled.

No significant amounts of derived wastes were generated during this investigation.



## 4.0 LABORATORY ANALYSIS

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### 4.1 Laboratory Analysis

Partner collected 35 soil samples and two soil gas samples on October 12, 2018, which were transported in an iced cooler (soil samples) or at room temperature (soil gas samples) under chain-of-custody protocol to JEI, for analysis on October 15, 2018. Based on field-screening results, visual observations, and/or olfactory observations, one soil sample per boring (eight soil samples total) was analyzed for carbon chain total petroleum hydrocarbons (TPH-cc) [collectively total petroleum hydrocarbons as diesel and oil (TPH-d and TPH-o, respectively) in accordance with EPA Method 8015M and total petroleum hydrocarbons as gasoline (TPH-g) in accordance with EPA Method 8260B]. One soil sample per UST and clarifier boring, as well as the deepest samples from the UST borings (eight soil samples total) were analyzed for VOCs in accordance with EPA Method 8260B. Each soil gas sample (two soil gas samples total) was analyzed for VOCs in accordance with EPA Method 8260B. The remaining soil samples were placed on hold at the laboratory.

### 4.2 Laboratory Analytical Results

Laboratory analytical results are included in Appendix D and discussed below.

#### 4.2.1 Soil Sample Analytical Results

TPH-d and TPH-o were detected in four of the analyzed soil samples (B2-20, B4-10, B5-10, and B6-5) at concentrations exceeding the laboratory Reporting Limits (RLs). None of the remaining soil samples contained detectable concentrations of TPH-cc above the laboratory RLs.

Benzene, toluene, and tetrachloroethylene (PCE) were detected in one of the analyzed soil samples (B6-5) at concentrations exceeding the laboratory RLs. No other VOCs were detected in any of the analyzed soil samples at concentrations exceeding the laboratory RLs.

Refer to Tables 2 and 3 for a summary of the soil sample TPH-cc and VOCs laboratory analysis results, respectively.

#### 4.2.2 Soil Gas Sample Analytical Results

Each of the two analyzed soil gas samples contained detectable concentrations of toluene, PCE, 1,2,4-trimethylbenzene (TMB), and m,p-xylene above the laboratory RLs. Ethylbenzene and o-xylene were additionally detected in B6-SG5 at concentrations exceeding the laboratory RLs. No other VOCs were detected in the analyzed soil gas samples above the laboratory RLs.

Refer to Table 4 for a summary of the soil gas sample VOCs laboratory analysis results.



## 5.0 DISCUSSION AND CONCLUSIONS

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### 5.1 Regulatory Agency Guidance

#### Maximum Soil Screening Levels

Maximum Soil Screening Levels (SSLs) are concentrations of petroleum hydrocarbons that are allowed to remain in soil without potentially degrading the quality of groundwater underlying a site. Maximum SSLs are established and enforced by the LARWQCB.

#### Department of Toxic Substances Control Attenuation Factor and Regional Screening Levels

Regional Screening Levels (RSLs) are generic, risk-based chemical concentrations developed by the EPA for use in initial screening-level evaluations. RSLs combine human health toxicity values with standard exposure factors to estimate contaminant concentrations that are considered to be health protective of human exposures over a lifetime through direct-contact exposure pathways (e.g., via inhalation and/or ingestion of and/or dermal contact with impacted soil and/or indoor air). RSLs are not legally enforceable standards, but rather are considered guidelines to evaluate if potential risks associated with encountered chemical impacts may warrant further evaluation.

The DTSC Office of Human and Ecological Risk (HERO) developed California-Modified RSLs based on a review of: 1) RSL concentrations; and 2) recent toxicity values.

While soil gas detections are not immediately comparable to the indoor air quality guidelines within the RSLs, the DTSC issued recommended default attenuation factors of 0.002/0.001 (residential/commercial contaminant source sampling locations) for sites where the attenuation factor for the building slab is unknown or cannot be determined in the October 2011 document Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air. With the subsurface contaminant concentrations and default attenuation factors, the associated contaminant concentrations in indoor air can be estimated as Calculated Residential and Commercial/Industrial Soil Gas Screening Levels (SGSLs).

### 5.2 Discussion

None of the detected concentrations of TPH-d and TPH-o in soil exceeded the Maximum SSLs. None of the remaining soil samples contained detectable concentrations of TPH-cc above the laboratory RLs and the RLs were below the Maximum SSLs.

None of the detections of benzene, toluene, and PCE in soil exceeded the residential or commercial/industrial RSLs. No other VOCs were detected in any of the analyzed soil samples at concentrations exceeding the laboratory RLs, and the RLs were below the applicable RSLs.

None of the detections of toluene, PCE, 1,2,4-TMB, m,p-xylene, ethylbenzene, and o-xylene in soil gas exceeded the calculated residential or commercial/industrial SGSLs. No other VOCs were detected in any of the analyzed soil gas samples at concentrations exceeding the laboratory RLs, and the RLs were below the applicable SGSLs.

Based on the laboratory data, the subsurface at the subject property appears to be minimally impacted by petroleum hydrocarbons and VOCs which do not exceed residential or commercial/industrial screening

levels. Based on the de minimis concentrations in soil and soil gas, there does not appear to be a concern to human health or the environment at this time.

### **5.3 Summary and Conclusions**

Partner conducted a Phase II Subsurface Investigation at the subject property to identify the location of former clarifiers, lifts, and/or other associated features and to evaluate the potential impact of petroleum hydrocarbons and/or VOCs to soil, groundwater, and/or soil gas as a consequence of a release or releases from the current on-site gasoline station and former on-site automotive repair activities. The scope of the Phase II Subsurface Investigation included a geophysical survey and eight soil and/or groundwater and/or soil gas borings. Due to dense subsurface lithology and drought conditions, groundwater was not encountered during this investigation. Eight soil samples were analyzed for TPH-cc, five soil samples were additionally analyzed VOCs, and two soil gas samples were analyzed for VOCs.

The geophysical survey identified one anomaly in the northern portion of the subject property to the north of the current site building. The location and shape of the anomaly, which consists of a backfilled excavation, generally corresponds to the location of the former clarifier. No large metallic features were identified within the anomaly, which confirms that the clarifier has likely been removed. The geophysical survey also identified the current gasoline USTS, associated vents and product lines, as well as the waste oil UST in the south and southeastern areas of the subject property, respectively.

Subsurface lithology encountered in the upper 35 feet bgs consisted of grayish brown, loose, damp, fine- to coarse-grained silty sand [SM]. Groundwater was anticipated to be encountered at approximately 30 feet bgs but was not encountered to a maximum depth of 35 feet bgs where drilling conditions were difficult.

None of the detected TPH-cc or VOC impacts in soil and/or soil gas exceeded residential or commercial screening levels.

Based on the laboratory data, the subsurface at the subject property appears to be minimally impacted by petroleum hydrocarbons and VOCs which do not exceed residential or commercial/industrial screening levels. Based on the de minimis concentrations in soil and soil gas, there does not appear to be a concern to human health or the environment at this time. No further investigation is recommended by Partner at this time with respect to the on-site gasoline station and automotive repair activities. However, during the proposed grading and redevelopment of the subject property, Partner recommends following appropriate regulatory guidance during the removal of the USTs and implementing a soil management plan as a precautionary measure should further impacts be encountered.

## TABLES

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Table 1: Summary of Investigation Scope  
8445 Los Coches Road  
El Cajon, California 92021  
Partner Project Number 18-226305.2  
October 2018

Boring Identification	Location	Terminal Depth (feet bgs)	Matrix Sampled	Sampling Depths* (feet bgs)	Target Analytes
B1	West of USTs	35	Soil	5, 10, 15, 20, 25, 30, 35	TPH-cc, VOCs
B2	South of USTS	35	Soil	5, 10, 15, 20, 25, 30, 35	TPH-cc, VOCs
B3	East of USTS	35	Soil	5, 10, 15, 20, 25, 30, 35	TPH-cc, VOCs
B4	Southeast of Waste Oil UST	15	Soil	5, 10, 15	TPH-cc, VOCs
B5	Northeast of former clarifier	15	Soil	5, 10, 15	TPH-cc, VOCs
			Soil Gas	5	VOCs
B6	West of former clarifier	15	Soil Gas	5, 10, 15	VOCs
			Soil	5	TPH-cc, VOCs
B7	Central interior of former automotive repair building	8**	Soil	4, 8	TPH-cc
B8	Northeast interior of former automotive repair building	12	Soil	4, 8, 12	TPH-cc

Notes:

\*Depths in bold analyzed for carbon chain total petroleum hydrocarbons (TPH-cc) [collectively total petroleum hydrocarbons as diesel and oil (TPH-d and TPH-o, respectively) in accordance with United States Environmental Protection Agency (EPA) Method 8015M and total petroleum hydrocarbons as gasoline (TPH-g) in accordance with EPA Method 8260B]. Depths in italics analyzed for volatile organic compounds (VOCs) in accordance with EPA Method 8260B.

\*\*Refusal encountered at the terminal depth

bgs = below ground surface

UST = underground storage tank

Table 2: Soil Sample TPH-cc Laboratory Results  
8445 Los Coches Road  
El Cajon, California 92021  
Partner Project Number 18-226305.2  
October 2018

EPA Method	TPH-cc via 8015M								
Units	(mg/kg)								
Analyte	Maximum SSL	B1-20	B2-20	B3-15	B4-10	B5-10	B6-5	B7-8	B8-12
TPH-g: C4-C12	500	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
TPH-d: C13-C22	1,000	<1.0	14.0	<1.0	17.1	27.7	184.5	<1.0	<1.0
TPH-o: C23-C31	10,000	<1.0	73.0	<1.0	110.5	204.6	717	<1.0	<1.0

Notes:

TPH-cc = carbon chain total petroleum hydrocarbons

EPA = United States Environmental Protection Agency

TPH-g = total petroleum hydrocarbons as gasoline

TPH-d = total petroleum hydrocarbons as diesel

TPH-o = total petroleum hydrocarbons as oil

mg/kg = milligrams per kilogram

SSLs = Soil-screening levels (Los Angeles Regional Water Quality Control Board - April 27, 2004) for groundwater at a depth greater than 35 feet bgs.

< = not detected above indicated laboratory Reporting Limit (RL)

Values in bold exceed laboratory RLs

Table 3: Soil Sample VOCs Laboratory Results  
8445 Los Coches Road  
El Cajon, California 92021  
Partner Project Number 18-226305.2  
October 2018

EPA Method	VOCs via 8260B									
Units	(µg/kg)									
Analyte	Residential Soil RSL	Industrial Soil RSL	B1-20	B1-35	B2-20	B2-35	B3-15	B3-35	B5-10	B6-5
Benzene	1,100	5,400	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9
Toluene	5,000,000	45,000,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.4
PCE	550	2,600	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	25.2
Other VOCs	Varies	Varies	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

VOCs = volatile organic compounds

EPA = United States Environmental Protection Agency

µg/kg = micrograms per kilogram

RSL = June 2018 Department of Toxic Substances Control (DTSC) Regional Screening Levels (RSLs). If DTSC RSLs do not exist, May 2018 EPA RSLs were utilized.

PCE = Tetrachloroethylene

< = not detected above indicated laboratory Reporting Limit (RL)

ND = not detected above laboratory RLs

Values in bold exceed laboratory RLs

Table 4: Soil Gas Sample VOCs Laboratory Results

8445 Los Coches Road

El Cajon, California 92021

Partner Project Number 18-226305.2

October 2018

EPA Method	VOCs via 8260B			
Units	(µg/m <sup>3</sup> )			
Analyte	Residential SGSL ^	Commercial/ Industrial SGSL ^	B5-SG5	B6-SG5
Ethylbenzene	550	4,900	<8	12
Toluene	155,000	1,300,000	41	62
PCE	230	2,000	162	194
1,2,4-TMB	31,500	260,000	15	16
m,p-Xylene	50,000	440,000	27	33
o-Xylene	50,000	440,000	<8	11
Other VOCs	Varies	Varies	ND	ND

Notes:

^ Calculated soil gas screening levels (SGSLs) for soil gas concentrations were derived by dividing the June 2018 Department of Toxic Substances Control (DTSC) or May 2018 United States Environmental Protection Agency (EPA) Regional Screening Level (RSL) for each compound with an attenuation factor of 0.002 for residential settings and 0.001 for commercial/industrial settings for soil gas samples deeper than sub-slab samples. DTSC RSLs are provided in the June 2018 DTSC Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note 3. Where DTSC RSLs were not available, EPA RSLs were utilized.

VOCs = volatile organic compounds

EPA = United States Environmental Protection Agency

µg/m<sup>3</sup> = micrograms per cubic meter

PCE = tetrachloroethylene

TMB = trimethylbenzene

< = not detected above indicated laboratory Reporting Limit (RL)

ND = not detected above laboratory RLs

Values in bold exceed laboratory RLs

## FIGURES

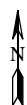
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**PARTNER**





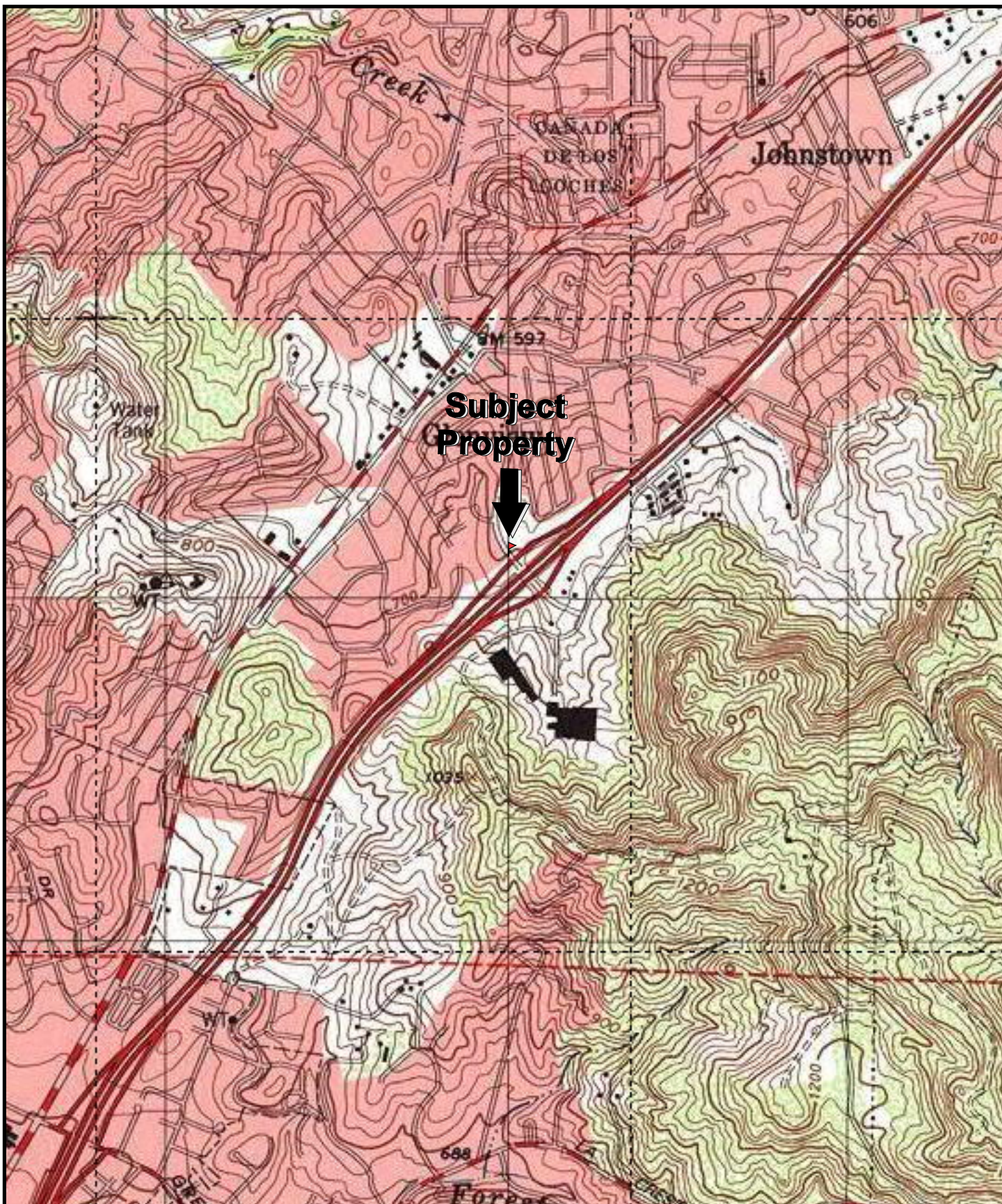
**Site Plan**



Subject Site



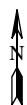




**PARTNER**

Engineering and Science, Inc.  
2154 Torrance Boulevard, Suite 200  
Torrance, California 90501

Project Number: 18-226305.2



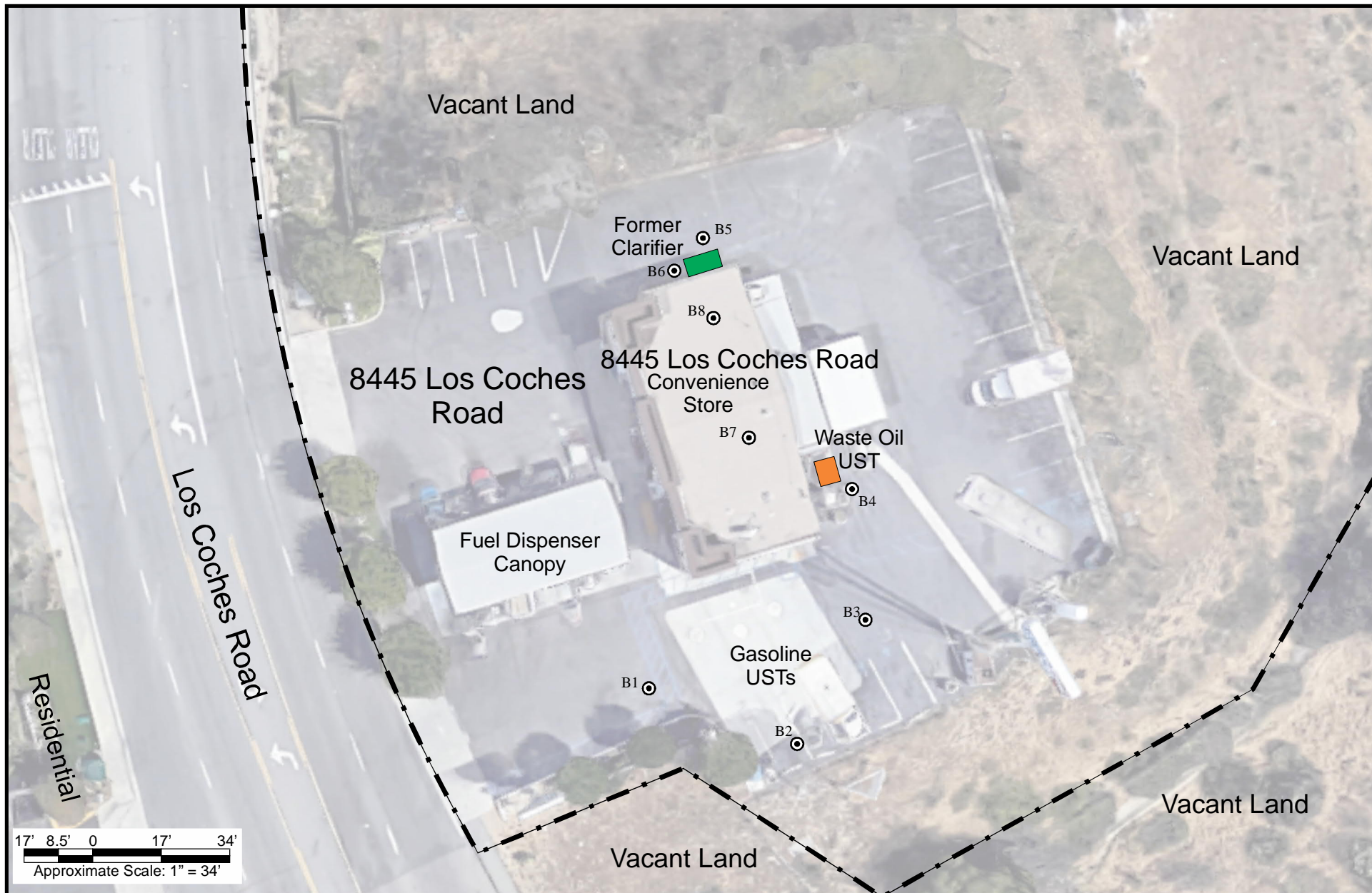
USGS El Cajon, California Quadrangle  
Version: 1996 Current as of: 2000

### Topographic Map

Figure	Prepared By	Date
2	J. Cain	October 2018

8445 Los Coches Road  
El Cajon, California 92021

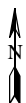




**PARTNER**  
Engineering and Science, Inc.

2154 Torrance Boulevard, Suite 200  
Torrance, California 90501

Project Number: 18-226305.2



### Legend

Subject Site



Boring Location



### Sample Location Map

Figure	Prepared By	Date
3	J. Cain	October 2018

8445 Los Coches Road  
El Cajon, California 92021

## APPENDIX A: BORING LOGS

---

Boring Number:		B1		Page 1 of 2	
Location:		West of USTs		Date Started:	10/12/2018
Site Address:		8445 Los Coches Road		Date Completed:	10/12/2018
		El Cajon, California 92021		Depth to Groundwater:	N/A
Project Number:		18-226305.2		Field Technician:	J. Cain
Drill Rig Type:		Geoprobe Model 6600 Truck-mounted drill rig		Partner Engineering and Science	
Sampling Equipment:		Acetate Liners/ VOAs		2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		4 inches		Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes
1					3-4 inches of asphalt at surface
2					
3					
4					
5	B1-5	3.0	SM	Grayish Brown (10 YR 5/2) silty sand (fine- to coarse-grained), loose, damp	
6					
7					
8					
9					
10	B1-10	2.9	SM	Dark Grayish Brown (10 YR 4/2) silty sand (fine- to coarse-grained), slightly dense, damp	
11					
12					
13					
14					
15	B1-15	2.7	SM	Dark Grayish Brown (10 YR 4/2) silty sand (fine- to coarse-grained), slightly dense, damp	
16					
17					
18					
19					
20	B1-20	1.7	SM	Dark Yellowish Brown (10 YR 4/4) silty sand (fine- to medium-grained), loose, moist	
21					
22					
23					
24					
25	B1-25	0.6	SM	Dark Yellowish Brown (10 YR 4/4) silty sand (fine- to medium-grained), loose, moist	

Boring Number:		B1 Continued			Page 2 of 2	
Location:		West of USTs			Date Started:	10/12/2018
Site Address:		8445 Los Coches Road			Date Completed:	10/12/2018
		El Cajon, California 92021			Depth to Groundwater:	N/A
Project Number:		18-226305.2			Field Technician:	J. Cain
Drill Rig Type:		Geoprobe Model 6600 Truck-mounted drill rig			Partner Engineering and Science	
Sampling Equipment:		Acetate Liners/ VOAs			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		4 inches			Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes	
26	B1-30	1.6	SM	Brown (10 YR 4/3) silty sand (fine- to medium-grained), loose, moist		
27						
28						
29						
30						
31	B1-35	1.0	SM	Dark Yellowish Brown (10 YR 3/4) silty sand (fine- to coarse-grained) with trace gravel, loose, moist		
32						
33						
34						
35						
36					Borehole terminated at 35 bgs. Groundwater was not encountered. Borehole was backfilled with hydrated bentonite and capped with asphalt after sampling.	
37						
38						
39						
40						
41						
42						
43						
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45						
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48						
49						
50						

Boring Number:		B2		Page 1 of 2	
Location:		South of USTS		Date Started:	10/12/2018
Site Address:		8445 Los Coches Road		Date Completed:	10/12/2018
		El Cajon, California 92021		Depth to Groundwater:	N/A
Project Number:		18-226305.2		Field Technician:	J. Cain
Drill Rig Type:		Geoprobe Model 6600 Truck-mounted drill rig		Partner Engineering and Science	
Sampling Equipment:		Acetate Liners/ VOAs		2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		4 inches		Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes
1					3-4 inches of asphalt at surface
2					
3					
4					
5	B2-5	1.6	SM	Grayish Brown (10 YR 5/2) silty sand (fine- to coarse-grained), loose, damp	
6					
7					
8					
9					
10	B2-10	0.5	SM	Dark Grayish Brown (10 YR 4/2) silty sand (fine- to coarse-grained), slightly dense, damp	
11					
12					
13					
14					
15	B2-15	8.3	SM	Dark Grayish Brown (10 YR 4/2) silty sand (fine- to coarse-grained), slightly dense, damp	
16					
17					
18					
19					
20	B2-20	6.6	SM	Dark Yellowish Brown (10 YR 4/4) silty sand (fine- to medium-grained), loose, moist	
21					
22					
23					
24					
25	B2-25	3.2	SM	Dark Yellowish Brown (10 YR 4/4) silty sand (fine- to medium-grained), loose, moist	

Boring Number:		B2 Continued			Page 2 of 2	
Location:		South of USTS			Date Started:	10/12/2018
Site Address:		8445 Los Coches Road			Date Completed:	10/12/2018
		El Cajon, California 92021			Depth to Groundwater:	N/A
Project Number:		18-226305.2			Field Technician:	J. Cain
Drill Rig Type:		Geoprobe Model 6600 Truck-mounted drill rig			Partner Engineering and Science	
Sampling Equipment:		Acetate Liners/ VOAs			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		4 inches			Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes	
26	B2-30	1.4	SM	Brown (10 YR 4/3) silty sand (fine- to medium-grained), loose, moist		
27						
28						
29						
30						
31	B2-35	0.7	SM	Dark Yellowish Brown (10 YR 3/4) silty sand (fine- to coarse-grained) with trace gravel, loose, moist		
32						
33						
34						
35						
36					Borehole terminated at 35 bgs. Groundwater was not encountered. Borehole was backfilled with hydrated bentonite and capped with asphalt after sampling.	
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						



Boring Number:		B3			Page 1 of 2	
Location:		East of USTS			Date Started:	10/12/2018
Site Address:		8445 Los Coches Road			Date Completed:	10/12/2018
		El Cajon, California 92021			Depth to Groundwater:	N/A
Project Number:		18-226305.2			Field Technician:	J. Cain
Drill Rig Type:		Geoprobe Model 6600 Truck-mounted drill rig			Partner Engineering and Science	
Sampling Equipment:		Acetate Liners/ VOAs			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		4 inches			Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes	
1					3-4 inches of asphalt at surface	
2						
3						
4						
5	B3-5	0.4	SM	Grayish Brown (10 YR 5/2) silty sand (fine- to coarse-grained), loose, damp		
6						
7						
8						
9						
10	B3-10	0.7	SM	Dark Grayish Brown (10 YR 4/2) silty sand (fine- to coarse-grained), slightly dense, damp		
11						
12						
13						
14						
15	B3-15	3.2	SM	Dark Gray (10 YR 4/1) silty sand (fine- to coarse-grained), slightly dense, damp		
16						
17						
18						
19						
20	B3-20	1.1	SM	Dark Brown (10 YR 3/3) silty sand (fine- to medium-grained), loose, moist		
21						
22						
23						
24						
25	B3-25	0.9	SM	Dark Yellowish Brown (10 YR 4/4) silty sand (fine- to medium-grained), loose, moist		

Boring Number:		B3 Continued			Page 2 of 2	
Location:		East of USTS			Date Started:	10/12/2018
Site Address:		8445 Los Coches Road			Date Completed:	10/12/2018
		El Cajon, California 92021			Depth to Groundwater:	N/A
Project Number:		18-226305.2			Field Technician:	J. Cain
Drill Rig Type:		Geoprobe Model 6600 Truck-mounted drill rig			Partner Engineering and Science	
Sampling Equipment:		Acetate Liners/ VOAs			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		4 inches			Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes	
26	B3-30	1.1	SM	Brown (10 YR 4/3) silty sand (fine- to medium-grained), loose, moist		
27						
28						
29						
30						
31	B3-35	1.7	SM	Dark Yellowish Brown (10 YR 3/4) silty sand (fine- to coarse-grained) with trace gravel, loose, moist		
32						
33						
34						
35						
36					Borehole terminated at 35 bgs. Groundwater was not encountered. Borehole was backfilled with hydrated bentonite and capped with asphalt after sampling.	
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						

Boring Number:		B4			Page 1 of 1	
Location:		Southeast of the Waste Oil UST			Date Started:	10/12/2018
Site Address:		8445 Los Coches Road			Date Completed:	10/12/2018
		El Cajon, California 92021			Depth to Groundwater:	N/A
Project Number:		18-226305.2			Field Technician:	J. Cain
Drill Rig Type:		Geoprobe Model 6600 Truck-mounted drill rig			Partner Engineering and Science	
Sampling Equipment:		Acetate Liners/ VOAs			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		4 inches			Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes	
1	B4-5	0.8	SM	Grayish Brown (10 YR 5/2) silty sand (fine- to coarse-grained), loose, damp	3-4 inches of asphalt at surface	
2						
3						
4						
5	B4-10	1.0	SM	Dark Grayish Brown (10 YR 4/2) silty sand (fine- to coarse-grained), slightly dense, damp		
6						
7						
8						
9						
10						
11	B4-15	8.9	SM	Dark Grayish Brown (10 YR 4/2) silty sand (fine- to coarse-grained), trace gravel, slightly dense, damp		
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

Boring Number:		B5			Page 1 of 1	
Location:		Northeast of former clarifier area			Date Started:	10/12/2018
Site Address:		8445 Los Coches Road			Date Completed:	10/12/2018
		El Cajon, California 92021			Depth to Groundwater:	N/A
Project Number:		18-226305.2			Field Technician:	J. Cain
Drill Rig Type:		Geoprobe Model 6600 Truck-mounted drill rig			Partner Engineering and Science	
Sampling Equipment:		Acetate Liners/ VOAs			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		4 inches			Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes	
1					3-4 inches of asphalt at surface	
2						
3						
4						
5	B5-5	1.3	SM	Brown (10 YR 4/3) silty sand (fine- to coarse-grained), loose, damp	soil gas probe installed at five feet bgs	
6						
7						
8						
9						
10	B5-10	0.6	SM	Light Brownish Gray (10 YR 6/2) silty sand (fine- to coarse-grained), loose, damp		
11						
12						
13						
14						
15	B5-15	0.7	SM	Dark Grayish Brown (10 YR 4/2) silty sand (fine- to coarse-grained), loose, damp		
16					Borehole terminated at 15 feet bgs. Groundwater was not encountered. Borehole was backfilled with hydrated bentonite and capped with concrete after sampling	
17						
18						
19						
20						
21						
22						
23						
24						
25						

Boring Number:		B6			Page 1 of 1	
Location:		West of former clarifier			Date Started:	10/12/2018
Site Address:		8445 Los Coches Road			Date Completed:	10/12/2018
		El Cajon, California 92021			Depth to Groundwater:	N/A
Project Number:		18-226305.2			Field Technician:	J. Cain
Drill Rig Type:		Geoprobe Model 6600 Truck-mounted drill rig			Partner Engineering and Science	
Sampling Equipment:		Acetate Liners/ VOAs			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		4 inches			Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes	
1					3-4 inches of asphalt at surface	
2						
3						
4						
5	B6-5	0.3	SM	Brown (10 YR 4/3) silty sand (fine- to coarse-grained), loose, damp	soil gas probe installed at five feet bgs	
6						
7						
8						
9						
10	B6-10	0.4	SM	Light Brownish Gray (10 YR 6/2) silty sand (fine- to coarse-grained), loose, damp		
11						
12						
13						
14						
15	B6-15	0.2	SM	Dark Grayish Brown (10 YR 4/2) silty sand (fine- to coarse-grained), loose, damp		
16					Borehole terminated at 15 feet bgs. Groundwater was not encountered. Borehole was backfilled with hydrated bentonite and capped with concrete after sampling	
17						
18						
19						
20						
21						
22						
23						
24						
25						

Boring Number:		B7			Page 1 of 1	
Location:		Central interior of former automotive repair building			Date Started:	10/12/2018
Site Address:		8445 Los Coches Road			Date Completed:	10/12/2018
		El Cajon, California 92021			Depth to Groundwater:	N/A
Project Number:		18-226305.2			Field Technician:	J. Cain
Drill Rig Type:		3.5-inch stainless steel hand auger			Partner Engineering and Science	
Sampling Equipment:		Acetate Liners/ VOAs			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		4 inches			Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes	
1					6-7 inches of concrete at surface	
2						
3						
4	B7-4	0.5	SM	Brown (10 YR 4/3) silty sand (fine- to medium-grained), loose, damp		
5						
6						
7						
8	B7-8	0.0	SM	Brown (10 YR 4/3) silty sand (fine- to medium-grained), loose, damp		
9					Refusal encountered at eight feet bgs. Groundwater was not encountered. Borehole was backfilled with hydrated bentonite and capped with concrete after sampling	
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

Boring Number:		B8			Page 1 of 1	
Location:		Northeast interior of former automotive repair building			Date Started:	10/12/2018
Site Address:		8445 Los Coches Road			Date Completed:	10/12/2018
		El Cajon, California 92021			Depth to Groundwater:	N/A
Project Number:		18-226305.2			Field Technician:	J. Cain
Drill Rig Type:		3.5-inch stainless steel hand auger			Partner Engineering and Science	
Sampling Equipment:		Acetate Liners/ VOAs			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		4 inches			Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes	
1					6-7 inches of concrete at surface	
2						
3						
4	B8-4	0.5	SM	Brown (10 YR 4/3) silty sand (fine- to medium-grained), loose, damp		
5						
6						
7						
8	B8-8	0.0	SM	Brown (10 YR 4/3) silty sand (fine- to medium-grained), loose, damp		
9						
10						
11						
12	B8-12	0.2	SM	Brown (10 YR 4/3) silty sand (fine- to medium-grained), loose, damp		
13					Borehole terminated at 12 feet bgs. Groundwater was not encountered. Borehole was backfilled with hydrated bentonite and capped with concrete after sampling	
14						
15						
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## APPENDIX B: PERMIT

---





PERMIT #: LMWP-003660

A.P.N. #: 400-381-02

EST #: None

**COUNTY OF SAN DIEGO  
DEPARTMENT OF ENVIRONMENTAL HEALTH  
LAND AND WATER QUALITY DIVISION  
MONITORING WELL PROGRAM**

**BORING CONSTRUCTION PERMIT**

SITE NAME: EAGLE GAS

SITE ADDRESS: 8445 LOS COCHES ROAD, EL CAJON 92021

PERMIT FOR: CONSTRUCTION OF SOIL BORINGS (3)

PERMIT APPROVAL DATE: 10/4/2018

PERMIT EXPIRES ON: 2/1/2019

RESPONSIBLE PARTY: LMSSM LLC

---

**PERMIT CONDITIONS:**

1. All borings must be sealed from the bottom of the boring to the ground surface with an approved sealing material as specified in California Well Standards Bulletin 74-90, Part III, Section 19.D. **Drill cuttings are not an acceptable fill material. Bentonite slurries are not an acceptable fill material in the unsaturated zone.**
2. All borings must be properly destroyed within 24 hours of drilling.
3. Placement of any sealing material at a depth greater than 30 feet must be done using the tremie method.
4. This work is not connected to any known unauthorized release of hazardous substances. Any contamination found in the course of drilling and sampling must be reported to DEH. All water and soil resulting from the activities covered by this permit must be managed, stored and disposed of as specified in the SAM Manual in Section 5, II, D-4. In addition, drill cuttings must be properly handled and disposed in compliance with the Stormwater Best Management Practices of the local jurisdiction.
5. Within 60 days of completing work, submit a well construction report, including all well and/or boring logs and laboratory data to the Well Permit Desk. This report must include all items required by the SAM Manual, Section 5, Pages 6 & 7.
6. This office must be given 24-hour notice of any drilling activity on this site and advanced notification of drilling cancellation. Please contact the Well Permit Desk at (858) 505-6688.

**NOTE:** This permit does not constitute approval of a work plan as defined in Section 2722 of Article 11 of C.C.R., Title 23. Work plans are required for all unauthorized release investigations in San Diego County.

APPROVED BY: \_\_\_\_\_

Jon Senaha

DATE: 10/4/2018



**PERMIT APPLICATION  
GROUNDWATER  
AND VADOSE MONITORING WELLS  
AND EXPLORATORY OR TEST BORINGS**

**OFFICE USE ONLY**  
PERMIT LMWP# \_\_\_\_\_  
SAM CASE Y/N # \_\_\_\_\_  
DATE RECEIVED: \_\_\_\_\_  
FEE PAID: \_\_\_\_\_  
CHECK # Online

**A. RESPONSIBLE PARTY** LMSSM LLC E-mail Eagle8445@gmail.com  
(The person, persons, or company responsible for the construction, maintenance, and destruction of the proposed borings and/or wells.)  
Mailing Address 8445 Los Coches Road City El Cajon State        Zip         
Contact Person Fred Mokou Phone 619-916-9669 Ext.       

**B. SITE ASSESSMENT PROJECT NUMBER – IF APPLICABLE #** \_\_\_\_\_


**C. CONSULTING FIRM** Partner Engineering and Science, Inc.  
Mailing Address 2154 Torrance Blvd, Suite 200 City Torrance State CA Zip 90501  
Registered Professional Samantha Fujita Phone 310-765-7258 Registration # 9042(PG)  
E-mail sfujita@partneresi.com  
Contact Person Josh Cain Phone 310-615-4500 Ext.        Email         
jcain@partneresi.com

**D. DRILLING COMPANY** Strongarm Environmental C57# 766463  
Contact Name Darren Zuidema E-mail darren@strongarmenv.com  
Mailing Address 13562 Pumice Street City Norwalk State CA Zip 90650  
Phone 562-404-6656 Ext.       

**E. CONSTRUCTION INFORMATION**

TYPE OF WELLS/ BORINGS TO BE CONSTRUCTED	MATERIALS TO BE USED		PROPOSED CONSTRUCTION
#	CASING	SEAL/BORING BACKFILL	
<input type="checkbox"/> Groundwater _____	<b>Not Applicable X</b>	<input type="checkbox"/> Neat Cement	Estimated Groundwater Depth: <u>-3139 ft.</u>
<input type="checkbox"/> Vadose _____	Type _____	<input checked="" type="checkbox"/> Cement & Bentonite	Estimated Depth of Boring: <u>35 ft.</u>
<input checked="" type="checkbox"/> Boring <u>3</u>	Gauge _____	<input type="checkbox"/> Sand-Cement	Concrete Seal: <u>0</u> to <u>3</u>
<input type="checkbox"/> Soil Vapor _____	Diameter _____	<input type="checkbox"/> Bentonite	Annular Seal: _____ to _____
<input type="checkbox"/> Other _____	Screen Size _____	<input type="checkbox"/> Other	Filter Pack: _____ to _____
	Filter Pack _____	Borehole diameter _____	Perforation: _____ to _____
<b>NUMBER OF WELLS TO BE DESTROYED</b>	<b>Drilling Method</b>		<b>NOTE: Attach a well construction diagram</b>
<input type="checkbox"/> Destruction _____	<input type="checkbox"/> Auger	<input type="checkbox"/> Air Rotary	
	<input checked="" type="checkbox"/> Direct Push	<input type="checkbox"/> Sonic	
	<input type="checkbox"/> Other _____	<input type="checkbox"/> Percussion	

I agree to comply with the requirements of the current Site Assessment and Mitigation Manual, and with all ordinances and laws of the County of San Diego and the State of California pertaining to well/boring construction and destruction.

DRILLER'S SIGNATURE  DATE 11-3-18

Within 60 days of completion, I will furnish the Monitoring Well Permit Desk (858) 505-6688 with a complete well/boring log. I will certify the design and construction or destruction of the well/borings in accordance with the permit application.

PG/RCE/CEG SIGNATURE

DATE

10/3/18

**F. SITE INFORMATION - A Property Owner Consent agreement is required for all applications, except for onsite, open LOP/SAM site assessment cases, Caltrans properties and military properties. Submit a separate sheet for additional parcels.**

**1. ASSESSOR'S PARCEL NUMBER** 4003810200

Site Name Eagle Gas

Site Address 8445 Los Coches Road

City El Cajon

Zip

92021

**PROPERTY OWNER** Fred Mokou / LMSSM LLC

Phone 619-916-9669

Ext. \_\_\_\_\_

Fax \_\_\_\_\_

Mailing Address 8445 Los Coches Road

City El Cajon

State CA

Zip 92021

**NUMBER OF WELLS** 3

**TYPE OF WELLS** Soil Borings

**2. ASSESSOR'S PARCEL NUMBER** \_\_\_\_\_

Site Address \_\_\_\_\_

City \_\_\_\_\_

Zip \_\_\_\_\_

**PROPERTY OWNER** \_\_\_\_\_

Phone \_\_\_\_\_

Ext. \_\_\_\_\_

Fax \_\_\_\_\_

Mailing Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

**NUMBER OF WELLS** \_\_\_\_\_

**TYPE OF WELLS** \_\_\_\_\_

**G. QUESTIONNAIRE: Please answer all applicable questions completely and submit any required supportive documentation.**

**1. What is the purpose of the well/boring investigation?**

- ☐ a. Part of an ongoing site assessment case in which a government regulator is the lead agency. If yes, indicate which government regulator is the lead agency and the case number.

\_\_\_\_\_  
DEH

\_\_\_\_\_  
RWQCB

\_\_\_\_\_  
DTSC

- ☐ b. Part of a Phase I investigation for property ownership transfer.
- ☐ c. Geotechnical investigation for proposed construction or land stabilization.
- ☒ d. Other: Phase II Subsurface Investigation

**2. If wells are to be destroyed, provide a description of method of destruction** backfilled with hydrated bentonite after soil sampling

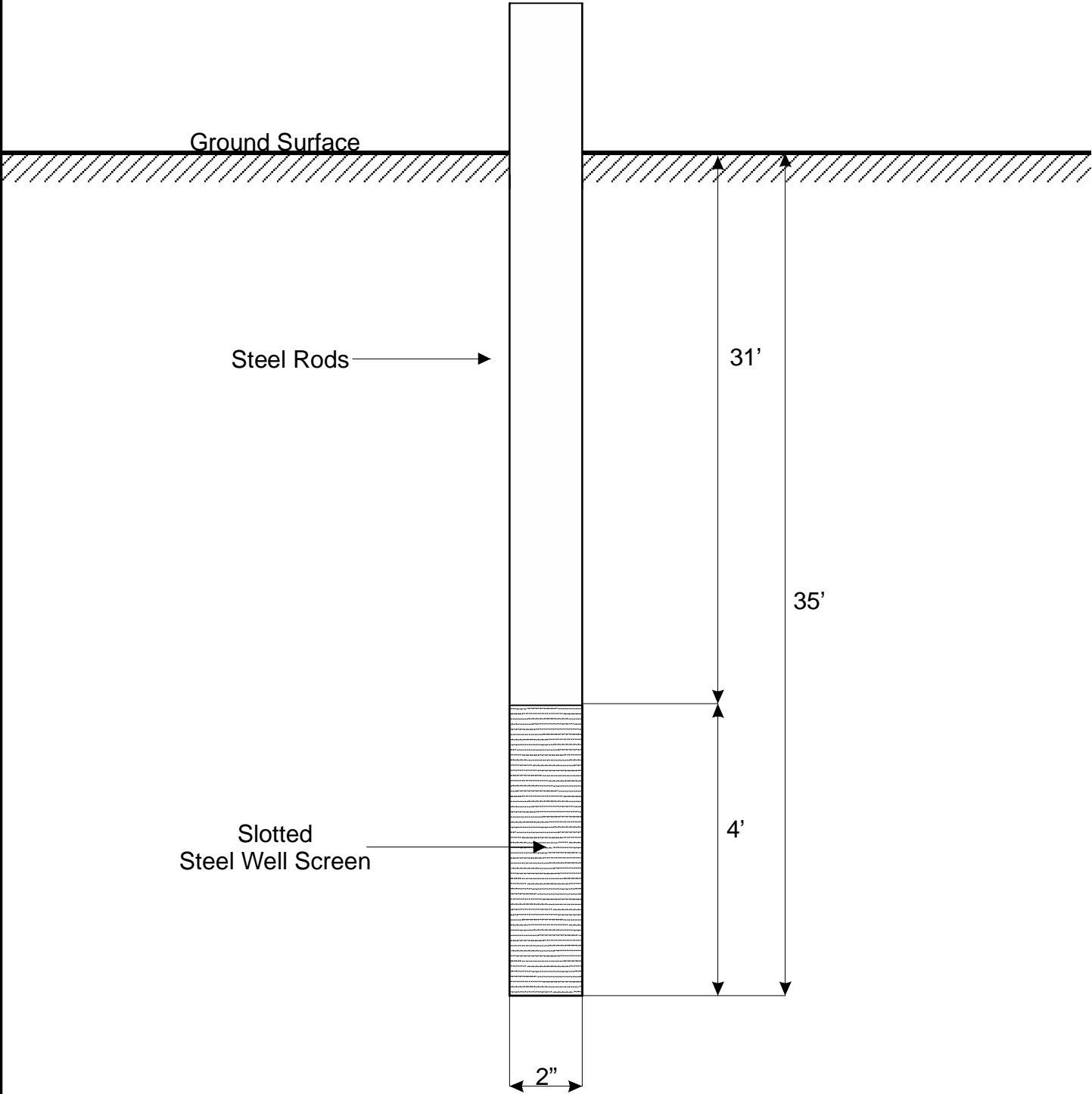
**3. Are you proposing a variation from current SAM Manual Requirements for the construction or destruction of borings, Vadose and/or Groundwater Monitoring Wells? If yes, specify these variations and include a**

well construction diagram and all required supporting documentation. Refer to the [SAM Manual Appendix B](#) for monitoring well guidelines. Yes ☐ No ☒

---

H. FEES			
ACTIVITY	FEE SCHEDULE	AMOUNT	
<b>Permit for Well Installations Only</b> <i>(Groundwater Monitoring Wells, Vapor Extraction Wells)</i>	\$351.00 for the first monitoring well	<b>\$351.00</b>	_____
	\$224.00 for each additional well installation	_____ x <b>\$224.00</b>	_____
<b>Permit for Borings Only</b> <i>(CPT's, Hydropunch, Geoprobes, Temporary Well Points, etc.)</i>	\$235.00 for the first boring	<b>\$235.00</b>	<b><u>\$235</u></b>
	\$62.00 for each additional boring	<u>2</u> x <b>\$ 62.00</b>	<b><u>\$124</u></b>
<b>Permit for Well Destructations Only</b>	\$235.00 for the first destruction	<b>\$235.00</b>	_____
	\$143.00 for each additional destruction	_____ x <b>\$143.00</b>	_____
<b>Permit for any Combination of Well Installations, Borings, &amp; Destructations</b> <i>(Except Enhanced Leak Detection &amp; Soil Vapor Survey)</i>	First Activity: \$351.00 (if monitoring wells will be installed) OR \$235.00 (for borings and destructations only)	<b>\$351.00</b> OR <b>\$235.00</b>	_____ _____
	\$224.00 for each additional well	_____ x <b>\$224.00</b>	_____
	\$ 62.00 for each additional boring	_____ x <b>\$ 62.00</b>	_____
	\$143.00 for each additional well destruction	_____ x <b>\$143.00</b>	_____
<b>Permit for Soil Vapor Survey</b> <i>(Vadose Monitoring Wells)</i>	\$388.00 (flat fee per site)	<b>\$388.00</b>	_____
<b>Permit for Enhanced Leak Detection</b>	\$235.00 for the first boring	<b>\$368.00</b>	_____
	<b>TOTAL COST OF PERMIT</b>		<b><u>\$359</u></b>

Notes:  
 -Not to scale  
 -PVC = polyvinyl chloride (schedule 40)





# County of San Diego

ELISE ROTHCHILD  
DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH  
LAND AND WATER QUALITY DIVISION  
P.O. BOX 129261, SAN DIEGO, CA 92112-9261  
(858)505-6688  
www.sdcdeh.org

AMY HARBERT  
ASSISTANT DIRECTOR

## PROPERTY OWNER CONSENT

Proposed locations for subsurface work:

**Property Address:**

**Assessor's Parcel Number (APN):**

8445 Los Coches Road

4003810200

El Cajon, California 92021

I, Fred Mokou of LMSSM, LLC, owner of the property/properties listed above, give my permission to Partner Engineering and Science, Inc. (consulting company, contractor) to conduct the following work at the locations stated above.

☐ Install \_\_\_\_\_ monitoring wells ☐ Destroy \_\_\_\_\_ monitoring wells ☒ Drill 3 soil borings

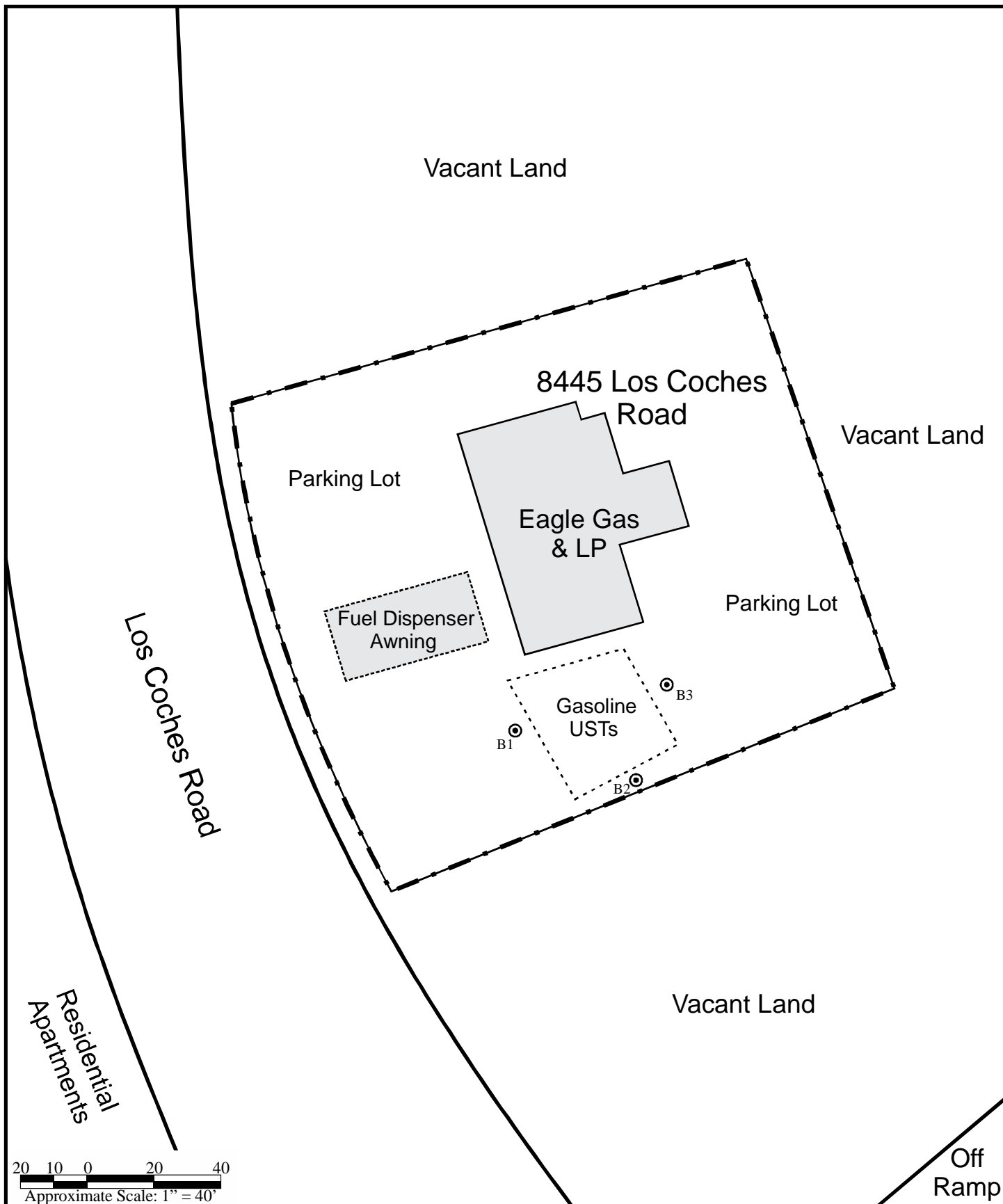
I understand that Samantha Fujita (registered professional) of Partner Engineering (consulting company) and an authorized signer for Strongarm Environmental (drilling company) have submitted a signed application to the Department of Environmental Health in which they have agreed to complete the above-stated work according the requirements of the current SAM Manual, all ordinances and laws of the County of San Diego and the State of California pertaining to well/boring construction and destruction. I have arranged with the Responsible Party, the person who causes to have monitoring wells/borings installed or existing wells destroyed on this property, to ensure proper closure of the monitoring wells/borings.

Property Owner Signature: [Signature] Date: 10/3/2018

Print Name: Fred Mokou Title: Owner

Company: LMSSM, LLC

Mailing Address: 8445 Los Coches Road, El Cajon, CA 92021

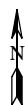


20 10 0 20 40  
Approximate Scale: 1" = 40'

**PARTNER**  
Engineering and Science, Inc.  
2154 Torrance Boulevard, Suite 200  
Torrance, California 90501

Project Number: 18-226305.2

### Legend



Subject Site



Proposed Boring Location



### Proposed Boring Locations

Figure	Prepared By	Date
1	J. Cain	October 2018

8445 Los Coches Road  
El Cajon, California 92021



## **APPENDIX C: GEOPHYSICAL SURVEY REPORT**

---



# SubSurface Surveys

**An Applied Geophysical Company**

2075 Corte Del Nogal, Suite W  
Carlsbad, California 92011  
Office: 760-476-0492  
Fax: 760-476-0493

**Partner Engineering and Sciences, Inc.**

**Attn:** Joshua Cain

2154 Torrance Blvd, Suite 200

Torrance, California 90501

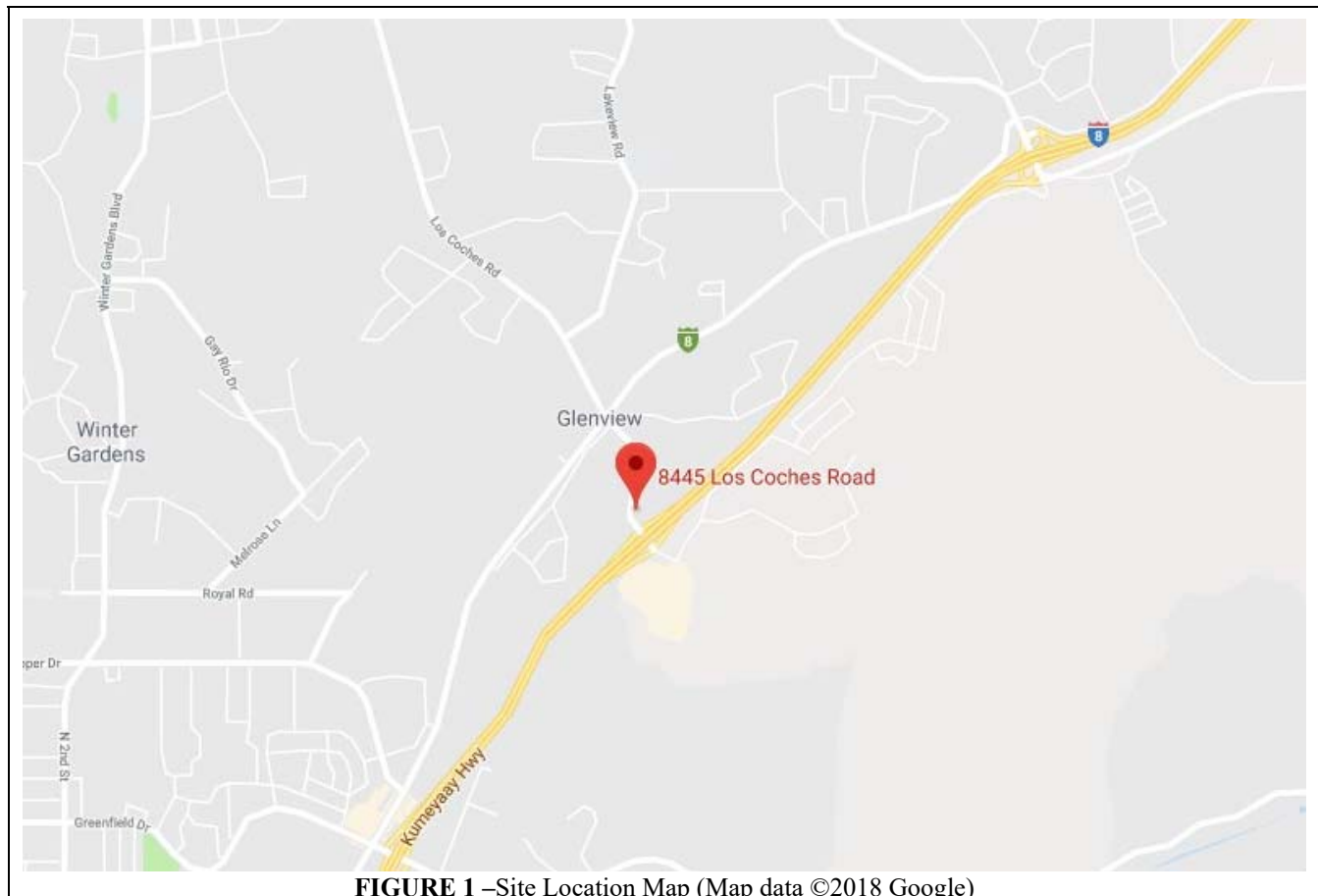
October 15<sup>th</sup>, 2018

**Subject:** Geophysical Survey  
Service Station  
8445 Los Coches Rd  
El Cajon, California

**Project Number:** 18-444

This report is to present the results of our geophysical survey carried out over portions of a service station located at 8445 Los Coches Road in El Cajon, California (Figure 1), on October 12<sup>th</sup>, 2018. Purpose of the survey was to locate and identify, insofar as possible, piping, conduit, and other underground utilities that may exist in the vicinity of eight (8) specific locations for guidance in future drilling activities.

A combination of electromagnetic induction (EM), magnetometry, and ground penetrating radar (GPR) were applied to the search. A utility locator with line tracing capabilities was also brought to the field and used where risers exist onto which a signal could be impressed and traced.



**FIGURE 1 –Site Location Map (Map data ©2018 Google)**

**Survey Design** – The area to be surveyed, along with the specific borehole locations, were indicated in the field by the client. The magnetic gradiometer, line tracer, EM61, M-Scope and GPR were also traversed systematically over each proposed borehole, positioned by the client, along the eight lines of the standard search pattern (Figure 2), wherein, there are two sets of three parallel lines, mutually orthogonal, and two diagonals, all centered on the marked drill location. Adjacent parallel lines are approximately 5 feet apart, and each line is approximately 20 feet long, access permitting. Other traverses were taken, access permitting, for detailing and confirmation where anomalous conditions were found.

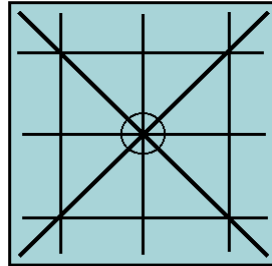


Figure 2: Standard search pattern around borehole

Hard copy of the EM data was not acquired, that is, discrete readings on the nodes of a grid were not recorded that could be put into a contoured map format. Rather, the instruments' meters were read continuously, and in real-time, during each traverse. This free-traversing method allowed for immediate detection of anomalous objects and facilitated the opportunity to investigate them further, without first having to download data in the office. The lack of hard copy for EM data sets does not degrade the quality of the survey in any way. Hard copy merely provides a basis for report documentation of these geophysical fields, if such documentation is needed.

The line tracers were used to impress signals onto pipes, generally through accessible risers and tracer wires when present, to delineate the lines' locations and orientations. The instruments were also used in passive mode, configured to detect 60 Hz electrical signals and other common radio-frequency signals.

A Geonic's model EM61 and a Fischer M-Scope was used for the EM sampling. A Sensors and Software Noggin Ground Penetrating Radar unit with a 500 MHz antenna produced the radar images. The magnetic gradiometer was a Schonstedt GA-52, and a Metrotech 9890 and RIDGID SR-60 SeekTech utility locator rounded out the tools applied.

**Brief Description of the Geophysical Methods Applied** - The line locator is used to passively detect energized high voltage electric lines and electrical conduit (50-60 Hz), VLF signals (14-22 kHz), as well as to actively trace other utilities. Where risers are present, the utility locator transmitter can be connected directly to the object, and a signal (9.8-82 kHz) is sent traveling along the conductor, pipe, conduit, etc. In the absence of a riser, the transmitter can be used to impress an input signal on the utility by induction. In either case, the receiver unit is tuned to the input signal, and is used to actively trace the signal along the pipe's surface projection.

The magnetic gradiometer has two flux gate magnetic fixed sensors that are passed closely to and over the ground. When not in close proximity to a magnetic object, that is, only in the earth's field, the instrument emits a sound signal at a low frequency. When the instrument passes over a buried iron or steel object, so that locally there is a high magnetic gradient, the frequency of the emitted sound increases. The frequency is a function of the gradient between the two sensors.

The EM61 instrument is a high resolution, time-domain device for detecting buried conductive objects. It

consists of a powerful transmitter that generates a pulsed primary magnetic field when its coils are energized, which induces eddy currents in nearby conductive objects. The decay of the eddy currents, following the input pulse, is measured by the coils, which in turn serve as receiver coils. The decay rate is measured for two coils, mounted concentrically, one above the other. By making the measurements at a relatively long time interval (measured in milliseconds) after termination of the primary pulse, the response is nearly independent of the electrical conductivity of the ground. Thus, the instrument is a super-sensitive metal detector. Due to its unique coil arrangement, the response curve is a single well-defined positive peak directly over a buried conductive object. This facilitates quick and accurate location of targets.

The GPR instrument beams energy into the ground from its transducer/antenna, in the form of electromagnetic waves. A portion of this energy is reflected back to the antenna at a boundary in the subsurface across which there is an electrical contrast. The instrument produces a continuous record of the reflected energy as the antenna is traversed across the ground surface. The greater the electrical contrast, the higher the amplitude of the returned energy. The radar wave travels at a velocity unique to the material properties of the ground being investigated, and when these velocities are known, the two-way travel times can be converted to depth. The depth of penetration and image resolution produced are a function of ground electrical conductivity and dielectric constant.

The M-Scope device energizes the ground by producing an alternating primary magnetic field with AC current in a transmitting coil. If conducting materials are within the area of influence of the primary field, AC eddy currents are induced to flow in the conductors. A receiving coil senses the secondary magnetic field produced by these eddy currents, and outputs the response to a meter in the form of ground conductivity values for the M-Scope. The strength of the secondary field is a function of the conductivity of the object, say a pipe, tank or cluster of drums, its size, and its depth and position relative to the instrument's two coils. Conductive objects, to a depth of approximately 7 feet for the M-Scope are sensed. The devices are also somewhat focused; that is, they are more sensitive to conductors below the instrument than they are to conductors off to the side.

**Interpretation and Conclusions** - The interpretation took place in real time as the survey progressed, and accordingly, the findings of our investigation were marked on the ground cover with spray chalk paint and further documented with site photographs of the surveyed areas (Figures 3-11); and radar images (Figures 12 and 13).

The EM and magnetic instruments were effective at locating and delineating metallic objects and utilities over the search area. Most obstructions were removed from the site; however, there were still some areas of the survey that were in close proximity to reinforced concrete, building structures, or other above ground metallic objects. In these areas (five feet and closer to any structure) the GPR and the line tracer were the main tools applied to the search.

All detectable items were marked out within the survey area in industry standard colors. Red chalk was used for delineating electric lines, green was used for drain/sewer lines, orange chalk was used for communication, yellow for tank related piping, blue for water, white was used to delineate lines of unknown utility type and green dashed lines were used to mark the boundaries of a backfilled excavation.

It was reported in the field by the client that a clarifier system was located on northern portion of the property. During the geophysical survey, a sewer line was detected north of the station building; but there was no evidence of an existing clarifier system. The GPR did however detect backfilled excavation-like characteristics between this east-west trending sewer line and the station building (Figures 9-11). Radar imagery was captured and can be seen in Figures 12 and 13 which show deeper penetration responses similar to a backfilled excavation. Although its proximity was located adjacent to the building structure, the EM and magnetic instruments did not

detect metal within its boundaries. Because of its position and historical records this is the best candidate of where a clarifier formerly existed.

Once all detectable buried cultural objects were marked and accounted for, our findings were discussed with the client, at the conclusion of the survey. Based on the geophysical findings the boreholes were then positioned by the client and SubSurface Surveys and Associates marked it cleared with a white circle and a yellow "SSS". Please refer to the graphics along with the markings in the field for a better representation of our findings.

**Limitations and Further Recommendations** - It should be understood that limitations inherent in geophysical instruments and/or surveying techniques exist at all sites, and nearly all sites exhibit conditions under which instruments might not perform optimally. Consequently, the detection of buried objects in all circumstances **cannot be guaranteed**. Such limitations are numerous and include, but are not limited to, rebar-reinforced ground cover, abrupt changes in ground cover type, above-ground obstacles preventing full traverses or traverses in one direction only, above-ground conductive objects interfering with instrument signal, nearby powerlines or EM transmitters, highly conductive background soil conditions, limiting GPR penetration, non-metallic targets, shallower or larger objects shielding deeper or smaller targets, tracing signal jumping from one line to another, and inaccessible risers, cleanouts, valve boxes, and manholes. If one or more geophysical instrument is rendered ineffective and cannot be utilized, the quality of the survey can be somewhat degraded.

For the above reasons, and in the interest of maximum safety, we encourage our clients to take advantage of Underground Service Alert (USA), Dig Alert, or other similar services, when possible. Furthermore, we recommend hand-auguring and the use of a drilling method known as air knifing and vacuum extraction, when feasible or if applicable to this project. These methods may significantly limit damage to underground pipes, conduits, and utilities that might not have been detectable during the course of this survey. Please bear in mind, that geophysical surveying is only one of several levels of protection that is available to our clients.


SubSurface Surveys may include maps in some reports. While they are an accurate general representation of the site and our findings, they are not of engineering quality (i.e., measured and mapped by a licensed land surveyor).

SubSurface Surveys and Associates makes no guarantee either expressed or implied regarding the accuracy of the findings and interpretations present. And, in no event will SubSurface Surveys and Associates be liable for any direct, indirect, special, incidental, or consequential damages resulting from interpretations and opinions presented herewith.

All data acquired in these surveys are in confidential file in this office, and are available for review by your staff, or by us at your request, at any time. We appreciate the opportunity to participate in this project. Please call, if there are questions.

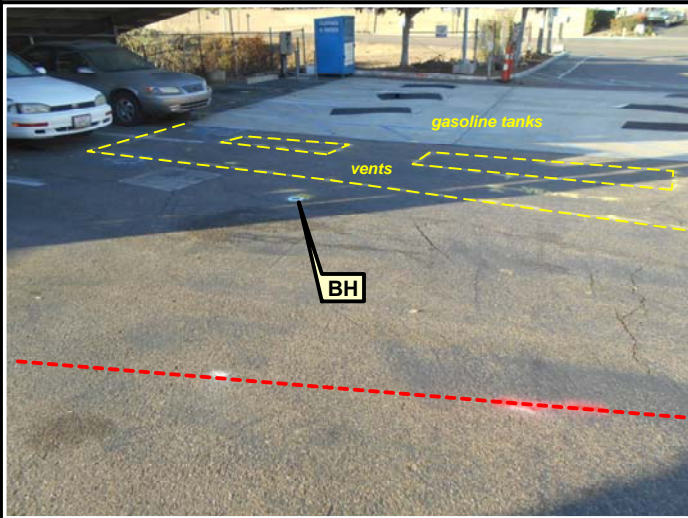


Bret Herman  
Staff Geophysicist



Travis Crosby, GP# 1044  
California State Geophysics Registration GP1044  
Senior Geophysicist, SubSurface Surveys

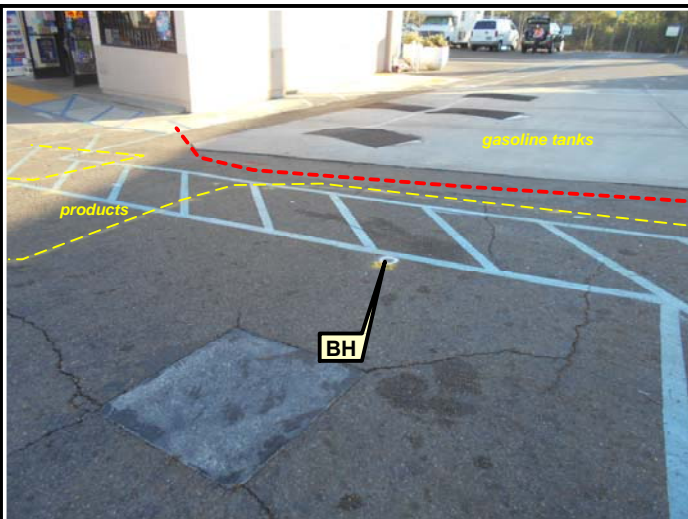




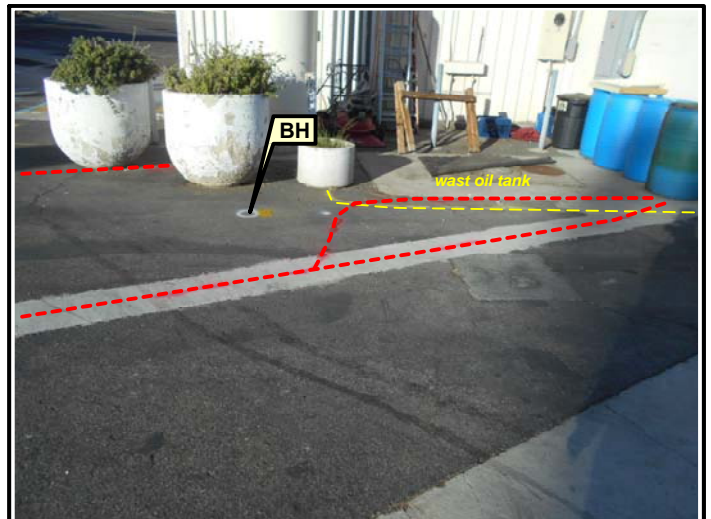
**Figure 3**



**Figure 4**



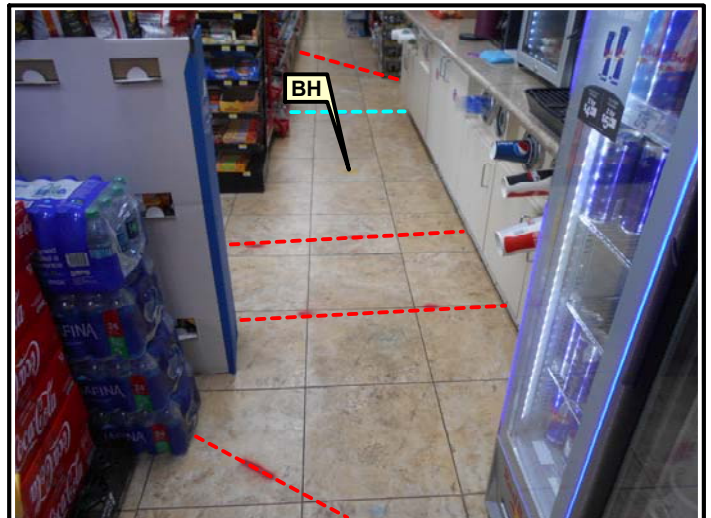
**Figure 5**



**Figure 6**



**Figure 7**



**Figure 8**



**SITE:**  
Service Station  
8445 Los Coches Road  
El Cajon, California

**TITLE:**  
Site Photographs  
**PREPARED FOR:**  
Partner Engineering

**SURVEY DATE:**  
October 12th, 2018  
**SSS PROJECT NO:**  
18-444



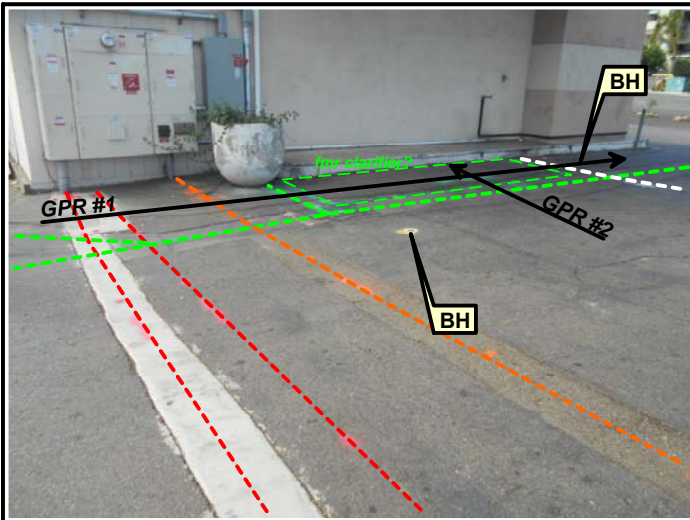


Figure 9

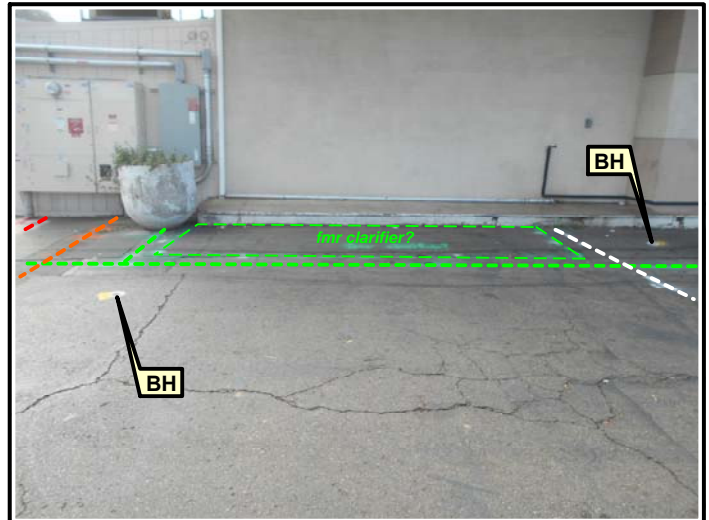


Figure 10

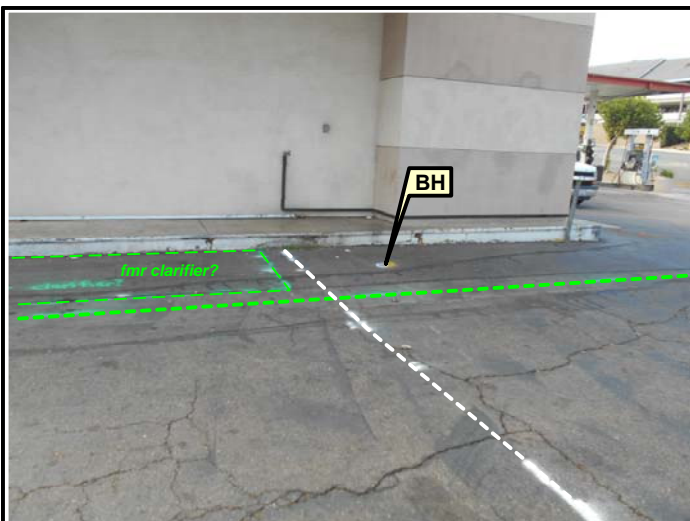


Figure 11

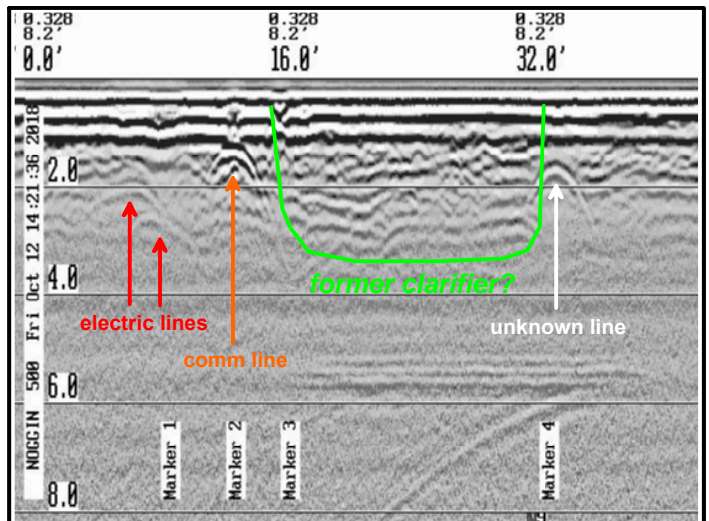


Figure 12: GPR Traverse #1

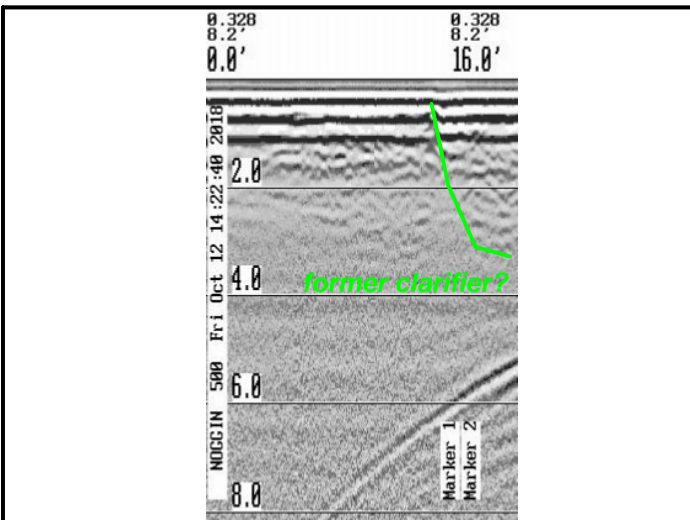
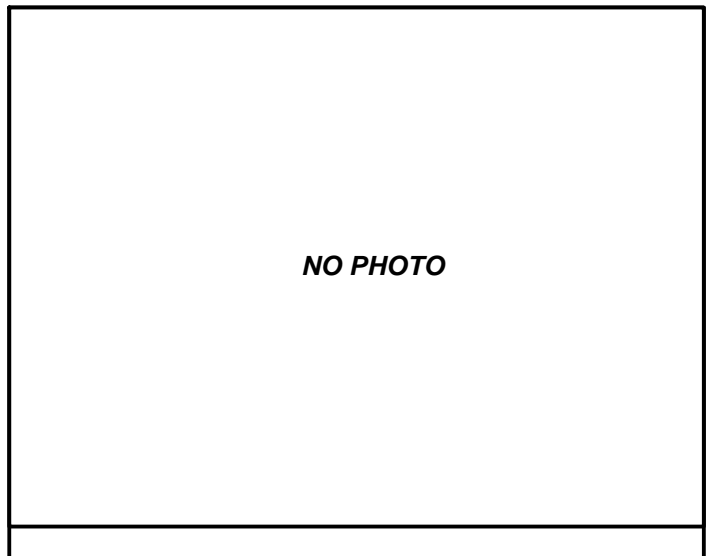


Figure 13: GPR Traverse #2



SITE:  
Service Station  
8445 Los Coches Road  
El Cajon, California

TITLE:  
Site Photographs and Radar Images  
PREPARED FOR:  
Partner Engineering

SURVEY DATE:  
October 12th, 2018  
SSS PROJECT NO:  
18-444



## **APPENDIX D: LABORATORY ANALYTICAL REPORTS**

---



714-449-9937  
562-646-1611  
805-399-0060

11007 FOREST PLACE  
SANTA FE SPRINGS, CA 90670  
WWW.JONESENV.COM

**JONES ENVIRONMENTAL  
LABORATORY RESULTS**

**Client:** Partner Engineering and Science  
**Client Address:** 2154 Torrance Blvd  
Torrance, CA

**Report date:** 10/16/2018  
**JEL Ref. No.:** ST-12798  
**Client Ref. No:** 18-226305-2

**Attn:** Samantha Fujita

**Date Sampled:** 10/12/2018  
**Date Received:** 10/15/2018

**Project:** Gasoline Station Property  
**Project Address:** 8445 Los Coches Road  
El Cajon, CA

**Date Analyzed:** 10/15-16/18  
**Physical State:** Soil

---

**ANALYSES REQUESTED**

1. EPA 8015M – Extended Range Hydrocarbons
2. EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

**Approval:**

Colby Wakeman  
QA/QC Manager



714-449-9937  
562-646-1611  
805-399-0060

11007 FOREST PLACE  
SANTA FE SPRINGS, CA 90670  
WWW.JONESENV.COM

## JONES ENVIRONMENTAL LABORATORY RESULTS

<b>Client:</b>	Partner Engineering & Science, Inc.	<b>Report date:</b>	10/16/2018
<b>Client Address:</b>	2154 Torrance Blvd. Torrance, CA	<b>Jones Ref. No.:</b>	ST-12798
		<b>Client Ref. No.:</b>	18-226305.2
<b>Attn:</b>	Samantha Fujita	<b>Date Sampled:</b>	10/12/2018
		<b>Date Received:</b>	10/15/2018
<b>Project:</b>	Gasoline Station Property	<b>Date Analyzed:</b>	10/15,16/2018
<b>Project Address:</b>	8445 Los Coches Road, El Cajon, CA 92021	<b>Physical State:</b>	Soil

### EPA 8015M - Extended Range Hydrocarbons

<u>Sample ID:</u>	B1-20	B2-20	B3-15	B4-10	B5-10		
<u>Jones ID:</u>	ST-12798-04	ST-12798-11	ST-12798-17	ST-12798-23	ST-12798-26	<u>Reporting Limit</u>	<u>Units</u>
<b>Carbon Chain Range</b>							
C10 - C11	ND	ND	ND	ND	ND	1.0	mg/kg
C12 - C13	ND	ND	ND	ND	ND	1.0	mg/kg
C14 - C15	ND	ND	ND	ND	ND	1.0	mg/kg
C16 - C17	ND	ND	ND	ND	ND	1.0	mg/kg
C18 - C19	ND	1.3	ND	1.8	3.6	1.0	mg/kg
C20 - C23	ND	12.7	ND	15.3	24.1	1.0	mg/kg
C24 - C27	ND	25.4	ND	36.9	68.6	1.0	mg/kg
C28 - C31	ND	46.6	ND	73.6	136	1.0	mg/kg
C32 - C35	ND	52.0	ND	80.0	147	1.0	mg/kg
C36 - C39	ND	57.4	ND	88.9	161	1.0	mg/kg
C40 - C43	ND	62.6	ND	93.0	166	1.0	mg/kg
<u>Dilution Factor</u>	1	1	1	1	1		
 						<u>QC Limits</u>	
<u>Surrogate Recovery:</u>							
Hexacosane	54%	103%	71%	110%	81%		30 - 120
<u>Batch:</u>	8015	8015	8015	8015	8015		
	_101518_01	_101518_01	_101518_01	_101518_01	_101518_01		

ND = Value less than reporting limit

\* = Dilutions for these compound(s); first number for all others



714-449-9937  
562-646-1611  
805-399-0060

11007 FOREST PLACE  
SANTA FE SPRINGS, CA 90670  
WWW.JONESENV.COM

## JONES ENVIRONMENTAL LABORATORY RESULTS

<b>Client:</b>	Partner Engineering & Science, Inc.	<b>Report date:</b>	10/16/2018
<b>Client Address:</b>	2154 Torrance Blvd. Torrance, CA	<b>Jones Ref. No.:</b>	ST-12798
		<b>Client Ref. No.:</b>	18-226305.2
<b>Attn:</b>	Samantha Fujita	<b>Date Sampled:</b>	10/12/2018
<b>Project:</b>	Gasoline Station Property	<b>Date Received:</b>	10/15/2018
<b>Project Address:</b>	8445 Los Coches Road, El Cajon, CA 92021	<b>Date Analyzed:</b>	10/15,16/2018
		<b>Physical State:</b>	Soil

### EPA 8015M - Extended Range Hydrocarbons

<u>Sample ID:</u>	B6-5	B7-8	B8-8		
<u>Jones ID:</u>	ST-12798-28	ST-12798-32	ST-12798-34	<u>Reporting Limit</u>	<u>Units</u>
<b>Carbon Chain Range</b>					
C10 - C11	ND	ND	ND	1.0	mg/kg
C12 - C13	ND	ND	ND	1.0	mg/kg
C14 - C15	1.2	ND	ND	1.0	mg/kg
C16 - C17	9.5	ND	ND	1.0	mg/kg
C18 - C19	10.8*	ND	ND	1.0	mg/kg
C20 - C23	163*	ND	ND	1.0	mg/kg
C24 - C27	224*	ND	ND	1.0	mg/kg
C28 - C31	493*	ND	ND	1.0	mg/kg
C32 - C35	566*	ND	ND	1.0	mg/kg
C36 - C39	631*	ND	ND	1.0	mg/kg
C40 - C43	662*	ND	ND	1.0	mg/kg
<u>Dilution Factor</u>	1/10*	1	1		
<u>Surrogate Recovery:</u>				<u>QC Limits</u>	
Hexacosane	74%	65%	40%	30 - 120	
<u>Batch:</u>	8015 _101518_01	8015 _101618_01	8015 _101618_01		

ND = Value less than reporting limit



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## JONES ENVIRONMENTAL LABORATORY RESULTS

<b>Client:</b>	Partner Engineering & Science, Inc.	<b>Report date:</b>	10/16/2018
<b>Client Address:</b>	2154 Torrance Blvd. Torrance, CA	<b>Jones Ref. No.:</b>	ST-12798
		<b>Client Ref. No.:</b>	18-226305.2
<b>Attn:</b>	Samantha Fujita	<b>Date Sampled:</b>	10/12/2018
<b>Project:</b>	Gasoline Station Property	<b>Date Received:</b>	10/15/2018
<b>Project Address:</b>	8445 Los Coches Road, El Cajon, CA 92021	<b>Date Analyzed:</b>	10/15,16/2018
		<b>Physical State:</b>	Soil

### EPA 8015M - Extended Range Hydrocarbons

<u>Sample ID:</u>	METHOD BLANK	METHOD BLANK		
<u>Jones ID:</u>	MB- 101518_01	MB- 101618_01	<u>Reporting Limit</u>	<u>Units</u>
<b>Carbon Chain Range</b>				
C10 - C11	ND	ND	1.0	mg/kg
C12 - C13	ND	ND	1.0	mg/kg
C14 - C15	ND	ND	1.0	mg/kg
C16 - C17	ND	ND	1.0	mg/kg
C18 - C19	ND	ND	1.0	mg/kg
C20 - C23	ND	ND	1.0	mg/kg
C24 - C27	ND	ND	1.0	mg/kg
C28 - C31	ND	ND	1.0	mg/kg
C32 - C35	ND	ND	1.0	mg/kg
C36 - C39	ND	ND	1.0	mg/kg
C40 - C43	ND	ND	1.0	mg/kg

<b><u>Dilution Factor</u></b>	1	1
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<b><u>Surrogate Recovery:</u></b>			<b><u>QC Limits</u></b>
Hexacosane	63%	70%	30 - 120

<b><u>Batch:</u></b>	8015	8015
	_101518_01	_101618_01

ND = Value less than reporting limit



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## JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

<b>Client:</b>	Partner Engineering & Science, Inc.	<b>Report date:</b>	10/16/2018
<b>Client Address:</b>	2154 Torrance Blvd. Torrance, CA	<b>Jones Ref. No.:</b>	ST-12798
		<b>Client Ref. No.:</b>	18-226305.2
<b>Attn:</b>	Samantha Fujita	<b>Date Sampled:</b>	10/12/2018
		<b>Date Received:</b>	10/15/2018
<b>Project:</b>	Gasoline Station Property	<b>Date Analyzed:</b>	10/15,16/2018
<b>Project Address:</b>	8445 Los Coches Road, El Cajon, CA 92021	<b>Physical State:</b>	Soil

**BATCH:** 8015\_101518\_01      **Prepared:** 10/15/2018      **Analyzed:** 10/15/2018

### EPA 8015M - Extended Range Hydrocarbons

	Result	Spike Level	% Recovery	% RPD	% Recovery Limits	Units
<b>LCS:</b>	LCS-101518_01	<b>SAMPLE SPIKED:</b>		CLEAN SOIL		
<b>Analyte:</b>						
Diesel	<b>380</b>	500	76%		60 - 140	mg/kg
<b>Surrogate Recovery:</b>						
Hexacosane			58%		30 - 120	
<b>LCSD:</b>	LCSD-101518_01	<b>SAMPLE SPIKED:</b>		CLEAN SOIL		
<b>Analyte:</b>						
Diesel	<b>379</b>	500	76%	0.3%	60 - 140	mg/kg
<b>Surrogate Recoveries:</b>						
Hexacosane			72%		30 - 120	
<b>CCV:</b>	CCV-101518_01					
<b>Analyte:</b>						
Diesel	<b>1190</b>	1000	119%		80 - 120	mg/kg

LCS = Laboratory Control Sample

LCSD= Laboratory Control Sample Duplicate

CCV = Continuing Calibration Verification

RPD = Relative Percent Difference



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**JONES ENVIRONMENTAL**  
**QUALITY CONTROL INFORMATION**

**Client:** Partner Engineering & Science, Inc.  
**Client Address:** 2154 Torrance Blvd.  
Torrance, CA

**Report date:** 10/16/2018  
**Jones Ref. No.:** ST-12798  
**Client Ref. No.:** 18-226305.2

**Attn:** Samantha Fujita  
**Project:** Gasoline Station Property  
**Project Address:** 8445 Los Coches Road,  
El Cajon, CA 92021

**Date Sampled:** 10/12/2018  
**Date Received:** 10/15/2018  
**Date Analyzed:** 10/15,16/2018  
**Physical State:** Soil

**BATCH:** 8015\_101618\_01      **Prepared:** 10/16/2018      **Analyzed:** 10/16/2018

**EPA 8015M - Extended Range Hydrocarbons**

	Result	Spike Level	% Recovery	% RPD	% Recovery Limits	Units
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<b>LCS:</b>	LCS-101618_01	<b>SAMPLE SPIKED:</b>	CLEAN SOIL			
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<b>Analyte:</b> Diesel	<b>447</b>	500	89%		60 - 140	mg/kg
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<b>Surrogate Recovery:</b> Hexacosane			93%		30 - 120	
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<b>LCSD:</b>	LCSD-101618_01	<b>SAMPLE SPIKED:</b>	CLEAN SOIL			
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<b>Analyte:</b> Diesel	<b>497</b>	500	99%	10.6%	60 - 140	mg/kg
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<b>Surrogate Recoveries:</b> Hexacosane			101%		30 - 120	
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<b>CCV:</b>	CCV-101618_01					
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<b>Analyte:</b> Diesel	<b>1160</b>	1000	116%		80 - 120	mg/kg
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LCS = Laboratory Control Sample  
LCSD= Laboratory Control Sample Duplicate  
CCV = Continuing Calibration Verification  
RPD = Relative Percent Difference





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## JONES ENVIRONMENTAL LABORATORY RESULTS

<b>Client:</b>	Partner Engineering and Science	<b>Report date:</b>	10/16/2018
<b>Client Address:</b>	2154 Torrance Blvd Torrance, CA	<b>Jones Ref. No.:</b>	ST-12798
		<b>Client Ref. No.:</b>	18-226305-2
<b>Attn:</b>	Samantha Fujita	<b>Date Sampled:</b>	10/12/2018
		<b>Date Received:</b>	10/15/2018
<b>Project:</b>	Gasoline Station Property	<b>Date Analyzed:</b>	10/15-16/18
<b>Project Address:</b>	8445 Los Coches Road El Cajon, CA	<b>Physical State:</b>	Soil

### EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

<u>Sample ID:</u>	B1-20	B1-35	B2-20	B2-35	B3-15		
<u>Jones ID:</u>	ST-12798-04	ST-12798-07	ST-12798-11	ST-12798-14	ST-12798-17	<u>Reporting Limit</u>	<u>Units</u>
<b>Analytes:</b>							
Benzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromodichloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
Bromoform	ND	ND	ND	ND	ND	1.0	µg/kg
n-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
sec-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Carbon tetrachloride	ND	ND	ND	ND	ND	1.0	µg/kg
Chlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroform	ND	ND	ND	ND	ND	1.0	µg/kg
2-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromochloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromomethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Dichlorodifluoromethane	ND	ND	ND	ND	ND	5.0	µg/kg
1,1-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
2,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg

# JONES ENVIRONMENTAL LABORATORY RESULTS

## EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

<u>Sample ID:</u>	B1-20	B1-35	B2-20	B2-35	B3-15		
<u>Jones ID:</u>	ST-12798-04	ST-12798-07	ST-12798-11	ST-12798-14	ST-12798-17	<u>Reporting Limit</u>	<u>Units</u>
<b>Analytes:</b>							
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
Ethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Freon 113	ND	ND	ND	ND	ND	5.0	µg/kg
Hexachlorobutadiene	ND	ND	ND	ND	ND	1.0	µg/kg
Isopropylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Isopropyltoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Methylene chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Naphthalene	ND	ND	ND	ND	ND	1.0	µg/kg
n-Propylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Styrene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Tetrachloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
Toluene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Trichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
Trichlorofluoromethane	ND	ND	ND	ND	ND	5.0	µg/kg
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Vinyl chloride	ND	ND	ND	ND	ND	1.0	µg/kg
m,p-Xylene	ND	ND	ND	ND	ND	2.0	µg/kg
o-Xylene	ND	ND	ND	ND	ND	1.0	µg/kg
MTBE	ND	ND	ND	ND	ND	5.0	µg/kg
Ethyl-tert-butylether	ND	ND	ND	ND	ND	5.0	µg/kg
Di-isopropylether	ND	ND	ND	ND	ND	5.0	µg/kg
tert-amylmethylether	ND	ND	ND	ND	ND	5.0	µg/kg
tert-Butylalcohol	ND	ND	ND	ND	ND	50.0	µg/kg
Gasoline Range Organics (C4-C12)	ND	ND	ND	ND	ND	0.20	mg/kg
<u>Dilution Factor</u>	1	1	1	1	1		
<u>Surrogate Recoveries:</u>						<u>QC Limits</u>	
Dibromofluoromethane	103%	106%	102%	100%	105%	60 - 140	
Toluene-d <sub>8</sub>	78%	79%	78%	76%	78%	60 - 140	
4-Bromofluorobenzene	89%	89%	88%	87%	87%	60 - 140	
	VOC4- 101518-02	VOC4- 101518-02	VOC4- 101518-02	VOC4- 101518-02	VOC4- 101518-02		

ND= Value less than reporting limit



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## JONES ENVIRONMENTAL LABORATORY RESULTS

<b>Client:</b>	Partner Engineering and Science	<b>Report date:</b>	10/16/2018
<b>Client Address:</b>	2154 Torrance Blvd Torrance, CA	<b>Jones Ref. No.:</b>	ST-12798
		<b>Client Ref. No.:</b>	18-226305-2
<b>Attn:</b>	Samantha Fujita	<b>Date Sampled:</b>	10/12/2018
		<b>Date Received:</b>	10/15/2018
<b>Project:</b>	Gasoline Station Property	<b>Date Analyzed:</b>	10/15-16/18
<b>Project Address:</b>	8445 Los Coches Road El Cajon, CA	<b>Physical State:</b>	Soil

### EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

<u>Sample ID:</u>	B3-35	B5-10	B6-5		
<u>Jones ID:</u>	BST-12798-21	ST-12798-26	ST-12798-28	<u>Reporting Limit</u>	<u>Units</u>
<b>Analytes:</b>					
Benzene	ND	ND	1.9	1.0	µg/kg
Bromobenzene	ND	ND	ND	1.0	µg/kg
Bromodichloromethane	ND	ND	ND	1.0	µg/kg
Bromoform	ND	ND	ND	1.0	µg/kg
n-Butylbenzene	ND	ND	ND	1.0	µg/kg
sec-Butylbenzene	ND	ND	ND	1.0	µg/kg
tert-Butylbenzene	ND	ND	ND	1.0	µg/kg
Carbon tetrachloride	ND	ND	ND	1.0	µg/kg
Chlorobenzene	ND	ND	ND	1.0	µg/kg
Chloroform	ND	ND	ND	1.0	µg/kg
2-Chlorotoluene	ND	ND	ND	1.0	µg/kg
4-Chlorotoluene	ND	ND	ND	1.0	µg/kg
Dibromochloromethane	ND	ND	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	ND	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	ND	ND	1.0	µg/kg
Dibromomethane	ND	ND	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	ND	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	ND	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	ND	ND	1.0	µg/kg
Dichlorodifluoromethane	ND	ND	ND	5.0	µg/kg
1,1-Dichloroethane	ND	ND	ND	1.0	µg/kg
1,2-Dichloroethane	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethene	ND	ND	ND	1.0	µg/kg
cis-1,2-Dichloroethene	ND	ND	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	ND	ND	1.0	µg/kg
1,2-Dichloropropane	ND	ND	ND	1.0	µg/kg
1,3-Dichloropropane	ND	ND	ND	1.0	µg/kg
2,2-Dichloropropane	ND	ND	ND	1.0	µg/kg
1,1-Dichloropropene	ND	ND	ND	1.0	µg/kg

# JONES ENVIRONMENTAL LABORATORY RESULTS

## EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

<b><u>Sample ID:</u></b>	<b>B3-35</b>	<b>B5-10</b>	<b>B6-5</b>		
<b><u>Jones ID:</u></b>	<b>BST-12798-21</b>	<b>ST-12798-26</b>	<b>ST-12798-28</b>	<b><u>Reporting Limit</u></b>	<b><u>Units</u></b>
<b>Analytes:</b>					
cis-1,3-Dichloropropene	ND	ND	ND	1.0	µg/kg
trans-1,3-Dichloropropene	ND	ND	ND	1.0	µg/kg
Ethylbenzene	ND	ND	ND	1.0	µg/kg
Freon 113	ND	ND	ND	5.0	µg/kg
Hexachlorobutadiene	ND	ND	ND	1.0	µg/kg
Isopropylbenzene	ND	ND	ND	1.0	µg/kg
4-Isopropyltoluene	ND	ND	ND	1.0	µg/kg
Methylene chloride	ND	ND	ND	1.0	µg/kg
Naphthalene	ND	ND	ND	1.0	µg/kg
n-Propylbenzene	ND	ND	ND	1.0	µg/kg
Styrene	ND	ND	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	ND	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	ND	ND	1.0	µg/kg
Tetrachloroethene	ND	ND	<b>25.2</b>	1.0	µg/kg
Toluene	ND	ND	<b>2.4</b>	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	ND	ND	1.0	µg/kg
1,2,4-Trichlorobenzene	ND	ND	ND	1.0	µg/kg
1,1,1-Trichloroethane	ND	ND	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	ND	ND	1.0	µg/kg
Trichloroethene	ND	ND	ND	1.0	µg/kg
Trichlorofluoromethane	ND	ND	ND	5.0	µg/kg
1,2,3-Trichloropropane	ND	ND	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	ND	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	ND	ND	1.0	µg/kg
Vinyl chloride	ND	ND	ND	1.0	µg/kg
m,p-Xylene	ND	ND	ND	2.0	µg/kg
o-Xylene	ND	ND	ND	1.0	µg/kg
MTBE	ND	ND	ND	5.0	µg/kg
Ethyl-tert-butylether	ND	ND	ND	5.0	µg/kg
Di-isopropylether	ND	ND	ND	5.0	µg/kg
tert-amylmethylether	ND	ND	ND	5.0	µg/kg
tert-Butylalcohol	ND	ND	ND	50.0	µg/kg
Gasoline Range Organics (C4-C12)	ND	ND	ND	0.20	mg/kg
<b><u>Dilution Factor</u></b>	<b>1</b>	<b>1</b>	<b>1</b>		
<b><u>Surrogate Recoveries:</u></b>				<b><u>QC Limits</u></b>	
Dibromofluoromethane	101%	104%	108%	60 - 140	
Toluene-d8	76%	85%	97%	60 - 140	
4-Bromofluorobenzene	87%	81%	66%	60 - 140	
	VOC4- 101518-02	VOC4- 101518-02	VOC4- 101518-02		

ND= Value less than reporting limit



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## JONES ENVIRONMENTAL LABORATORY RESULTS

<b>Client:</b>	Partner Engineering and Science	<b>Report date:</b>	10/16/2018
<b>Client Address:</b>	2154 Torrance Blvd Torrance, CA	<b>Jones Ref. No.:</b>	ST-12798
		<b>Client Ref. No.:</b>	18-226305-2
<b>Attn:</b>	Samantha Fujita	<b>Date Sampled:</b>	10/12/2018
		<b>Date Received:</b>	10/15/2018
<b>Project:</b>	Gasoline Station Property	<b>Date Analyzed:</b>	10/15-16/18
<b>Project Address:</b>	8445 Los Coches Road El Cajon, CA	<b>Physical State:</b>	Soil

### EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

<u>Sample ID:</u>	B4-10	B7-8	B8-8		
<u>Jones ID:</u>	ST-12798-23	ST-12798-32	ST-12798-34	<u>Reporting Limit</u>	<u>Units</u>
<b>Analytes:</b>					
Gasoline Range Organics (C4-C12)	ND	ND	ND	0.20	mg/kg
<u>Dilution Factor</u>	1	1	1		
<u>Surrogate Recoveries:</u>				<u>QC Limits</u>	
Dibromofluoromethane	105%	108%	100%	60 - 140	
Toluene-d <sub>8</sub>	83%	79%	77%	60 - 140	
4-Bromofluorobenzene	81%	89%	87%	60 - 140	
	VOC4- 101518-02	VOC4- 101518-02	VOC4- 101518-02		

ND= Value less than reporting limit



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## JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

<b>Client:</b>	Partner Engineering and Science	<b>Report date:</b>	10/16/2018
<b>Client Address:</b>	2154 Torrance Blvd Torrance, CA	<b>Jones Ref. No.:</b>	ST-12798
		<b>Client Ref. No.:</b>	18-226305-2
<b>Attn:</b>	Samantha Fujita	<b>Date Sampled:</b>	10/12/2018
		<b>Date Received:</b>	10/15/2018
<b>Project:</b>	Gasoline Station Property	<b>Date Analyzed:</b>	10/15-16/18
<b>Project Address:</b>	8445 Los Coches Road El Cajon, CA	<b>Physical State:</b>	Soil

### EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

<u>Sample ID:</u>	METHOD BLANK		
<u>Jones ID:</u>	101518- V4MB2	<u>Reporting Limit</u>	<u>Units</u>
<b>Analytes:</b>			
Benzene	ND	1.0	µg/kg
Bromobenzene	ND	1.0	µg/kg
Bromodichloromethane	ND	1.0	µg/kg
Bromoform	ND	1.0	µg/kg
n-Butylbenzene	ND	1.0	µg/kg
sec-Butylbenzene	ND	1.0	µg/kg
tert-Butylbenzene	ND	1.0	µg/kg
Carbon tetrachloride	ND	1.0	µg/kg
Chlorobenzene	ND	1.0	µg/kg
Chloroform	ND	1.0	µg/kg
2-Chlorotoluene	ND	1.0	µg/kg
4-Chlorotoluene	ND	1.0	µg/kg
Dibromochloromethane	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	1.0	µg/kg
Dibromomethane	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	1.0	µg/kg
Dichlorodifluoromethane	ND	5.0	µg/kg
1,1-Dichloroethane	ND	1.0	µg/kg
1,2-Dichloroethane	ND	1.0	µg/kg
1,1-Dichloroethene	ND	1.0	µg/kg
cis-1,2-Dichloroethene	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	1.0	µg/kg
1,2-Dichloropropane	ND	1.0	µg/kg
1,3-Dichloropropane	ND	1.0	µg/kg
2,2-Dichloropropane	ND	1.0	µg/kg
1,1-Dichloropropene	ND	1.0	µg/kg

# JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

## EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

<u>Sample ID:</u>	METHOD BLANK		
<u>Jones ID:</u>	101518- V4MB2	<u>Reporting Limit</u>	<u>Units</u>
<b>Analytes:</b>			
cis-1,3-Dichloropropene	ND	1.0	µg/kg
trans-1,3-Dichloropropene	ND	1.0	µg/kg
Ethylbenzene	ND	1.0	µg/kg
Freon 113	ND	5.0	µg/kg
Hexachlorobutadiene	ND	1.0	µg/kg
Isopropylbenzene	ND	1.0	µg/kg
4-Isopropyltoluene	ND	1.0	µg/kg
Methylene chloride	ND	1.0	µg/kg
Naphthalene	ND	1.0	µg/kg
n-Propylbenzene	ND	1.0	µg/kg
Styrene	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	1.0	µg/kg
Tetrachloroethene	ND	1.0	µg/kg
Toluene	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	1.0	µg/kg
1,2,4-Trichlorobenzene	ND	1.0	µg/kg
1,1,1-Trichloroethane	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	1.0	µg/kg
Trichloroethene	ND	1.0	µg/kg
Trichlorofluoromethane	ND	5.0	µg/kg
1,2,3-Trichloropropane	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	1.0	µg/kg
Vinyl chloride	ND	1.0	µg/kg
m,p-Xylene	ND	2.0	µg/kg
o-Xylene	ND	1.0	µg/kg
MTBE	ND	5.0	µg/kg
Ethyl-tert-butylether	ND	5.0	µg/kg
Di-isopropylether	ND	5.0	µg/kg
tert-amylmethylether	ND	5.0	µg/kg
tert-Butylalcohol	ND	50.0	µg/kg
Gasoline Range Organics (C4-C12)	ND	0.20	mg/kg
<u>Dilution Factor</u>	1		
<u>Surrogate Recoveries:</u>		<u>QC Limits</u>	
Dibromofluoromethane	98%	60 - 140	
Toluene-d <sub>8</sub>	81%	60 - 140	
4-Bromofluorobenzene	90%	60 - 140	

VOC4-  
101518-02

ND= Value less than reporting limit





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## JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

**Client:** Partner Engineering and Science  
**Client Address:** 2154 Torrance Blvd  
Torrance, CA

**Report date:** 10/16/2018  
**Jones Ref. No.:** ST-12798  
**Client Ref. No.:** 18-226305-2

**Attn:** Samantha Fujita

**Date Sampled:** 10/12/2018

**Date Received:** 10/15/2018

**Project:** Gasoline Station Property  
**Project Address:** 8445 Los Coches Road  
El Cajon, CA

**Date Analyzed:** 10/15-16/18

**Physical State:** Soil

### EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample Spiked:		CLEAN SOIL		GC#:	VOC4-101518-02	
Jones ID:		101518-V4MS2	101518-V4MSD2		101518-V4CCV2	
Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)	CCV	Acceptability Range (%)
Vinyl chloride	99%	96%	3.0%	60 - 140	105%	80 - 120
1,1-Dichloroethene	92%	88%	4.7%	60 - 140	92%	80 - 120
Cis-1,2-Dichloroethene	104%	103%	1.0%	70 - 130	103%	80 - 120
1,1,1-Trichloroethane	96%	92%	3.3%	70 - 130	96%	80 - 120
Benzene	109%	104%	4.1%	70 - 130	110%	80 - 120
Trichloroethene	94%	91%	2.9%	70 - 130	99%	80 - 120
Toluene	100%	91%	9.4%	70 - 130	91%	80 - 120
Tetrachloroethene	124%	114%	8.5%	70 - 130	98%	80 - 120
Chlorobenzene	90%	82%	9.7%	70 - 130	84%	80 - 120
Ethylbenzene	104%	96%	8.0%	70 - 130	100%	80 - 120
1,2,4 Trimethylbenzene	101%	94%	8.0%	70 - 130	97%	80 - 120
Gasoline Range Organics (C4-C12)	103%	96%	7.3%	70 - 130		
<b>Surrogate Recovery:</b>						
Dibromofluoromethane	93%	95%		60 - 140	103%	60 - 140
Toluene-d <sub>8</sub>	81%	77%		60 - 140	89%	60 - 140
4-Bromofluorobenzene	87%	85%		60 - 140	103%	60 - 140

MS = Matrix Spike

MSD = Matrix Spike Duplicate

CCV = Continuing Calibration Verification

RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%



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# Chain-of-Custody Record

Client Partner Engineering + Science  
Project Name Gasline Station Property  
Project Address 8445 Los Coches Road  
E1 Cagon, California 92021  
Email sfujita + jcam@partneresi.com  
Phone 310 483 1367  
Report To Sam Fujita Sampler Josh Cam

Date 10/12/18  
Client Project # 18-226305.2

Sample Container / Preservative Abbreviations

AS - Acetate Sleeve  
SS - Stainless Steel Sleeve  
BS - Brass Sleeve  
G - Glass  
AB - Amber Bottle  
P - Plastic  
SOBI - Sodium Bisulfate  
MeOH - Methanol  
HCl - Hydrochloric Acid  
HNO3 - Nitric Acid  
O - Other (See Notes)

Turn Around Requested:

- ☐ Immediate Attention  
☒ Rush 24 Hours  
☐ Rush 48 Hours  
☐ Rush 72 Hours  
☐ Normal

Report Options

EDD \_\_\_\_\_  
EDF\* - 10% Surcharge \_\_\_\_\_  
\*Global ID \_\_\_\_\_

LAB USE ONLY

Jones Project #

ST-12798

Page

1 of 4

Sample Condition as Received:

Chilled ☒ yes ☐ no  
Sealed ☐ yes ☐ no

Analysis Requested

Sample Matrix:  
Soil (S), Sludge (SL), Aqueous (A), Free Product (FP)

TPH-C, 8015 + TPH-G  
VOCS, EPA 8260

Sample ID	Date	Sample Collection Time	Laboratory Sample ID	Preservative	Sample Container	Analysis Requested	Hold	Number of Containers	Notes & Special Instructions
B1-5	10/12/18	9:00	ST-12798-01		<u>VOCS Sleeve S</u>		✓		
B1-10		9:05	ST-12798-02				✓		
B1-15		9:10	ST-12798-03				✓		
B1-20		9:15	ST-12798-04			✓ ✓			
B1-25		9:20	ST-12798-05				✓		
B1-30		9:25	ST-12798-06				✓		
B1-35		9:30	ST-12798-07			✓			
B2-5		10:35	ST-12798-08				✓		
B2-10		10:40	ST-12798-09				✓		
B2-15		10:45	ST-12798-10				✓		

Relinquished By (Signature) [Signature] Printed Name Josh Cam  
Company Partner ESI Date 10/15/18 Time 11:00

Received By (Signature) [Signature] Printed Name MARTIN YOUNG  
Company JONES Date 10/15/18 Time 1102

Relinquished By (Signature) [Signature] Printed Name MARTIN YOUNG  
Company JONES Date 10/15/18 Time

Received By Laboratory (Signature) [Signature] Printed Name Jonathan Zapata  
Company JONES Date 10/15/18 Time 1308

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been requested, and the information provided herein is correct and accurate.



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**JONES ENVIRONMENTAL  
LABORATORY RESULTS**

**Client:** Partner Engineering & Science, Inc.  
**Client Address:** 2154 Torrance Blvd.  
Torrance, CA

**Report date:** 10/15/2018  
**JEL Ref. No.:** ST-12799  
**Client Ref. No.:** 18-226305.2

**Attn:** Samantha Fujita

**Date Sampled:** 10/12/2018

**Project Name:** Gasoline Station Property  
**Project Address:** 8445 Los Coches Road  
El Cajon, CA 92021

**Date Received:** 10/15/2018

**Date Analyzed:** 10/15/2018

**Physical State:** Soil Gas

---

**ANALYSES REQUESTED**

1. EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Analytical – Soil Gas samples were analyzed using EPA Method 8260B that includes extra compounds required by DTSC/RWQCB (such as Freon 113). Instrument Continuing Calibration Verification, QC Reference Standards, Instrument Blanks and Sampling Blanks were analyzed every 12 hours as prescribed by the method. In addition, a Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were analyzed with each batch of Soil Gas samples. A duplicate/replicate sample was analyzed each day of the sampling activity.

Approval:

Colby Wakeman  
QA/QC Manager





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## JONES ENVIRONMENTAL LABORATORY RESULTS

<b>Client:</b>	Partner Engineering & Science, Inc.	<b>Report date:</b>	10/15/2018
<b>Client Address:</b>	2154 Torrance Blvd. Torrance, CA	<b>Jones Ref. No.:</b>	ST-12799
		<b>Client Ref. No.:</b>	18-226305.2
<b>Attn:</b>	Samantha Fujita	<b>Date Sampled:</b>	10/12/2018
		<b>Date Received:</b>	10/15/2018
<b>Project:</b>	Gasoline Station Property	<b>Date Analyzed:</b>	10/15/2018
<b>Project Address:</b>	8445 Los Coches Road El Cajon, CA 92021	<b>Physical State:</b>	Soil Gas

### EPA 8260B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

<u>Sample ID:</u>	B5-SG5	B6-SG5		
<u>Jones ID:</u>	ST-12799-01	ST-12799-02	<u>Reporting Limit</u>	<u>Units</u>
<b>Analytes:</b>				
Benzene	ND	ND	8	µg/m3
Bromobenzene	ND	ND	8	µg/m3
Bromodichloromethane	ND	ND	8	µg/m3
Bromoform	ND	ND	8	µg/m3
n-Butylbenzene	ND	ND	8	µg/m3
sec-Butylbenzene	ND	ND	8	µg/m3
tert-Butylbenzene	ND	ND	8	µg/m3
Carbon tetrachloride	ND	ND	8	µg/m3
Chlorobenzene	ND	ND	8	µg/m3
Chloroform	ND	ND	8	µg/m3
2-Chlorotoluene	ND	ND	8	µg/m3
4-Chlorotoluene	ND	ND	8	µg/m3
Dibromochloromethane	ND	ND	8	µg/m3
1,2-Dibromo-3-chloropropane	ND	ND	8	µg/m3
1,2-Dibromoethane (EDB)	ND	ND	8	µg/m3
Dibromomethane	ND	ND	8	µg/m3
1,2- Dichlorobenzene	ND	ND	8	µg/m3
1,3-Dichlorobenzene	ND	ND	8	µg/m3
1,4-Dichlorobenzene	ND	ND	8	µg/m3
Dichlorodifluoromethane	ND	ND	8	µg/m3
1,1-Dichloroethane	ND	ND	8	µg/m3
1,2-Dichloroethane	ND	ND	8	µg/m3
1,1-Dichloroethene	ND	ND	8	µg/m3
cis-1,2-Dichloroethene	ND	ND	8	µg/m3
trans-1,2-Dichloroethene	ND	ND	8	µg/m3
1,2-Dichloropropane	ND	ND	8	µg/m3
1,3-Dichloropropane	ND	ND	8	µg/m3
2,2-Dichloropropane	ND	ND	8	µg/m3
1,1-Dichloropropene	ND	ND	8	µg/m3

# JONES ENVIRONMENTAL LABORATORY RESULTS

## EPA 8260B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

**Sample ID:**                      B5-SG5              B6-SG5

**Jones ID:**                      ST-12799-01    ST-12799-02

**Analytes:**

			<b>Reporting Limit</b>	<b>Units</b>
cis-1,3-Dichloropropene	ND	ND	8	µg/m3
trans-1,3-Dichloropropene	ND	ND	8	µg/m3
Ethylbenzene	ND	<b>12</b>	8	µg/m3
Freon 113	ND	ND	40	µg/m3
Hexachlorobutadiene	ND	ND	8	µg/m3
Isopropylbenzene	ND	ND	8	µg/m3
4-Isopropyltoluene	ND	ND	8	µg/m3
Methylene chloride	ND	ND	8	µg/m3
Naphthalene	ND	ND	40	µg/m3
n-Propylbenzene	ND	ND	8	µg/m3
Styrene	ND	ND	8	µg/m3
1,1,1,2-Tetrachloroethane	ND	ND	8	µg/m3
1,1,2,2-Tetrachloroethane	ND	ND	8	µg/m3
Tetrachloroethene	<b>162</b>	<b>194</b>	8	µg/m3
Toluene	<b>41</b>	<b>62</b>	8	µg/m3
1,2,3-Trichlorobenzene	ND	ND	40	µg/m3
1,2,4-Trichlorobenzene	ND	ND	8	µg/m3
1,1,1-Trichloroethane	ND	ND	8	µg/m3
1,1,2-Trichloroethane	ND	ND	8	µg/m3
Trichloroethene	ND	ND	8	µg/m3
Trichlorofluoromethane	ND	ND	8	µg/m3
1,2,3-Trichloropropane	ND	ND	8	µg/m3
1,2,4-Trimethylbenzene	<b>15</b>	<b>16</b>	8	µg/m3
1,3,5-Trimethylbenzene	ND	ND	8	µg/m3
Vinyl chloride	ND	ND	8	µg/m3
m,p-Xylene	<b>27</b>	<b>33</b>	16	µg/m3
o-Xylene	ND	<b>11</b>	8	µg/m3
MTBE	ND	ND	40	µg/m3
Ethyl-tert-butylether	ND	ND	40	µg/m3
Di-isopropylether	ND	ND	40	µg/m3
tert-amylmethylether	ND	ND	40	µg/m3
tert-Butylalcohol	ND	ND	400	µg/m3
Gasoline Range Organics (C4-C12)	ND	ND	2000	µg/m3

**TIC:**

n-Pentane	ND	ND	400	µg/m3
n-Hexane	ND	ND	400	µg/m3
n-Heptane	ND	ND	400	µg/m3

**Dilution Factor**                      1                      1

**Surrogate Recoveries:**

			<b>QC Limits</b>
Dibromofluoromethane	99%	98%	60 - 140
Toluene-d <sub>8</sub>	100%	98%	60 - 140
4-Bromofluorobenzene	94%	88%	60 - 140

E2-101218-    E2-101218-  
01                      01

ND= Value less than reporting limit



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## JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

<b>Client:</b>	Partner Engineering & Science, Inc.	<b>Report date:</b>	10/15/2018
<b>Client Address:</b>	2154 Torrance Blvd. Torrance, CA	<b>Jones Ref. No.:</b>	ST-12799
		<b>Client Ref. No.:</b>	18-226305.2
<b>Attn:</b>	Samantha Fujita	<b>Date Sampled:</b>	10/12/2018
		<b>Date Received:</b>	10/15/2018
<b>Project:</b>	Gasoline Station Property	<b>Date Analyzed:</b>	10/15/2018
<b>Project Address:</b>	8445 Los Coches Road El Cajon, CA 92021	<b>Physical State:</b>	Soil Gas

### EPA 8260B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

<u>Sample ID:</u>	METHOD BLANK	SAMPLING BLANK		
<u>Jones ID:</u>	101518- E2MB1	101518- E2SB1	<u>Reporting Limit</u>	<u>Units</u>
<b>Analytes:</b>				
Benzene	ND	ND	8	µg/m3
Bromobenzene	ND	ND	8	µg/m3
Bromodichloromethane	ND	ND	8	µg/m3
Bromoform	ND	ND	8	µg/m3
n-Butylbenzene	ND	ND	8	µg/m3
sec-Butylbenzene	ND	ND	8	µg/m3
tert-Butylbenzene	ND	ND	8	µg/m3
Carbon tetrachloride	ND	ND	8	µg/m3
Chlorobenzene	ND	ND	8	µg/m3
Chloroform	ND	ND	8	µg/m3
2-Chlorotoluene	ND	ND	8	µg/m3
4-Chlorotoluene	ND	ND	8	µg/m3
Dibromochloromethane	ND	ND	8	µg/m3
1,2-Dibromo-3-chloropropane	ND	ND	8	µg/m3
1,2-Dibromoethane (EDB)	ND	ND	8	µg/m3
Dibromomethane	ND	ND	8	µg/m3
1,2- Dichlorobenzene	ND	ND	8	µg/m3
1,3-Dichlorobenzene	ND	ND	8	µg/m3
1,4-Dichlorobenzene	ND	ND	8	µg/m3
Dichlorodifluoromethane	ND	ND	8	µg/m3
1,1-Dichloroethane	ND	ND	8	µg/m3
1,2-Dichloroethane	ND	ND	8	µg/m3
1,1-Dichloroethene	ND	ND	8	µg/m3
cis-1,2-Dichloroethene	ND	ND	8	µg/m3
trans-1,2-Dichloroethene	ND	ND	8	µg/m3
1,2-Dichloropropane	ND	ND	8	µg/m3
1,3-Dichloropropane	ND	ND	8	µg/m3
2,2-Dichloropropane	ND	ND	8	µg/m3
1,1-Dichloropropene	ND	ND	8	µg/m3

# JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

## EPA 8260B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

<u>Sample ID:</u>	METHOD BLANK	SAMPLING BLANK		
<u>Jones ID:</u>	101518- E2MB1	101518- E2SB1	<u>Reporting Limit</u>	<u>Units</u>
<b>Analytes:</b>				
cis-1,3-Dichloropropene	ND	ND	8	µg/m3
trans-1,3-Dichloropropene	ND	ND	8	µg/m3
Ethylbenzene	ND	ND	8	µg/m3
Freon 113	ND	ND	40	µg/m3
Hexachlorobutadiene	ND	ND	8	µg/m3
Isopropylbenzene	ND	ND	8	µg/m3
4-Isopropyltoluene	ND	ND	8	µg/m3
Methylene chloride	ND	ND	8	µg/m3
Naphthalene	ND	ND	40	µg/m3
n-Propylbenzene	ND	ND	8	µg/m3
Styrene	ND	ND	8	µg/m3
1,1,1,2-Tetrachloroethane	ND	ND	8	µg/m3
1,1,2,2-Tetrachloroethane	ND	ND	8	µg/m3
Tetrachloroethene	ND	ND	8	µg/m3
Toluene	ND	ND	8	µg/m3
1,2,3-Trichlorobenzene	ND	ND	40	µg/m3
1,2,4-Trichlorobenzene	ND	ND	8	µg/m3
1,1,1-Trichloroethane	ND	ND	8	µg/m3
1,1,2-Trichloroethane	ND	ND	8	µg/m3
Trichloroethene	ND	ND	8	µg/m3
Trichlorofluoromethane	ND	ND	8	µg/m3
1,2,3-Trichloropropane	ND	ND	8	µg/m3
1,2,4-Trimethylbenzene	ND	ND	8	µg/m3
1,3,5-Trimethylbenzene	ND	ND	8	µg/m3
Vinyl chloride	ND	ND	8	µg/m3
m,p-Xylene	ND	ND	16	µg/m3
o-Xylene	ND	ND	8	µg/m3
MTBE	ND	ND	40	µg/m3
Ethyl-tert-butylether	ND	ND	40	µg/m3
Di-isopropylether	ND	ND	40	µg/m3
tert-amylmethylether	ND	ND	40	µg/m3
tert-Butylalcohol	ND	ND	400	µg/m3
Gasoline Range Organics (C4-C12)	ND	ND	2000	µg/m3
<b>TIC:</b>				
n-Pentane	ND	ND	400	µg/m3
n-Hexane	ND	ND	400	µg/m3
n-Heptane	ND	ND	400	µg/m3
<u>Dilution Factor</u>	1	1		
<b><u>Surrogate Recoveries:</u></b>			<b><u>QC Limits</u></b>	
Dibromofluoromethane	99%	99%	60 - 140	
Toluene-d <sub>8</sub>	99%	98%	60 - 140	
4-Bromofluorobenzene	90%	93%	60 - 140	

E2-101218- E2-101218-  
01 01

ND= Value less than reporting limit





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## JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

<b>Client:</b>	Partner Engineering & Science, Inc.	<b>Report date:</b>	10/15/2018
<b>Client Address:</b>	2154 Torrance Blvd. Torrance, CA	<b>Jones Ref. No.:</b>	ST-12799
		<b>Client Ref. No.:</b>	18-226305.2
<b>Attn:</b>	Samantha Fujita	<b>Date Sampled:</b>	10/12/2018
		<b>Date Received:</b>	10/15/2018
<b>Project:</b>	Gasoline Station Property	<b>Date Analyzed:</b>	10/15/2018
<b>Project Address:</b>	8445 Los Coches Road El Cajon, CA 92021	<b>Physical State:</b>	Soil Gas

### EPA 8260B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

<b>Batch ID:</b>	E2-101518-01					
<b>Jones ID:</b>	<b>101518-E2LCS1</b>	<b>101518-E2LCSD1</b>		<b>101518-E2CCV1</b>		
<b>Parameter</b>	<b>LCS Recovery (%)</b>	<b>LCSD Recovery (%)</b>	<b>RPD</b>	<b>Acceptability Range (%)</b>	<b>CCV</b>	<b>Acceptability Range (%)</b>
Vinyl chloride	117%	118%	1.0%	70 - 130	155%	80 - 120
1,1-Dichloroethene	108%	112%	4.1%	70 - 130	112%	80 - 120
Cis-1,2-Dichloroethene	122%	124%	1.1%	70 - 130	116%	80 - 120
1,1,1-Trichloroethane	107%	110%	2.7%	70 - 130	111%	80 - 120
Benzene	112%	121%	7.6%	70 - 130	120%	80 - 120
Trichloroethene	104%	110%	5.5%	70 - 130	110%	80 - 120
Toluene	114%	117%	2.4%	70 - 130	119%	80 - 120
Tetrachloroethene	110%	116%	5.2%	70 - 130	116%	80 - 120
Chlorobenzene	107%	111%	3.6%	70 - 130	119%	80 - 120
Ethylbenzene	116%	116%	0.8%	70 - 130	119%	80 - 120
1,2,4 Trimethylbenzene	103%	103%	0.1%	70 - 130	118%	80 - 120
Gasoline Range Organics (C4-C12)	111%	114%	2.8%	70 - 130		
<b><u>Surrogate Recovery:</u></b>						
Dibromofluoromethane	99%	99%		60 - 140	94%	60 - 140
Toluene-d <sub>8</sub>	101%	101%		60 - 140	101%	60 - 140
4-Bromofluorobenzene	99%	96%		60 - 140	99%	60 - 140

LCS = Laboratory Control Sample  
 LCSD = Laboratory Control Sample Duplicate  
 CCV = Continuing Calibration Verification  
 RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%



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# Soil-Gas Chain of Custody Record

Client  
**Partner Engineering + Science**

Project Name  
**Gasoline Station Property**

Project Address  
**8445 Los Cocheros Road**

**El Cajon, California 92021**

Email  
**sfujita + jcam@partneresi.com**

Phone  
**310 483 1367**

Report To  
**Sam Fujita**

Sampler  
**Josh Cain**

Date  
**10/12/18**

Client Project #  
**18-226305.2**

## Turn Around Requested:

- ☐ Immediate Attention
- ☒ Rush 24 Hours
- ☐ Rush 48 Hours
- ☐ Rush 72 Hours
- ☐ Normal
- ☐ Mobile Lab

## Reporting Limits Requested:

- ☐ Commercial
- ☒ Residential

Purge Number:

☐ 1P ☐ 3P ☐ 7P ☐ 10P

Shut-In Test: ☒ Y / ☐ N

Flow Rate: \_\_\_\_\_

If different than above, see Notes.

## Tracer:

- ☒ n-pentane
- ☒ n-hexane
- ☒ n-heptane
- ☐ Helium
- ☐ 1,1-DFA
- ☐ \_\_\_\_\_

## Report Options

EDD \_\_\_\_\_

EDF\* - 10% Surcharge \_\_\_\_\_

\*Global ID \_\_\_\_\_

## LAB USE ONLY

Jones Project #

**ST-12799**

Page

**1** of **1**

Sample Condition as Received:

Sealed ☒ yes ☐ no

Sample Container: \_\_\_\_\_

If different than above, see Notes.

## Analysis Requested

Sample Matrix:  
Soil Gas (SG), Air (A)  
EPA 8260B **VOCS**  
EPA TO-15  
Magnehelic Vacuum (in/H<sub>2</sub>O)  
Number of Containers

Units:

**ug/m3**

Notes & Special Instructions

Total Number of Containers

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been requested, and the information provided herein is correct and accurate.

Relinquished By (Signature)

Printed Name

**Josh Cain**

Company  
**Partner**

Date:

**10/15/18**

Time:

**11:00**

Relinquished By (Signature)

Printed Name

**MARTIN YOUNG**

Company

**JONES**

Date:

**10/15/18**

Time:

Received By (Signature)

Printed Name

**MARTIN YOUNG**

Company

**JONES**

Date:

**10/15/18**

Time:

**11:04**

Received By Laboratory (Signature)

Printed Name

**Kevin Horvath**

Company

**Jones Env.**

Date:

**10/15/18**

Time:

**1245**





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# Chain-of-Custody Record

Client	See Page 1	Date	10/12/18
Project Name		Client Project #	18-226305.2
Project Address		Sample Container / Preservative Abbreviations	
		AS - Acetate Sleeve	
		SS - Stainless Steel Sleeve	
		BS - Brass Sleeve	
		G - Glass	
		AB - Amber Bottle	
		P - Plastic	
		SOBI - Sodium Bisulfate	
		MeOH - Methanol	
		HCl - Hydrochloric Acid	
		HNO3 - Nitric Acid	
		O - Other (See Notes)	
Email			
Phone			
Report To	Sampler		

## Turn Around Requested:

- ☐ Immediate Attention  
☒ Rush 24 Hours  
☐ Rush 48 Hours  
☐ Rush 72 Hours  
☐ Normal

## Report Options

EDD \_\_\_\_\_  
EDF\* - 10% Surcharge \_\_\_\_\_

\*Global ID \_\_\_\_\_

## Analysis Requested

Sample Matrix:  
Soil (S), Sludge (SL), Aqueous (A), Free Product (FP)

TPH-CC, 8015 + TPH-9  
VOCs, 8260

Sample ID	Date	Sample Collection Time	Laboratory Sample ID	Preservative	Sample Container	Hold	Number of Containers	Notes & Special Instructions
B2-20	10/12/18	10:50	ST-12798-11		VOCs, Steel	✓		
B2-25		10:55	ST-12798-12			✓		
B2-30		11:00	ST-12798-13			✓		
B2-35		11:05	ST-12798-14			✓		
B3-5		12:00	ST-12798-15			✓		
B3-10		12:05	ST-12798-16			✓		
B3-15		12:10	ST-12798-17			✓		
B3-20		12:15	ST-12798-18			✓		
B3-25		12:20	ST-12798-19			✓		
B3-30		12:25	ST-12798-20			✓		

Relinquished By (Signature)	Printed Name	Received By (Signature)	Printed Name	Total Number of Containers
	John Cam		MARTIN YOUNG	
Company	Date	Company	Date	
Partner	10/15/18	JONES	10/15/18	
Time	11:00	Time	11:03	
Relinquished By (Signature)	Printed Name	Received By Laboratory (Signature)	Printed Name	Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been requested, and the information provided herein is correct and accurate.
	MARTIN YOUNG		Jonathan Zapata	
Company	Date	Company	Date	
JONES	10/15/18	JONES	10/15/18	
Time		Time	1308	





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# Chain-of-Custody Record

Client See Page 1

Project Name \_\_\_\_\_

Project Address \_\_\_\_\_

Email \_\_\_\_\_

Phone \_\_\_\_\_

Report To Sampler

Date 10/12/18

Client Project # 18-226305.2

Sample Container / Preservative Abbreviations

AS - Acetate Sleeve  
SS - Stainless Steel Sleeve  
BS - Brass Sleeve  
G - Glass  
AB - Amber Bottle  
P - Plastic  
SOBI - Sodium Bisulfate  
MeOH - Methanol  
HCl - Hydrochloric Acid  
HNO3 - Nitric Acid  
O - Other (See Notes)

## Turn Around Requested:

- ☐ Immediate Attention  
☒ Rush 24 Hours  
☐ Rush 48 Hours  
☐ Rush 72 Hours  
☐ Normal

## Report Options

EDD \_\_\_\_\_  
EDF\* - 10% Surcharge \_\_\_\_\_

\*Global ID \_\_\_\_\_

LAB USE ONLY

Jones Project #

ST-12798

Page

3 of 4

Sample Condition as Received:

Chilled ☒ yes ☐ no

Sealed ☐ yes ☐ no

## Analysis Requested

Sample Matrix:  
Soil (S), Sludge (SL), Aqueous (A), Free Product (FP)

TPH - u, 8015 + TPH  
VOCs, EPA 8260 8260

Sample ID	Date	Sample Collection Time	Laboratory Sample ID	Preservative	Sample Container	Hold	Number of Containers	Notes & Special Instructions
B3-35	10/12/18	12:30	ST-12798-21		<u>VOCs Sleeve S</u>			
B4-5		13:25	ST-12798-22				✓	
B4-10		13:30	ST-12798-23					
B4-15		13:35	ST-12798-24				✓	
B5-5		14:00	ST-12798-25				✓	
B5-10		14:05	ST-12798-26					
B5-15		14:10	ST-12798-27				✓	
B6-5		14:50	ST-12798-28					
B6-10		14:55	ST-12798-29				✓	
B6-15		15:00	ST-12798-30				✓	

Relinquished By (Signature) <u>[Signature]</u>	Printed Name <u>Josh Cam</u>	Received By (Signature) <u>[Signature]</u>	Printed Name <u>MARTIN YOUNG</u>	Total Number of Containers
Company <u>Partner ESI</u>	Date <u>10/15/18</u> Time <u>11:00</u>	Company <u>JONES</u>	Date <u>10/15/18</u> Time <u>11:03</u>	
Relinquished By (Signature) <u>[Signature]</u>	Printed Name <u>MARTIN YOUNG</u>	Received By Laboratory (Signature) <u>[Signature]</u>	Printed Name <u>Jonathan Zapata</u>	Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been requested, and the information provided herein is correct and accurate.
Company <u>JONES</u>	Date <u>10/15/18</u> Time	Company <u>JONES</u>	Date <u>10/15/18</u> Time <u>1:30</u>	



