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Mr. Mark Detterman
Alameda County Health Care Services
Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Data Gap Investigation to Evaluate Potential Indoor Air Vapor Intrusion by Soil-Gas related to a Former Residential Underground Heating Oil Tank located at 811 Paramount Road, Oakland, CA. (Alameda County Fuel Leak Case No. RO0003143 and CA GeoTracker Global ID T10000006106)

Dear Mr. Detterman:

INTRODUCTION AND SCOPE OF WORK

Stellar Environmental Solutions, Inc. (Stellar Environmental), on behalf of the property owners, presents Alameda County Health Care Services (ACHCS) with the findings of this sampling investigation to evaluate the extent of potential environmental contamination related to a former 350-gallon residential underground heating fuel storage tank (UST) that was removed on December 16, 2013. This report has been prepared to document the implementation of the Stellar Environmental Workplan, dated September 9, 2015 with the incorporation of modifications by ACHCS in their review and approval letter, dated September 10, 2015.

This report presents the results of the current soil-gas sampling and indoor air sampling and an evaluation of the Site residential building crawl space to investigate potential migration of hydrocarbon contaminants in vapor from the former UST and close the data gap impediments to achieving regulatory site closure.

Attached Figure 1 shows the site location and Figure 2 is a site plan showing the locations of current and historical sampling of the former UST. Figures are included in Attachment A

SUBJECT PROPERTY DESCRIPTION

The subject property is located at 811 Paramount Road in Trestle Glen, a historical residential district in Oakland, California. The area has historically been a residential area since the turn of the 20th century. The property is situated on a ridgeline in the Oakland hills with an average elevation of approximately 210 feet above mean sea level (amsl) and a generally westward and southward topographic slope. Rainwater drains away from the residential front yard area of the former UST site to the street curb gutter where it is channeled into the storm drain system on Paramount Road.

Local Hydrogeology

The site is underlain by Late Pleistocene alluvium that generally consist of weakly consolidated slightly weathered poorly sorted irregularly interbedded clay, silt, sand, and gravel. Local heterogeneities in shallow lithology and groundwater levels are typical of the alluvial deposits in this area. Shallow site lithology was determined in the June 2015 investigations by the visual method of the Unified Soils Classification System (USCS) using continuous core soil samples from this investigation. The predominant soil types encountered during the June 2015 exploratory investigation consisted of clay from the ground surface to between 6 and 8 feet below ground surface (bgs). Silt predominated from approximately 6 feet bgs to 29 feet bgs with the exception of a predominance of clay to 20 feet bgs in bore SB1. Gravelly and sandy to silty clay were observed from approximately 24 to 30 feet bgs in bores SB2 and SB3. Clay was encountered at approximately 29 -31 feet bgs in bores SB1 and SB2 and observed to persist to the maximum depth advanced of 36 feet bgs in bore SB2. Groundwater was not encountered during the June 2015 investigation.

Surface Water Bodies

The nearest surface water bodies are Sausal Creek located approximately 5,000 feet east of the site; Central Reservoir located 5,000 southeast and Lake Merritt Lake located about 5,000 feet west of the site. These water bodies ultimately drain to San Francisco Bay, located approximately 3.75 miles to the west of the site.

HISTORICAL ENVIRONMENTAL BACKGROUND

The former UST was discovered during property renovations in 2013 at which time the subject property owners contracted Golden Gate Tank Removal, Inc. (GGT) to remove the UST. The

underground storage tank (UST) removal report, dated January 14, 2014 that was prepared by GGT documents the December 2013 removal of one 350-gallon heating oil UST and 32.75 tons of associated fuel impacted soil from the subject site. The UST was found to be in poor condition with at least one visible hole. Soil discoloration and hydrocarbon odors were noted to be associated with overburden soil and soil underlying the UST.

The initial UST soil samples were collected at a depth of 7 feet on both the east end and west end beneath the UST after its removal on December 16, 2013. The analytical at 7 feet bgs on the east end (sample E7) was reported at 9,290 milligrams per kilogram (mg/kg) Total Petroleum Hydrocarbons in the carbon C10-C28 range, which includes the upper C8-C10 range of gasoline (TPHg), the full (C10-C23) range of diesel (TPHd) and into the motor oil (C18-C35) range (TPHmo). The 9,290 mg/kg detection exceeds the applicable Environmental Screening Limits (ESLs) for TPHg, TPHd and TPHmo. Also reported in sample E7 was 1.1 mg/kg ethylbenzene, 1.37 mg/kg total xylenes and 47.3 mg/kg naphthalene, with naphthalene above the ESL. Benzene and toluene were below the laboratory detection limit. The west end sample (sample W7) concentrations at 7 feet bgs were detected at 1,390 mg/kg in the C10-C28 range. The benzene, toluene, ethylbenzene and xylenes (BTEX) concentrations were near to below Laboratory Reporting Limits (RLs) of 79 µg/kg or less, and naphthalene concentration was 7.72 mg/kg, above its ESL.

Over-excavation to 12 feet bgs was subsequently performed on December 24, 2013. East end sample (sample E12) concentrations decreased two to three orders of magnitude to 28.0 mg/kg of TPH C10-C28, while BTEX and naphthalene concentrations were near to below RLs. The west end sample (sample E12) concentrations increased with depth to 3,960 mg/kg TPHd, and naphthalene concentrations increased to 25.2 mg/kg, in excess of their respective ESLs; BTEX concentrations were near to below RLs. MTBE was not analyzed in any of the samples.

ACHCS in their letter dated December 15, 2014, requested additional investigation of the residual soil contamination that was indicated by detections of TPHd and naphthalene above applicable ESLs that was reported in the UST removal report (GGT 2013). Stellar Environmental was retained by the property owners to prepare an investigation Workplan which was approved with the incorporation of modifications by ACHCS in their review and approval letter, dated March 30, 2015. The Workplan was implemented by Stellar Environmental in June 2015 and showed no detectable TPHd, TPHmo or fuel related VOCs in site soils indicating the potential residual soil contamination is neither laterally or vertically extensive. Groundwater was not encountered in any of the 3 bores that were advanced during the investigation, with the deepest

bore extending to 36 feet bgs. The absence of residual soil contamination indicates no threat to groundwater by potential contaminants of concern (COCs). However, soil-gas collected from soil-gas well SG5.5 feet bgs showed 880,000 $\mu\text{g}/\text{m}^3$ TPHg in excess of the Water Board residential ESL of 300,000 $\mu\text{g}/\text{m}^3$ for potential risk of vapor intrusion into the nearby building, and is the focus of this current investigation. The detection of residual TPHg soil-gas is anomalous for a residential heating oil UST but appears to rapidly attenuate with depth as there were no detections of COCs at 13 feet bgs immediately below the target contaminant depth where elevated TPHd and naphthalene in soil were reported in the UST removal report (GGT 2013). In addition, the June 2015 investigation documented a bioattenuation zone, adequate (recording 3.0 to 3.4 % oxygen) to support biodegradation of the residual petroleum hydrocarbon vapors.

The June 2015 investigation sampling detected no residual soil contamination, showed no threat to groundwater and only limited residual soil-gas detection of 880,000 $\mu\text{g}/\text{m}^3$ total petroleum hydrocarbons as gasoline in excess of the regulatory threshold criteria of 300,000 $\mu\text{g}/\text{m}^3$. Thus, the only apparent potential exposure risk is soil vapor intrusion into the residential building.

The analytical results from the June 2015 investigation qualified the Site for closure under the strict criteria of the Water Board Low Threat Closure Policy (LTCP), however due to the exceedance of TPHg over the Water Board ESL, ACHCS requested in their letter dated August 19, 2015, re-sampling of soil-gas, an evaluation of the building crawl space and additional sampling of potential toxic vapor intrusion into the Site residence be conducted in the event that the soil-gas sampling results exceeded the applicable ESLs. A Workplan, dated September 9, 2015 was prepared by Stellar Environmental and approved with modifications by ACHCS in their letter dated September 10, 2015.

The soil-gas well SG5.5 was resampled on September 23, 2015 as prescribed in the Workplan. The analytical results were received from the laboratory on October 7, 2015 and showed 240,000 $\mu\text{g}/\text{m}^3$ TPHd and 2,000,000 $\mu\text{g}/\text{m}^3$ TPHg in excess of the applicable residential ESLs of 68,000 and 300,000 $\mu\text{g}/\text{m}^3$, respectfully. In addition, benzene was detected at 600 $\mu\text{g}/\text{m}^3$ and 1,1,2-trichloroethane was detected at 4,300 $\mu\text{g}/\text{m}^3$, both above their respective ESLs of 42 $\mu\text{g}/\text{m}^3$ and 76 $\mu\text{g}/\text{m}^3$. The analytical results of the September 23, 2015 soil-gas sampling were subsequently shared with the ACHCS regulator and as prescribed in the Workplan, sampling of the indoor air was advanced. This report presents the results of the current investigative soil-gas and indoor air sampling and an assessment of the Site residential building crawl-space to evaluate potential

vapor intrusion of hydrocarbon contaminants from the former UST and close the data gap impediments to achieving regulatory site closure.

REGULATORY CONSIDERATIONS

The Water Board has established ESLs for evaluating the likelihood of environmental impact. ESLs are conservative screening-level criteria for soil and groundwater, designed to be generally protective of both drinking water resources and aquatic environments; they incorporate both environmental and human health risk considerations. ESLs are not cleanup criteria (i.e., health-based numerical values or disposal-based values). Rather, they are used as a preliminary guide in determining whether additional remediation and/or investigation may be warranted.

Different ESLs are published for commercial/industrial vs. residential land use, for sites where groundwater is a potential drinking water resource vs. is not a likely drinking water resource, and for the type of receiving water body. In our professional opinion, the appropriate ESL criteria for the subject site are *residential land use* and *groundwater is a potential drinking water resource*; based on the following:

- Residential land use as zoned by the City of Oakland.
- Groundwater is a potential a drinking water resource based on the location of the site being within the Department of Water Resources (DWR) designated East Bay Plain Groundwater Sub-Basin (DWR 2003) and the designation of this area of Oakland as “Zone A – Significant Drinking Water Resource (Water Board, 1999).
- The receiving body for groundwater discharge is an estuary (San Francisco Bay).

As stated above, ESLs are used as a preliminary guide in determining whether additional investigation, remediation or other action is warranted. Exceeding ESLs may warrant additional actions, such as monitoring plume stability to demonstrate no risk to sensitive receptors in the case of sites where drinking water is not threatened.

Regulatory Status

There was previously no known documentation of the Underground Storage Tank (UST) removal(s) or other information in the regulatory Water Board GeoTracker system. ACHCS is the oversight agency for the UST site cleanups in Oakland and the site was assigned a GeoTracker Global ID No. T1000006106 and ACHCS Fuel Leak Case No. RO0003143.

This report has been prepared to address ACHCS correspondence and to evaluate the site for regulatory closure under the State Water Resources Control Board Low-Threat Underground Storage Tank Policy (LTCP) Title 23, 2923 (OAL File No. 2012-0618-02 S), adopted on May 1, 2012 and effective as of August 17, 2012 (Water Board 2012).

LABORATORY ANALYTICAL METHODS

The required U. S. Environmental Protection Agency (EPA) analytical methods from Test Methods for Evaluating Solid Waste, Physical Chemical Methods, SW-846 (EPA, 1986) that were used to analyze the soil-gas sample during this project include

The samples were analyzed using the following methods:

- Volatile organic compounds including, naphthalene, benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary-butyl ether (MTBE) - by EPA Method TO15/Gas Range Organics (GRO).
- TPHd and naphthalene - by EPA Method TO17 (soil-gas and crawl space air only)
- TPHg scan by Method 8260B (soil-gas only)
- Helium, the leak check compound by ASTM 1946-90 (soil-gas only)

Laboratory-certified clean sampling equipment including summa™ canisters, manifolds equipped with a filter, pressure gauge and the appropriate flow controller were used. The soil-gas samples were analyzed by McCampbell Analytical (Pittsburg, CA), a California and National Environmental Laboratory Accreditation Program-ELAP-certified analytical laboratory. Soil-gas for TO15 analysis was collected in 1-liter Summa™ canisters. Soil-gas samples for TO17 analysis were collected in sorbent tubes that were wrapped in laboratory-grade aluminum and maintained on ice in a cooler. Indoor and outdoor ambient air samples for TO15 analysis were collected in 6-liter Summa™ canisters. Samples collected in Summa™ canisters were maintained at ambient temperature and out of direct sunlight. All sampling equipment used was certified clean by the laboratory prior to use. All samples were transported by courier under chain of custody to the analytical laboratory. The analyses were performed at a standard turnaround.

FIELDWORK IMPLEMENTATION

Field activities discussed under this heading include sampling of soil-gas well SG5.5 and an indoor-air sampling survey conducted on September 23 and October 30, 2015, respectfully, and an evaluation of the Site residential crawl-space.

The current and historical distribution of COCs in soil and soil-gas is shown on Figure 3. The analytical laboratory results are summarized in Table 1 and included on Figures 3 and 4. A photo-documentation of the field activities including significant crawl space features are included Attachment C. The certified laboratory analytical reports and chain-of-custody records are presented in Attachment D.

SOIL-GAS SAMPLING AND METHODOLOGY

The soil-gas wells were located and designed to evaluate potential for soil-gas intrusion into the residential site building. The two soil-gas wells were constructed during the June 2015 Stellar Environmental investigation in a cluster array approximately 2 feet apart with the subsurface diffuser implants installed at 5.5 and 13 feet bgs and labeled SG5.5 and SG13, respectfully. A stainless-steel mesh air diffuser was set in the 3-inch diameter bore at the target depth, at the midpoint of a 1-foot sand pack and connected to the surface with Teflon[®] tubing (0.177-inch inside diameter) and terminated after the surface with about 2 feet of excess tubing and an inert plastic stopcock valve. Granular bentonite was emplaced over the sand pack and brought to the surface with hydrated bentonite to seal the diffuser and sand pack. The soil-gas well construction details are included on the geologic logs June 2015 Stellar Environmental Investigation report, dated July 20, 2015.

Department of Toxic Substance Control (DTSC, April 2012) guidelines were followed during set-up and sampling of site soil-gas well SG5.5. As specified in the DTSC guidelines, soil-gas sampling was not conducted during or within five days of a significant rain event (1/2-inch or greater). No significant rain event was noted to occur in Oakland, California between September 18-23, 2015 (NOAA, 2015).

Pre-Soil-Gas Sampling: A shut-in test was conducted on the sampling train to check for leaks in the above-ground fittings at each sampling point. The shut-in test was conducted by assembling the above-ground apparatus of the tubing and sample port valve and evacuating the sampling train using a dedicated purge Summa™ canister. A shut-in test was conducted using an in-line vacuum gauge and evacuating the sampling train to a measured vacuum of about 100 inches of water, then shutting the vacuum in with a closed valve. The vacuum gauge was observed for

about one minute and all above ground connections were considered “air-tight” if the pressure on the gauge did not noticeably dissipate.

The purge volume was calculated for a 1 foot of sand pack with 30% porosity (3-inch bore diameter) plus the length of the ¼-inch tubing (0.177-inch inner diameter). Thus, one purge volume for the 5.5 foot deep implant with 7 feet of tubing equals 451 milliliters (mls). Three purge volumes were extracted prior to collecting the soil-gas sample by default as per DTSC guidance.

A Helium Shroud Apparatus was used to test for ambient air leaks around the sampling train, and at the soil-gas tubing interface with the ground surface. The helium shroud apparatus was set over the well head and laboratory grade helium was flooded into the shroud initially to a concentration of approximately 35% helium. A concentration of 25-30 % was maintained in the shroud throughout the sampling procedure and verified every few minutes using a helium meter supplied by the laboratory. The helium shroud apparatus used during this sampling event was rented from McCampbell Analytical laboratory.

A leak test was conducted to evaluate whether adequate seals were established in the sampling train at the connection with the well head and at interface the ground surface. A leak test was conducted at the well before purging and sampling to ensure that the sample was not being diluted by ambient air as evidenced by measuring that no helium was detected. The leak check was conducted by pulling 3 tubing volumes (102 mls for well SG5.5) through the implant tubing at the well head which is sufficient as per DTSC, to check if helium in the shroud is pulled down the bore between the bore and tubing interface which would indicate an ambient leak. The leak checks detected no helium indicating no leakage between the soil-gas tubing interfaces with the ground surface during sample collection.

Soil-Gas Sampling for analysis by Method TO15/gas-range organics for analysis of TVHg, BTEX, MTBE and naphthalene was accomplished using a 1-liter Summa™ canister equipped with a filter and 150 milliliters per minute (ml/min) flow controller.

The Method TO17 analysis sample was collected using laboratory supplied sorbent tubes packed with Tenax™ absorbent and drawing approximately 1 liter of soil-gas through the sorbent tube at approximately 50 ml/min using an in-line flow controller and a Summa™ canister attached at the end of the sampling train behind each sorbent tube. The manifold was set up to collect duplicate sorbent tube soil-gas samples in a parallel split arrangement.

SOIL-GAS ANALYTICAL RESULTS

The analytical results of the soil-gas sampling are and included on Figure 3 Attachment A and summarized in Tables 1 and 2 included Attachment B.

TVH Gasoline (Method 8260B)

The method 8260B analysis detected TVH as gasoline (TVHg) at 2,000,000 $\mu\text{g}/\text{m}^3$ in excess of the Water Board residential ESL of 300,000 $\mu\text{g}/\text{m}^3$.

TPH Diesel and Naphthalene (Method TO17 Analysis)

The method TO17 analysis detected 240,000 $\mu\text{g}/\text{m}^3$ TPHd in excess of the residential ESL of 68,000 $\mu\text{g}/\text{m}^3$.

Naphthalene was not detected by the Method TO17 analysis.

Volatile Organic Compounds (Method TO15 Analysis)

BTEX, MTBE and Naphthalene

The volatile fuel components; naphthalene, benzene, toluene, ethylbenzene and xylenes were detected; however only benzene detected at 600 $\mu\text{g}/\text{m}^3$ was above the residential ESL of 42 $\mu\text{g}/\text{m}^3$.

Chlorinated Hydrocarbons

Various chlorinated hydrocarbon compounds were detected by the TO15 analysis, however only 1,1,2-trichloroethane (TCA), detected at 4,300 $\mu\text{g}/\text{m}^3$, was above the applicable ESL of 76 $\mu\text{g}/\text{m}^3$. TCA is a relatively uncommon solvent and its source is unlikely to be associated with the former heating oil UST in a historically residential area. The origin of the TCA may have been a as heating fuel contaminant or linked to products used during the residential renovation that occurred in 2013 or an analytical laboratory contaminant. Whatever the source, TCA was not detected in the indoor-air survey, discussed below, thus it does not appear to constitute a health risk via vapor intrusion into the adjacent indoor air apace.

Quality Control Samples

One duplicate field QC soil-gas sample was collected for TPHd and analyzed by Method TO17. The manifold was set up to collect the duplicate sorbent tube sample in a parallel split

arrangement. The primary sample contained 240,000 $\mu\text{g}/\text{m}^3$ and the duplicate showed 230,000 $\mu\text{g}/\text{m}^3$ which shows a good agreement with a relative percent difference of only 2.98%.

A helium shroud leak detection apparatus was used during the soil-gas collections. Helium was not detected during either the TO-15 or TO-17 sample collection, indicating no leakage in the sampling train during collection.

Laboratory QC samples (e.g., method blanks, matrix spikes, surrogate spikes, etc.) were analyzed by the laboratory in accordance with the requirements of each analytical method. All laboratory QC sample results and sample holding times were within the acceptance limits of the methods (Attachment D).

INDOOR AIR SURVEY METHODOLOGY

Because the soil-gas well SG5.5 sample analytical results showed contaminants exceeding the applicable ESLs concentration criteria, additional sampling for indoor-air was subsequently conducted. Indoor-air was collected in accordance with the DTSC/Cal EPA Vapor Intrusion Guidance (October 2011) procedures and methodology

The residential indoor air evaluation entailed a 24-hour air sampling test per procedures and protocols of the DTSC guidance. Stellar Environmental personnel set up the 24-hour sampling apparatus in two (2) locations: 1) within the residential building subfloor crawl space near the north side of the building, approximately 10 feet from the south side of the former UST excavation (as near to the near the former UST source area as accessible); and 2) an ambient “control” sample location was placed outside the residence, on the back porch, and not below the drip line of any Site landscape trees.

The 24-hour test apparatus was set up at approximately 8:45 AM on Thursday October 29th and removed 24 hours later at approximately the same time the next day, October 30, 2015. The crawl space air sampling entailed collection of samples for both Method TO15 and TO17 analysis. The TO17 was collected using 2 in-line sorbent tubes with the second tube, in-line from the intake, held for analysis only in the event that breakthrough in the first tube had occurred. The outdoor air was only analyzed by Method TO15. The air flow regulators controls the air inflow rate and were calibrated by the laboratory for the specific method analyses. The TO15 sample was collected using a 4 ml/minute flow controller the TO17 sample was collected using a 3 ml/minute flow controller.

The summa sample canisters were identified and labeled when placed in their respective sampling locations at the beginning of the test and the date and time were recorded on the label the next day at the end of the test, thus the potential to confuse the sample locations is minimized.

The sampling locations for the indoor and outdoor air samples are shown on the Figures 2, with the pertinent data shown on Figures 3 through 5.

INDOOR AIR SURVEY ANALYTICAL RESULTS

In general, the analytical results of the October 29-30, 2015 indoor air survey indicate the residential site air to contain less contaminants than the ambient outdoor air suggesting contaminants detected in the residential indoor air could as easily be attributed to ambient outdoor air sources as they could to residual impacts from the former UST.

The analytical results of the indoor-air and outdoor air samples for those compounds detected in excess of the indoor air ESLs are included on Figure 5 in attachment A. The analytical results of all detected compounds in the indoor-air and outdoor air samples are summarized in Table 3 included in Attachment B. The certified laboratory results are contained in Attachment D.

TPH Diesel and Naphthalene (Method TO17 Analysis; Indoor-Air)

The method TO17 analysis showed no detection of TPH-diesel above the method detection limit (mdl) of 31 $\mu\text{g}/\text{m}^3$. The Method TO17 analysis of naphthalene reported at 0.51 $\mu\text{g}/\text{m}^3$ which exceeds its ESL of 0.072 $\mu\text{g}/\text{m}^3$, however this detection was j-flagged by the laboratory and not considered reliably quantified. Naphthalene was also analyzed by Method TO15, discussed below, and was not detected above the laboratory reporting limit which was below its ESL.

Volatile Organic Compounds (Method TO15 Analysis; Indoor-Air and Outdoor Air)

Indoor-Air: The indoor-air (crawl space sample IA-1) analysis showed detections of the volatile compounds; benzene, carbon tetrachloride, chloroform, 1,4-dioxane and toluene. Only the fuel component benzene was detected at 2.0 $\mu\text{g}/\text{m}^3$, slightly above its residential indoor air ESL of 0.084 $\mu\text{g}/\text{m}^3$. All of the other compounds detected were below their respective ESLs. TPHg was not detected in the indoor-air.

Other than a trace detection (< than the ESL) of the fuel component toluene, that may be linked to the heating oil UST, the origin of the remaining detected compounds is somewhat enigmatic with numerous and multiple possible sources that may be attributed to either natural sources or

human activity such as laboratory contaminants or possibly materials used in the residential renovation that was taking place at the time of the discovery of the UST in 2013. Chloroform is a common laboratory contaminant and also emitted during the decay of vegetation; 1,4-dioxane is detected in solvents and adhesive products; carbon tetrachloride may be related historical pesticide use and is also detected in some cleaning agents and refrigerants.

Outdoor-Air: The outdoor-air (sample OA-1) analysis showed numerous detections of volatile compounds that included; acrylonitrile, acetone, benzene, carbon tetrachloride, chloroform, chloromethane, 1,4-dichlorobenzene, dichlorodifluoromethane, toluene naphthalene, ethylbenzene, trichloroflouromethane, 1,2,4-trimethylbenzene and xylenes. Four of these compounds detected in the outdoor air: benzene ($1.0 \mu\text{g}/\text{m}^3$), carbon tetrachloride ($0.41 \mu\text{g}/\text{m}^3$), 1,4-dichlorobenzene ($0.49 \mu\text{g}/\text{m}^3$) and naphthalene ($0.21 \mu\text{g}/\text{m}^3$) were at concentrations in excess of both their comparable indoor-air ESLs and that which was detected in the crawl space air sample.

The analytical results of all compounds detected in the indoor-air and outdoor air samples are summarized in Table 3 in Attachment B.

All of the reported compounds can be detected in outdoor urban air spaces in varying concentrations that fluctuate with seasonally and prevailing wind patterns. Of the detected compounds, only benzene, toluene, naphthalene, ethylbenzene, xylenes, naphthalene and 1,2,4-trimethylbenzene would be expected to be associated with petroleum hydrocarbons with the exception of naphthalene that is emitted by some plants. Sources of the other detected compounds are numerous and can be attributed to natural sources and human activities, including laboratory contaminants. Acetone is used in laboratories but also ubiquitous in the environment as is chloroform and chloromethane; 1,2-dichloroethane and 1,2-dichloropropane were also detected in the summa canister certification analysis and may also be laboratory contaminants along with the detections of chloroform, chloromethane, dichlorodifluoromethane, and trichloroflouromethane; 1,4-dichlorobenzene is used as a disinfectant and in pesticides; and acrylonitrile is found in synthetic rubbers and fumigants.

Laboratory QC samples (e.g., method blanks, matrix spikes, surrogate spikes, etc.) were analyzed by the laboratory in accordance with the requirements of each analytical method. All laboratory QC sample results and sample holding times were within the acceptance limits of the methods (Attachment D).

CRAWL SPACE DESCRIPTION

The Site residential building underlying crawl space was evaluated as part of this investigation. The crawl space was accessed through a 3 x 3 foot door in the basement room wall. The crawl space occupied an L-shaped area of approximately 175 square feet beneath the front and central area of the residence. The crawl space had an irregular ground surface that generally sloped downward toward the south. The crawl space at the north end, nearest the former UST, was approximately 21 inches high and approximately 4.5 feet high at the southern end near the basement access door (measured from the ground to the bottom of the overlying floor joists). The central house heating unit and associated ducting was contained in the space along the western wall. No materials or other items were observed stored in the crawl space and no unusual, natural gas or petroleum odors were noticed during the sampling activities. A total of three vents measuring 4 x 12 inches with fixed horizontal openings were observed to vent the crawl space. The vents were located at the bottom of the crawl space wall, cut into the top of the concrete foundation; two eight feet apart along the eastern wall of the crawl space and one centered on the west wall of the crawl space where the building protruded 4 feet northward.

The areal extent of the crawl space and locations of the outside vents are shown on Figures 2, 3 and 5. The crawl space is shown in cross-section on Figure 4. Photographs of the vents are included in Attachment C.

SUMMARY AND RECOMENDATIONS

The work documented in this study was conducted in general accordance with standard EPA, Water Board and DTSC methods and protocols established for investigations of this type.

Stellar Environmental previously evaluated the site conditions against the Low Threat Closure Policy (LTCP) criteria (Stellar Environmental 2015b). The results of that investigation qualified the Site for closure under the strict criteria of the LTCP, however due to the exceedance of TPHg over the Water Board Tier 1 ESL, re-sampling of shallow soil-gas from soil-gas well SG5.5, an evaluation of the building crawl space and indoor air sampling were conducted during this study to investigate the potential exposure risk of soil vapor intrusion into the residential building; that being the remaining impediment to full regulatory site closure.

SUMMARY

- A 350-gallon UST was removed in December 2013 along with 32.75 tons of associated fuel impacted soil that was disposed to a permitted non-hazardous landfill facility (GGT 2013).
- The Stellar Environmental June 2015 investigation was advanced to investigate residual contamination that was indicated by detections of TPHd and naphthalene above applicable ESLs in the UST excavation confirmation soil sample collected from 12 feet bgs that was reported in the UST removal report (GGT 2013).
- No TPHd, TPHmo or fuel related VOCs were detected in site soil during the June 2015 in any of the 3 investigation borings, indicating site soil contamination is neither laterally or vertically extensive. In addition, groundwater was not encountered in any of the 3 bores, with the deepest bore extending to 36 feet bgs. The absence of residual soil contamination indicates no threat to groundwater by potential COCs.
- Soil-gas collected during the June 2015 investigation from 6 feet bgs (SG5.5) showed 880,000 $\mu\text{g}/\text{m}^3$ TPHg in excess of the Water Board residential ESL of 300,000 $\mu\text{g}/\text{m}^3$ for potential risk of vapor intrusion into the nearby building. The residual TPHg in soil-gas appears to attenuate as there were no detections of COCs in soil gas collected from at 13 feet bgs immediately below the target contaminant depth where elevated TPHd and naphthalene in soil were reported in the UST removal report (GGT 2013). The detected oxygen ranged between 3.0 - 3.4 % in the soil-gas samples collected in during the is below the ideal LTCP defined 4% oxygen concentration required for a soil “bioattenuation zone”. The risk of vapor intrusion into the site residence will continue to attenuate in time since the UST source and associated fuel impacted soil were removed in December 2013.
- Soil-gas well SG5.5 was resampled on September 23, 2015 and showed 240,000 $\mu\text{g}/\text{m}^3$ TPHd and 2,000,000 $\mu\text{g}/\text{m}^3$ TPHg in excess of the applicable residential ESLs of 68,000 and 300,000 $\mu\text{g}/\text{m}^3$, respectfully. In addition, benzene was detected at 600 $\mu\text{g}/\text{m}^3$ and 1,1,2-trichloroethane (TCA) was detected at 4,300 $\mu\text{g}/\text{m}^3$, both above their respective ESLs of 42 $\mu\text{g}/\text{m}^3$ and 76 $\mu\text{g}/\text{m}^3$. The analytical results of the September 23, 2015 soil-gas sampling were subsequently shared with the ACHCS regulator and as prescribed in the Workplan, sampling of the residential indoor air was advanced.
- Benzene was the only site contaminant of concern that was detected in the indoor air at 0.20 $\mu\text{g}/\text{m}^3$ slightly above its applicable ESL of 0.084 $\mu\text{g}/\text{m}^3$. The compounds, TCA, TPHg and TPHd, that were detected above their ESLs in the soil-gas, were not detected

in the indoor-air survey, thus those constituents do not appear to constitute a health risk via potential vapor intrusion into the adjacent indoor air space.

- The October 29-30, 2015 indoor air survey detected benzene above its residential indoor-air ESL, however at a concentration less than that detected in the ambient outdoor air suggesting that the benzene in the residential indoor air could likely be attributed to outdoor ambient sources. In addition, to the extent that the crawl space “indoor air” would intrude the indoor building air it would represent a further decrease in condemnation.
- The residential sub-floor crawl space was inspected and contained no potential contaminant source items with the exception of the natural gas piping to the central heating unit that observed in the crawl space. No unusual, natural gas or petroleum odors were noticed during the inspection.
- The natural gas meter to the house was noted to be located at the northwest corner of the residence, approximately 25 feet west of the former UST, with the service piping extending northward and perpendicular to the street main connection. There was no indication of natural gas leaking, such as odor or dead vegetation, and thus the service is not considered a likely Site contaminant source.
- The sensitive receptor and well survey completed during the June 2015 study did not indicate the presence of a downgradient sensitive receptor that would be threatened by the residual soil-gas.

RECOMMENDATIONS

Stellar Environmental recommends the following:

- Additional indoor air sampling could be considered to evaluate seasonal variation in detectable compounds, however our experience in ambient air studies in urban areas has shown a wide array of contaminant detections and it is unclear at the low to trace levels detected here how much of the benzene is due to vapor intrusion from the former UST versus the ambient background levels. Thus it is our opinion that since the indoor air benzene concentration was less than the background outdoor air concentration, and there are no other constituents that exceed the indoor air residential ESLs, a regulatory “No Further Action (NFA)” should be granted the property owner and the regulatory case closed.

- Stellar Environmental has uploaded this report and associated data to both ACHCS's fileserver and the Water Board's GeoTracker database and recommends following up with ACHCS following its receipt of this report, to discuss regulatory closure.
- Costs incurred for this investigation are eligible for reimbursement from the State of California Tank Cleanup Fund until regulatory site closure is achieved.

This report has been prepared for the exclusive use by the Property Owners (responsible party), the regulatory agencies, and their authorized assigns and/or representatives. No reliance on this report shall be made by anyone other than those for whom it was prepared

We declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report are true and correct to the best of our knowledge. If you have any questions regarding this report, please contact us at (510) 644-3123.

Sincerely,



Mr. Mark A. Jacobson
Property Owner-Responsible Party



Ms. Ilona Frieden
Property Owner-Responsible Party

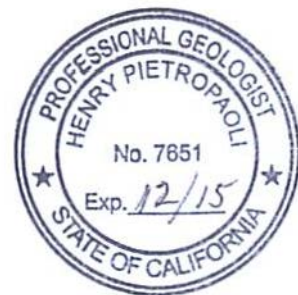


Mr. Henry Pietropaoli, P.G.
Principal Geologist and Project Manager



Mr. Richard S. Makdisi, P.G.
Principal Geochemist and President

cc: Mr. Amitai Schwartz, Esq—counsel to RPs.
Alameda County and California GeoTracker fileserver



REFERENCES

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Department of Toxic Substances Control (DTSC), 2012. Active Soil-Gas Advisory prepared by the DTSC and Water Board-San Francisco Region. April

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Stellar Environmental Solutions, Inc. 2015c. Additional Investigation Workplan to Address Potential Impact of Soil-Gas related to a Former Leaking Underground Heating Oil Tank located at 811 Paramount, Oakland, CA. September 9.

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ATTACHMENT A

Figures



SITE LOCATION MAP

811 Paramount Avenue
Oakland, CA

By: MJC

FEBRUARY 2015

Figure 1



2015-16-01



SITE PLAN SHOWING LOCATIONS OF FORMER UST, HISTORICAL AND CURRENT INVESTIGATION SAMPLING

**811 Paramount Road
Oakland, CA**

By: MJC

NOVEMBER 2015

Figure 2



2015-16-14



DISTRIBUTION OF ANALYTICAL RESULTS OF SOIL AND SOIL GAS

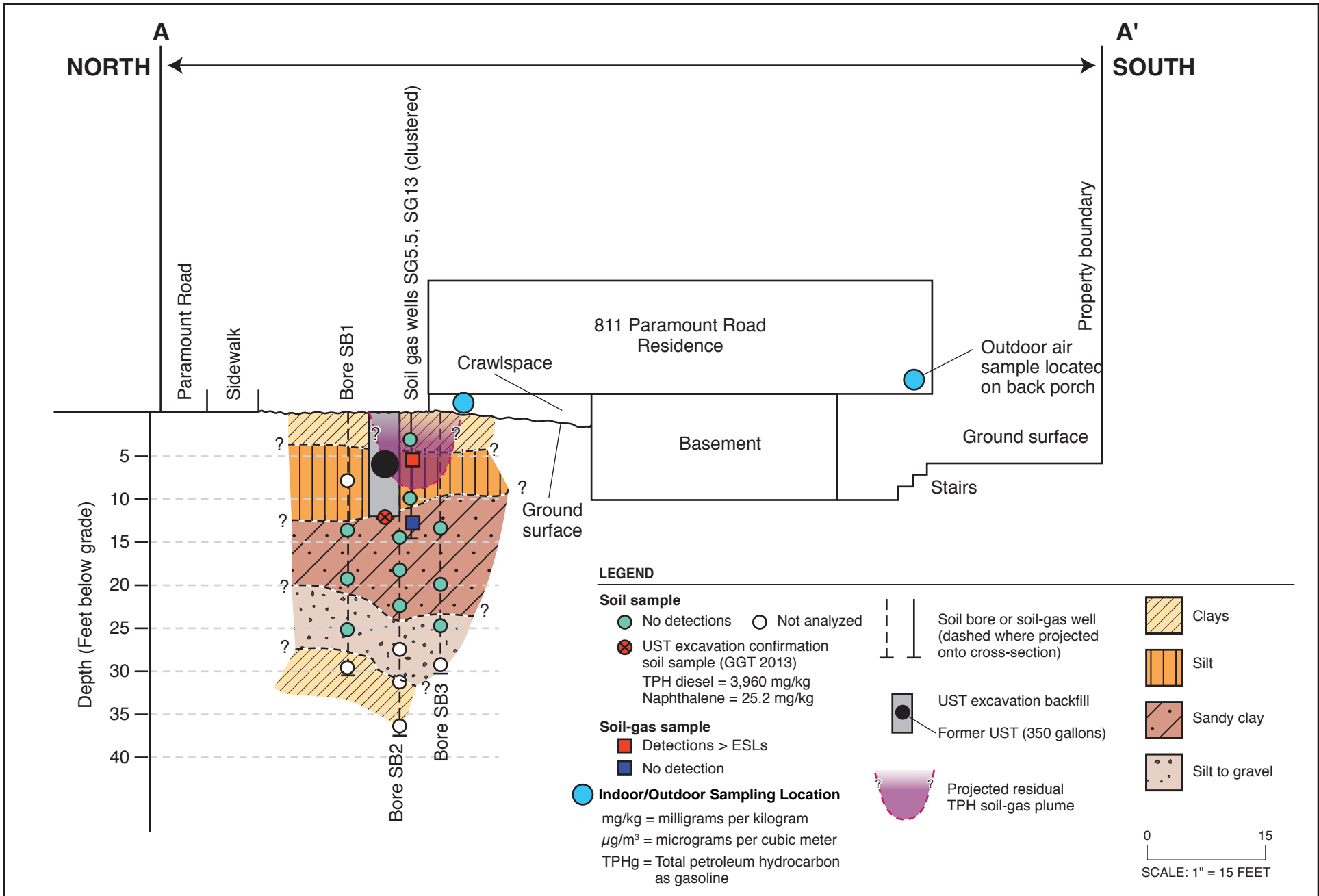
811 Paramount Road
Oakland, CA

By: MJC

NOVEMBER 2015

Figure 3





2015-16-10



Outdoor Air Sample (OA-1)	
Benzene	1.0
Carbon tetrachloride	0.41
1,4 dichlorobenzene	0.49
Naphthalene	0.21

Indoor Air Sample (IA-1)	
Benzene	0.20

LEGEND

- Subject property boundary
- UST Former UST (2014) excavation
- A—A' A-A' location of cross section shown in Figure 4
- Area of crawlspace
- Historical UST removal confirmation samples (GG 2014)
- G Natural gas service
- Crawl space vent
- Indoor air sample location
- Soil boring location
- Soil gas well

Concentrations in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)

0 15

APPROX. SCALE: 1" = 15 FEET



ANALYTICAL RESULT OF CONTAMINANT >ESLs IN INDOOR AND OUTDOOR AIR – OCTOBER 30, 2015

811 Paramount Road
Oakland, CA

By: MJC

NOVEMBER 2015

Figure 5



2015-116-16

ATTACHMENT B

Analytical Summary Tables

Table 1
Soil-Gas Well SG5.5 - Analytical Results - September 23, 2015
811 Paramount Road, Oakland, California

Analytical Method	Sample I.D. depth (feet bgs)	Contaminants ($\mu\text{g}/\text{m}^3$)								Leak Check (%)
		TPHd	TVHg	Benzene	Ethyl-benzene	Toluene	Xylenes	MTBE	Naphthalene	Helium
SW8260B	SG6SA	NA	2,000,000	NA	NA	NA	NA	NA	NA	NA
TO17	SG6S	240,000	NA	NA	NA	NA	NA	NA	<3.0	<0.050*
TO17	SG6SD	230,000	NA	NA	NA	NA	NA	NA	<3.0	<0.050*
Residential	ESL	68,000	300,000	42	490	160,000	52,000	4,700	36	NR

Notes:

Soil-gas sample number in ID refers to sample diffuser depth 'A' indicates sorbent tube TO15 analysis; D = indicates duplicate sample of SG6S

* = helium leak check during TO17 sorbent tube collection analyzed from in-line Summa

ESL = Environmental Screening Level applicable to both shallow (<3 meters) and deep (>3 meters) soil-gas in residential areas where groundwater is considered a potential drinking water resource, above which additional investigation is recommended (Water Board 2013, Table E-2)

Analytical results in **bold-face** type exceed the applicable residential ESL

Analytical results shown as < and *italicized* indicate a non-detection or less than the laboratory detection limit.

NA = not analyzed; NR = not relevant

TVHg = total petroleum hydrocarbons as gasoline; TPHd = total petroleum hydrocarbons as diesel

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter; bgs = feet below ground surface

Table 2

**Analytical Results of Method TO15 Detected Compounds in Shallow Soil-Gas Well SG5.5
September 23, 2015
811 Paramount Road, Oakland, California**

Analyte	Sample SG6S	ESL
Benzene	600	42
2-butanone (MEK)	1,800 j	2,200,000
Cyclohexane	24,000	NLP
Ethylbenzene	340	490
4-Ethyltoluene	130 j	31,000
Heptane	11,000	NLP
Hexane	4,600	NLP
4-methyl-2-pentanone	170 j	NLP
Methylene chloride	110	26,000
Toluene	94	160,000
1,1,2-Trichloroethane	4,300	76
1,2,4-Trimethylbenzene	130	NLP
1,3,5-Trimethylbenzene	150 j	NLP
Xylenes	410 j	52,000
Helium (leak check compound)*	<0.050	NR

Notes:

ESL= Environmental Screening Level for shallow soil-gas at residential sites (Water Board 2013, Table E-2).

NLP= no level published; Results in **bold-face** type exceed regulatory ESLs.

All results are reported in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)

j = indicates compound was detected below quantification limit and is a statistical estimated value.

NR = not relevant

* Helium tracer analyzed by Method ASTM1946-

Table 3
Analytical Results of Detected Compounds in Indoor and Outdoor Air
October 30, 2015
811 Paramount Road, Oakland, California

Analyte	Indoor Air (IA-1)	Outdoor Air (OA-1)	ESL
<i>Method TO17 Analysis *</i>			
TPH-diesel	<31	NA	140
Naphthalene **	0.51 j	NA	0.072
<i>Method TO15 Analysis</i>			
TPH-gasoline	<36	<36	100
Acetone	<6.0	6.2	32,000
Acrylonitrile	<0.22	0.36	NLP
Benzene	0.20	1.0	0.084
Carbon Tetrachloride	0.062	0.41	0.058
Chloroform	0.034	0.17	0.46
Chloromethane	<0.21	0.52	94
1,4-Dichlorobenzene	<0.030	0.49	0.22
Dichlorodifluoromethane	<0.50	2.4	NLP
1,2-Dichloroethane	<0.0041	0.037	0.12
1,2-Dichloropropane	<0.0047	0.017	0.24
1,4-Dioxane	0.021	<0.018	0.32
Ethylbenzene	<0.44	0.82	0.97
Naphthalene	<0.050	0.21	0.072
Toluene	0.56	3.9	310
Trichloroflouromethane	<0.57	1.3	NLP
1,2,4-Trimethylbenzene	<0.50	1.0	NLP
Xylenes	<1.3	3.6	100

Notes:

ESL= Environmental Screening Level for residential Indoor-Air (Water Board 2013, Table E-3).

Results in **bold-face** type exceed regulatory ESLs; NLP= no level published

NA = not analyzed

* = TO17 analysis reported to method detection limit, however method could not meet ESL for naphthalene;

** = refer to TO15 analysis for naphthalene analysis

j = indicates compound was detected below quantification limit and is a statistical estimated value.

All results are reported in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)

ATTACHMENT C

Photo-documentation



Subject : Residence showing locations of soil gas wells and crawl space vents and in the vicinity of former UST

Site: 811 Paramount Road, Oakland, California

Date Taken: September 11, 2015

Project No.: SES 2015-16

Photographer: H. Pietropaoli

Photo No.: 01



Subject: Crawl space vents on east side of residence

Site: 811 Paramount Road, Oakland, California

Date Taken: September 11, 2015

Project No.: SES 2015-16

Photographer: H. Pietropaoli

Photo No.: 02



Subject : Crawl space vent facing west in central area of residence

Site: 811 Paramount Road, Oakland, California

Date Taken: September 11, 2015	Project No.: SES 2015-16
--------------------------------	--------------------------

Photographer: H. Pietropaoli	Photo No.: 03
------------------------------	---------------



Subject: Crawl space access door

Site: 811 Paramount Road, Oakland, California

Date Taken: September 11, 2015	Project No.: SES 2015-16
--------------------------------	--------------------------

Photographer: H. Pietropaoli	Photo No.: 04
------------------------------	---------------



Subject: Crawl space - view looking north from crawl space access door

Site: 811 Paramount Road, Oakland, California

Date Taken: September 11, 2015

Project No.: SES 2015-16

Photographer: H. Pietropaoli

Photo No.: 05



Subject: Crawl space - view looking toward northeast corner of crawl space

Site: 811 Paramount Road, Oakland, California

Date Taken: September 11, 2015

Project No.: SES 2015-16

Photographer: H. Pietropaoli

Photo No.: 06



Subject: Soil-gas well SG5.5 sampling apparatus

Site: 811 Paramount Road, Oakland, California

Date Taken: September 23, 2015

Project No.: SES 2015-16

Photographer: H. Pietropaoli

Photo No.: 07



Subject: Summas located in crawl space for indoor air sampling

Site: 811 Paramount Road, Oakland, California

Date Taken: June 4, 2015

Project No.: SES 2015-16

Photographer: H. Pietropaoli

Photo No.: 08



Subject: Summa canister located in backyard porch for outdoor sampling

Site: 811 Paramount Road, Oakland, California

Date Taken: October 29, 2015

Project No.: SES 2015-16

Photographer: H. Pietropaoli

Photo No.: 00



Subject: Natural gas service located on NW corner of residence

Site: 811 Paramount Road, Oakland, California

Date Taken: October 29, 2015

Project No.: SES 2015-16

Photographer: H. Pietropaoli

Photo No.: 10

ATTACHMENT D

Certified Laboratory Analytical Results and Chain-of-Custody Record



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1509A12

Report Created for: Stellar Environmental Solutions
2198 Sixth St. #201
Berkeley, CA 94710

Project Contact: Henry Pietropaoli
Project P.O.:
Project Name: 2015-16; Residential UST

Project Received: 09/24/2015

Analytical Report reviewed & approved for release on 10/07/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Stellar Environmental Solutions
Project: 2015-16; Residential UST
WorkOrder: 1509A12

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

B	analyte detected in the associated Method Blank and in the sample
J	Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
S	spike recovery outside accepted recovery limits
c2	surrogate recovery outside of the control limits due to matrix interference.
c9	Internal standard is out of acceptance criteria due to matrix interference therefore values are estimated
j1	see attached narrative



Case Narrative

Client: Stellar Environmental Solutions
Project: 2015-16; Residential UST

Work Order: 1509A12
October 07, 2015

TO-15 ANALYSIS

All summa canisters are EVACUATED 5 days after the reporting of the results. Please call or email if a longer retention time is required.

In an effort to attain the lowest reporting limits possible for the majority of the TO-15 target list, high level compounds may be analyzed using EPA Method 8260B.

Polymer (Tedlar) bags are not recommended for TO15 samples. The disadvantages are listed in Appendix B of the DTSC Advisory of April 2012.

TO-17 ANALYSIS

10/2/15 TO-17 GC-37

Samples: SG6S (1509A12-001A) and SG6SD (1509A12-002A)

Due to the high organic content observed in the samples, a quantification of the internal standards was unobtainable. The quantitated TPH-diesel and naphthalene concentrations are calculated using a modified TO-17 analytical procedure which includes an external calibration. The TPH-diesel and naphthalene results are estimated. The quantitated results for diesel exceeded the upper range of the calibration. It is noted that the majority of the calculated TPH-diesel concentration is derived from an observed, lighter eluting TPH-gas range pattern from C5 through C15 of branched and unbranched alkanes.



Analytical Report

Client: Stellar Environmental Solutions
Date Received: 9/24/15 15:50
Date Prepared: 9/28/15
Project: 2015-16; Residential UST

WorkOrder: 1509A12
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: %

Helium

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG6S	1509A12-001B	SoilGas	09/23/2015 11:00	GC26	111042

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.42	24.74	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	09/28/2015 18:32

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG6SD	1509A12-002B	SoilGas	09/23/2015 11:00	GC26	111042

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.56	27.05	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	09/28/2015 18:45

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG6SA	1509A12-003A	SoilGas	09/23/2015 11:30	GC26	111042

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.46	24.83	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	09/28/2015 18:58



Analytical Report

Client: Stellar Environmental Solutions
Date Received: 9/24/15 15:50
Date Prepared: 10/7/15
Project: 2015-16; Residential UST

WorkOrder: 1509A12
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³

TPH gas by P&T and GC/MS in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG6SA	1509A12-003A	SoilGas	09/23/2015 11:30	GC18	111206

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.46	24.83	KBO

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	2,000,000	100,000	2	10/07/2015 16:41
Surrogates	REC (%)	Limits		Date Analyzed
Dibromofluoromethane	110	70-130		10/07/2015 16:41



Analytical Report

Client: Stellar Environmental Solutions
Date Received: 9/24/15 15:50
Date Prepared: 10/7/15
Project: 2015-16; Residential UST

WorkOrder: 1509A12
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG6SA	1509A12-003A	SoilGas	09/23/2015 11:30	GC24	111201

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.46	24.83	GM

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Acetone	ND		1300	6000	100	10/07/2015 09:09
Acrolein	ND		120	580	100	10/07/2015 09:09
Acrylonitrile	ND		29	110	100	10/07/2015 09:09
tert-Amyl methyl ether (TAME)	ND		76	210	100	10/07/2015 09:09
Benzene	600		29	160	100	10/07/2015 09:09
Benzyl chloride	ND		41	260	100	10/07/2015 09:09
Bromodichloromethane	ND		9.8	350	100	10/07/2015 09:09
Bromoform	ND		79	520	100	10/07/2015 09:09
Bromomethane	ND		30	200	100	10/07/2015 09:09
1,3-Butadiene	ND		47	110	100	10/07/2015 09:09
2-Butanone (MEK)	1800	J	480	7500	100	10/07/2015 09:09
t-Butyl alcohol (TBA)	ND		1700	3100	100	10/07/2015 09:09
Carbon Disulfide	ND		32	160	100	10/07/2015 09:09
Carbon Tetrachloride	ND		51	320	100	10/07/2015 09:09
Chlorobenzene	ND		40	240	100	10/07/2015 09:09
Chloroethane	ND		35	130	100	10/07/2015 09:09
Chloroform	ND		41	240	100	10/07/2015 09:09
Chloromethane	ND		20	100	100	10/07/2015 09:09
Cyclohexane	24,000		510	1800	100	10/07/2015 09:09
Dibromochloromethane	ND		66	440	100	10/07/2015 09:09
1,2-Dibromo-3-chloropropane	ND		4.9	12	100	10/07/2015 09:09
1,2-Dibromoethane (EDB)	ND		56	390	100	10/07/2015 09:09
1,2-Dichlorobenzene	ND		79	300	100	10/07/2015 09:09
1,3-Dichlorobenzene	ND		61	300	100	10/07/2015 09:09
1,4-Dichlorobenzene	ND		62	300	100	10/07/2015 09:09
Dichlorodifluoromethane	ND		44	250	100	10/07/2015 09:09
1,1-Dichloroethane	ND		34	200	100	10/07/2015 09:09
1,2-Dichloroethane (1,2-DCA)	ND		6.2	200	100	10/07/2015 09:09
1,1-Dichloroethene	ND		40	200	100	10/07/2015 09:09
cis-1,2-Dichloroethene	ND		28	200	100	10/07/2015 09:09
trans-1,2-Dichloroethene	ND		35	200	100	10/07/2015 09:09
1,2-Dichloropropane	ND		6.6	240	100	10/07/2015 09:09
cis-1,3-Dichloropropene	ND		1.4	230	100	10/07/2015 09:09

(Cont.)



Analytical Report

Client: Stellar Environmental Solutions
Date Received: 9/24/15 15:50
Date Prepared: 10/7/15
Project: 2015-16; Residential UST

WorkOrder: 1509A12
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG6SA	1509A12-003A	SoilGas	09/23/2015 11:30	GC24	111201

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.46	24.83	GM

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
trans-1,3-Dichloropropene	ND		26	230	100	10/07/2015 09:09
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		60	360	100	10/07/2015 09:09
Diisopropyl ether (DIPE)	ND		34	210	100	10/07/2015 09:09
1,4-Dioxane	ND		4.2	180	100	10/07/2015 09:09
Ethanol	ND		580	9600	100	10/07/2015 09:09
Ethyl acetate	ND		29	180	100	10/07/2015 09:09
Ethyl tert-butyl ether (ETBE)	ND		34	210	100	10/07/2015 09:09
Ethylbenzene	340		38	220	100	10/07/2015 09:09
4-Ethyltoluene	130	J	50	250	100	10/07/2015 09:09
Freon 113	ND		70	390	100	10/07/2015 09:09
Heptane	11,000		610	2100	100	10/07/2015 09:09
Hexachlorobutadiene	ND		28	540	100	10/07/2015 09:09
Hexane	4600		540	1800	100	10/07/2015 09:09
2-Hexanone	ND		42	210	100	10/07/2015 09:09
4-Methyl-2-pentanone (MIBK)	170	J	39	210	100	10/07/2015 09:09
Methyl-t-butyl ether (MTBE)	ND		33	180	100	10/07/2015 09:09
Methylene chloride	110	JB	44	880	100	10/07/2015 09:09
Methyl methacrylate	ND		42	210	100	10/07/2015 09:09
Naphthalene	ND		43	530	100	10/07/2015 09:09
Propene	ND		310	8800	100	10/07/2015 09:09
Styrene	ND		25	220	100	10/07/2015 09:09
1,1,1,2-Tetrachloroethane	ND		59	350	100	10/07/2015 09:09
1,1,2,2-Tetrachloroethane	ND		57	350	100	10/07/2015 09:09
Tetrachloroethene	ND		55	340	100	10/07/2015 09:09
Tetrahydrofuran	ND		43	300	100	10/07/2015 09:09
Toluene	94	J	22	190	100	10/07/2015 09:09
1,2,4-Trichlorobenzene	ND		90	380	100	10/07/2015 09:09
1,1,1-Trichloroethane	ND		47	280	100	10/07/2015 09:09
1,1,2-Trichloroethane	4300		12	280	100	10/07/2015 09:09
Trichloroethene	ND		47	280	100	10/07/2015 09:09
Trichlorofluoromethane	ND		80	280	100	10/07/2015 09:09
1,2,4-Trimethylbenzene	130	J	49	250	100	10/07/2015 09:09
1,3,5-Trimethylbenzene	150	J	42	250	100	10/07/2015 09:09

(Cont.)



Analytical Report

Client: Stellar Environmental Solutions
Date Received: 9/24/15 15:50
Date Prepared: 10/7/15
Project: 2015-16; Residential UST

WorkOrder: 1509A12
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG6SA	1509A12-003A	SoilGas	09/23/2015 11:30	GC24	111201

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.46	24.83	GM

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Vinyl Acetate	ND		11	1800	100	10/07/2015 09:09
Vinyl Chloride	ND		3.9	130	100	10/07/2015 09:09
Xylenes, Total	420	J	45	660	100	10/07/2015 09:09
Surrogates	REC (%)			Limits		
1,2-DCA-d4	88			70-130	10/07/2015 09:09	
Toluene-d8	102			70-130	10/07/2015 09:09	
4-BFB	118			70-130	10/07/2015 09:09	



Analytical Report

Client: Stellar Environmental Solutions
Date Received: 9/24/15 15:50
Date Prepared: 10/2/15-10/3/15
Project: 2015-16; Residential UST

WorkOrder: 1509A12
Extraction Method: TO17
Analytical Method: TO17
Unit: µg/m³

Volatile Organic Compounds in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG6S	1509A12-001A	SoilGas	09/23/2015 11:00	GC37	111095
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	240,000		1100	1	10/02/2015 20:57
Naphthalene	ND		3.0	1	10/02/2015 20:57
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
4-BFB	0	S	70-130		10/02/2015 20:57
<u>Analyst(s):</u> KBO	<u>Analytical Comments:</u> c9,c2,j1				

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG6SD	1509A12-002A	SoilGas	09/23/2015 11:00	GC37	111095
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	230,000		1100	1	10/03/2015 01:01
Naphthalene	ND		3.0	1	10/03/2015 01:01
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
4-BFB	0	S	70-130		10/03/2015 01:01
<u>Analyst(s):</u> KBO	<u>Analytical Comments:</u> c9,c2,j1				



Quality Control Report

Client: Stellar Environmental Solutions	WorkOrder: 1509A12
Date Prepared: 9/28/15	BatchID: 111042
Date Analyzed: 9/28/15	Extraction Method: ASTM D 1946-90
Instrument: GC26	Analytical Method: ASTM D 1946-90
Matrix: Soilgas	Unit: %
Project: 2015-16; Residential UST	Sample ID: MB/LCS-111042

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Helium	ND	0.0791	0.025	0.10	-	79	60-140



Quality Control Report

Client: Stellar Environmental Solutions
Date Prepared: 10/7/15
Date Analyzed: 10/7/15
Instrument: GC18
Matrix: Soilgas
Project: 2015-16; Residential UST

WorkOrder: 1509A12
BatchID: 111206
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/m³
Sample ID: MB-111206

QC SUMMARY REPORT FOR SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(g)	ND	-	25,000	-	-	-	-
Surrogate Recovery							
Dibromofluoromethane	14,200	-		12500	114	-	-



Quality Control Report

Client: Stellar Environmental Solutions
Date Prepared: 10/6/15
Date Analyzed: 10/6/15
Instrument: GC24
Matrix: Soilgas
Project: 2015-16; Residential UST

WorkOrder: 1509A12
BatchID: 111201
Extraction Method: TO15
Analytical Method: TO15
Unit: nL/L
Sample ID: MB/LCS-111201

QC Summary Report for TO15

Analyte	MB Result	LCS Result	MDL	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	2.8	12	-	-	-	-
Acrolein	ND	26.1	0.25	1.2	25	-	104	60-140
Acrylonitrile	ND	28.4	0.065	0.25	25	-	114	60-140
tert-Amyl methyl ether (TAME)	0.182,J	27.6	0.090	0.25	25	-	110	60-140
Benzene	ND	25.6	0.046	0.25	25	-	102	60-140
Benzyl chloride	ND	29.0	0.038	0.25	25	-	116	60-140
Bromodichloromethane	ND	24.4	0.0070	0.25	25	-	98	60-140
Bromoform	ND	27.7	0.038	0.25	25	-	111	60-140
Bromomethane	ND	30.4	0.0075	0.25	25	-	122	60-140
1,3-Butadiene	ND	26.8	0.10	0.25	25	-	107	60-140
2-Butanone (MEK)	ND	-	0.80	12	-	-	-	-
t-Butyl alcohol (TBA)	ND	25.5	2.7	5.0	25	-	102	60-140
Carbon Disulfide	ND	26.9	0.050	0.25	25	-	107	60-140
Carbon Tetrachloride	ND	25.9	0.040	0.25	25	-	104	60-140
Chlorobenzene	ND	26.0	0.043	0.25	25	-	104	60-140
Chloroethane	ND	27.6	0.065	0.25	25	-	110	60-140
Chloroform	ND	21.6	0.042	0.25	25	-	86	60-140
Chloromethane	ND	24.0	0.048	0.25	25	-	96	60-140
Cyclohexane	ND	25.1	0.75	2.5	25	-	100	60-140
Dibromochloromethane	ND	25.5	0.038	0.25	25	-	102	60-140
1,2-Dibromo-3-chloropropane	ND	23.7	0.0025	0.0060	25	-	95	60-140
1,2-Dibromoethane (EDB)	ND	24.8	0.036	0.25	25	-	99	60-140
1,2-Dichlorobenzene	ND	25.9	0.065	0.25	25	-	104	60-140
1,3-Dichlorobenzene	ND	25.6	0.050	0.25	25	-	103	60-140
1,4-Dichlorobenzene	ND	24.2	0.050	0.25	25	-	97	60-140
Dichlorodifluoromethane	ND	24.6	0.044	0.25	25	-	98	60-140
1,1-Dichloroethane	ND	25.0	0.042	0.25	25	-	100	60-140
1,2-Dichloroethane (1,2-DCA)	ND	22.4	0.0075	0.25	25	-	90	60-140
1,1-Dichloroethene	ND	25.4	0.050	0.25	25	-	102	60-140
cis-1,2-Dichloroethene	ND	24.6	0.034	0.25	25	-	98	60-140
trans-1,2-Dichloroethene	ND	26.1	0.044	0.25	25	-	104	60-140
1,2-Dichloropropane	ND	24.0	0.0070	0.25	25	-	96	60-140
cis-1,3-Dichloropropene	0.0122,J	27.0	0.0015	0.25	25	-	108	60-140
trans-1,3-Dichloropropene	ND	27.2	0.028	0.25	25	-	109	60-140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	24.7	0.042	0.25	25	-	99	60-140
Diisopropyl ether (DIPE)	ND	25.4	0.040	0.25	25	-	102	60-140
1,4-Dioxane	ND	27.0	0.0055	0.25	25	-	108	60-140
Ethanol	0.255,J	-	0.019	25	-	-	-	-

(Cont.)



Quality Control Report

Client: Stellar Environmental Solutions
Date Prepared: 10/6/15
Date Analyzed: 10/6/15
Instrument: GC24
Matrix: Soilgas
Project: 2015-16; Residential UST

WorkOrder: 1509A12
BatchID: 111201
Extraction Method: TO15
Analytical Method: TO15
Unit: nL/L
Sample ID: MB/LCS-111201

QC Summary Report for TO15

Analyte	MB Result	LCS Result	MDL	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Ethyl acetate	ND	27.2	0.039	0.25	25	-	109	60-140
Ethyl tert-butyl ether (ETBE)	ND	25.5	0.040	0.25	25	-	102	60-140
Ethylbenzene	ND	26.0	0.043	0.25	25	-	104	60-140
4-Ethyltoluene	ND	26.7	0.050	0.25	25	-	107	60-140
Freon 113	ND	24.7	0.045	0.25	25	-	99	60-140
Heptane	ND	27.6	0.75	2.5	25	-	110	60-140
Hexachlorobutadiene	ND	24.6	0.013	0.25	25	-	98	60-140
Hexane	ND	24.7	0.75	2.5	25	-	99	60-140
2-Hexanone	ND	24.2	0.050	0.25	25	-	97	60-140
4-Methyl-2-pentanone (MIBK)	ND	30.1	0.046	0.25	25	-	121	60-140
Methyl-t-butyl ether (MTBE)	ND	25.4	0.044	0.25	25	-	101	60-140
Methylene chloride	0.317,J	23.3	0.065	1.2	25	-	92	60-140
Methyl methacrylate	ND	31.3	0.25	0.25	25	-	125	60-140
Naphthalene	ND	50.9	0.040	0.50	50	-	102	60-140
Propene	ND	-	0.90	25	-	-	-	-
Styrene	ND	27.4	0.030	0.25	25	-	109	60-140
1,1,1,2-Tetrachloroethane	ND	22.8	0.042	0.25	25	-	91	60-140
1,1,2,2-Tetrachloroethane	ND	24.2	0.040	0.25	25	-	97	60-140
Tetrachloroethene	ND	23.7	0.040	0.25	25	-	95	60-140
Tetrahydrofuran	ND	25.3	0.070	0.50	25	-	101	60-140
Toluene	ND	26.2	0.029	0.25	25	-	105	60-140
1,2,4-Trichlorobenzene	ND	26.8	0.060	0.25	25	-	107	60-140
1,1,1-Trichloroethane	ND	24.9	0.043	0.25	25	-	100	60-140
1,1,2-Trichloroethane	ND	25.5	0.011	0.10	25	-	102	60-140
Trichloroethene	ND	24.3	0.042	0.25	25	-	97	60-140
Trichlorofluoromethane	ND	25.6	0.070	0.25	25	-	103	60-140
1,2,4-Trimethylbenzene	ND	26.8	0.049	0.25	25	-	107	60-140
1,3,5-Trimethylbenzene	ND	25.7	0.042	0.25	25	-	103	60-140
Vinyl Acetate	ND	29.2	0.015	2.5	25	-	117	60-140
Vinyl Chloride	ND	25.8	0.0075	0.25	25	-	103	60-140
Xylenes, Total	ND	76.7	0.75	0.75	75	-	102	60-140

Surrogate Recovery

1,2-DCA-d4	452	414		500	91	83	70-130
Toluene-d8	492	513		500	98	103	70-130
4-BFB	477	481		500	95	96	70-130



Quality Control Report

Client: Stellar Environmental Solutions
Date Prepared: 10/2/15
Date Analyzed: 10/2/15
Instrument: GC37
Matrix: Sorbent Tube
Project: 2015-16; Residential UST

WorkOrder: 1509A12
BatchID: 111095
Extraction Method: TO17
Analytical Method: TO17
Unit: nL/L
Sample ID: MB/LCS-111095

QC Summary Report for TO17

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	6720	1000	8300	-	81	60-140
Naphthalene	ND	3.59	0.50	5	-	72	60-140
Surrogate Recovery							
4-BFB	114	59.8		100	114	60	60-140

1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1509A12

ClientCode: SESB

WaterTrax WriteOn EDF Excel EQuIS Email HardCopy ThirdParty J-flag

Report to:
Henry Pietropaoli
Stellar Environmental Solutions
2198 Sixth St. #201
Berkeley, CA 94710
510-644-3123 FAX: 510-644-3859

Email: hpietropaoli@stellar-environmental.com; r
cc/3rd Party:
PO:
ProjectNo: 2015-16; Residential UST

Bill to:
Accounts Payable
Stellar Enviornmental Solutions
2198 Sixth St. #201
Berkeley, CA 94710
lwheeler@stellar-environmental.com

Requested TAT: 5 days;
Date Received: 09/24/2015
Date Printed: 09/29/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1509A12-001	SG6S	SoilGas	9/23/2015 11:00	<input type="checkbox"/>	B	A	B							A			
1509A12-002	SG6SD	SoilGas	9/23/2015 11:00	<input type="checkbox"/>	B									A			
1509A12-003	SG6SA	SoilGas	9/23/2015 11:30	<input type="checkbox"/>	A			A	A	A	A	A					

Test Legend:

1	HELIUM_LC_SOILGAS(%)	2	PREDF REPORT	3	PRHESHROUDRENTAL	4	TO15_Scan-SIM_SOIL(UG/M3)
5	TO15-8260_SOIL(UG/M3)	6	TO15-8260GAS_SOIL(UG/M3)	7	TO158260SCANSIM_SOIL(UG/M3)	8	TO15GAS_Scan-SIM_SOIL(UG/M3)
9	TO17_ST(UG/M3)	10		11		12	

The following SampID: 003A contains testgroup.

Prepared by: Jena Alfaro

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



WORK ORDER SUMMARY

Client Name: STELLAR ENVIRONMENTAL SOLUTIONS

QC Level: LEVEL 2

Work Order: 1509A12

Project: 2015-16; Residential UST

Client Contact: Henry Pietropaoli

Date Received: 9/24/2015

Comments:

Contact's Email: hpietropaoli@stellar-environmental.com;
 rmakdisi@stellar-

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1509A12-001A	SG6S	SoilGas	TO17 (VOCs) (µg/m³) <Naphthalene, TPH-Diesel (C10-C23)>	1	Sorbent Tube	<input type="checkbox"/>	9/23/2015 11:00	5 days		<input type="checkbox"/>	
1509A12-001B	SG6S	SoilGas	ASTM D1946-90 (Helium)	1	1L Summa	<input type="checkbox"/>	9/23/2015 11:00	5 days		<input type="checkbox"/>	
1509A12-002A	SG6SD	SoilGas	TO17 (VOCs) (µg/m³) <Naphthalene, TPH-Diesel (C10-C23)>	1	Sorbent Tube	<input type="checkbox"/>	9/23/2015 11:00	5 days		<input type="checkbox"/>	
1509A12-002B	SG6SD	SoilGas	ASTM D1946-90 (Helium)	1	1L Summa	<input type="checkbox"/>	9/23/2015 11:00	5 days		<input type="checkbox"/>	
1509A12-003A	SG6SA	SoilGas	TO15 (Soil Gas by SW8260B SCANSIM) (µg/m³)	1	1L Summa	<input type="checkbox"/>	9/23/2015 11:30	5 days		<input type="checkbox"/>	
			TO15 (TPH-gas by SW8260B) (µg/m³)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			TO15 + Gas w/ Helium			<input type="checkbox"/>		5 days		<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



McC Campbell Analytical, Inc.

1534 Willow Pass Rd. / Pittsburg, Ca. 94565-1701
 www.mcccampbell.com / main@mcccampbell.com
 Telephone: (877) 252-9262 / Fax: (925) 252-9269

~~1509760~~
 1509A17

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH 1 Day 2 Day 3 Day 5 DAY
 GeoTracker EDF PDF EDD EQUIS 10 DAY
 UST Clean Up Fund Project Claim #

Report To: *H. Pietropoli* Bill To: *Same*
 Company: *Stellar Environmental Solutions*
2198 Sixth Berkeley
 E-Mail: *hpietropoli@stellar-environmental.com*
 Tele: (510) 644-3123 Fax: (510) 644-3859
 Project #: *2015-16* Project Name: *Residential UST*
 Project Location: *811 Paramount Oakland*
 Sampler Signature: *Henry Pietropoli*

Analysis Requested

Helium Shroud SN#

Other:
 Notes: Please Specify units if different than defaults VOCs is ug/m3 and fixed gas is uL/L. Leak check default is ~~10~~ *Helium* *shroud ~ 25%-28%*
See Blake for Details

Field Sample ID (Location)	Collection		Canister SN#	Sampler Kit SN#
	Date	Time		
SG 65	9/23/15	1100	6049933	3167-775
SG 65	↓	↓	51923	↓
SG 65d	↓	↓	6014775	↓
SG 65d	↓	↓	6310	↓
SG 65A	↓	1130	6174	3167-776

VOCs by TO-15 (ug/m3)	8010 by TO-15 (ug/m3)	TPH(g) (ug/m3)	LEED (inc. 4PCH, Formaldehyde, CO, Total VOCs)	Fixed Gas: CO2, Methane, Ethane, Ethylene, Acetylene, CO (please circle or indicate in notes) uL/L	Fixed Gas: O2, N2 (please circle) uL/L	Fixed Gas: Propane uL/L	Helium Leak Check (%)	Leak Check (IPA, Norflorane, 1,1-difluoroethane) ug/m3	APH: Aliphatic and/or Aromatic (please circle) ug/m3	Other: <i>TO-17, TPH, Napthalene</i>
-----------------------	-----------------------	----------------	--	--	--	-------------------------	-----------------------	--	--	--------------------------------------

Matrix		Cannister Pressure/ Vacuum	
Soilgas	Indoor Air	Initial	Final
X	X	50 ml/min	
X	X	-30	-3.5
X	X	50 ml/min	
X	X	-30	-3.5
X	X	-30	-4

Relinquished By: *Henry Pietropoli* Date: *9/24/15* Time: *1130* Received By: *[Signature]*
 Relinquished By: *[Signature]* Date: *9/24/15* Time: *1150* Received By: *[Signature]*
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____

Temp (°C): _____ Work Order #: _____
 Condition: _____
 Custody Seals Intact?: Yes _____ No _____ None _____
 Shipped Via: *courier*

Notes: Analyze TO15 by 8260 SIM/SCAN; *★* RIs to meet residential ESLs *★*
 - EDF needed. *★* Refer. to McC Campbell sample 1506310-001A for potential *leak*



Sample Receipt Checklist

Client Name: **Stellar Environmental Solutions** Date and Time Received: **9/24/2015 3:50:00 PM**
 Project Name: **2015-16; Residential UST** LogIn Reviewed by: **Jena Alfaro**
 WorkOrder No: **1509A12** Matrix: SoilGas Carrier: Bernie Cummins (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present? Yes No
 Chain of custody signed when relinquished and received? Yes No
 Chain of custody agrees with sample labels? Yes No
 Sample IDs noted by Client on COC? Yes No
 Date and Time of collection noted by Client on COC? Yes No
 Sampler's name noted on COC? Yes No

Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes No NA
 Shipping container/cooler in good condition? Yes No
 Samples in proper containers/bottles? Yes No
 Sample containers intact? Yes No
 Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No
 Sample/Temp Blank temperature Temp: 2°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes No NA
 Samples Received on Ice? Yes No

(Ice Type: WET ICE)

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes No NA
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes No NA

* NOTE: If the "No" box is checked, see comments below.

 Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1510B17

Report Created for: Stellar Environmental Solutions
2198 Sixth St. #201
Berkeley, CA 94710

Project Contact: Henry Pietropaoli
Project P.O.:
Project Name: 2015-16; Paramount

Project Received: 10/30/2015

Analytical Report reviewed & approved for release on 11/13/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Stellar Environmental Solutions
Project: 2015-16; Paramount
WorkOrder: 1510B17

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

J	Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
C	Analyte detected in the associated Canister Certification and in the sample at a concentration less than the RL but greater than the MDL.



Case Narrative

Client: Stellar Environmental Solutions
Project: 2015-16; Paramount

Work Order: 1510B17
November 05, 2015

TO-15 ANALYSIS

All summa canisters are EVACUATED 5 days after the reporting of the results. Please call or email if a longer retention time is required.

In an effort to attain the lowest reporting limits possible for the majority of the TO-15 target list, high level compounds may be analyzed using EPA Method 8260B.

Polymer (Tedlar) bags are not recommended for TO15 samples. The disadvantages are listed in Appendix B of the DTSC Advisory of April 2012.



Analytical Report

Client: Stellar Environmental Solutions
Date Received: 10/30/15 16:07
Date Prepared: 11/4/15
Project: 2015-16; Paramount

WorkOrder: 1510B17
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

TPH gas in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IA-1	1510B17-001A	Indoor Air	10/30/2015 08:45	GC24	112466

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.50	11.50	AK

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	36	1	11/04/2015 19:32
Surrogates	REC (%)	Limits		
1,2-DCA-d4	86	70-130		11/04/2015 19:32

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
OA-1	1510B17-003A	Indoor Air	10/30/2015 08:50	GC24	112466

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.03	13.03	AK

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	36	1	11/04/2015 18:17
Surrogates	REC (%)	Limits		
1,2-DCA-d4	93	70-130		11/04/2015 18:17



Analytical Report

Client: Stellar Environmental Solutions
Date Received: NA
Date Prepared: 5/31/15-6/7/15
Project: 2015-16; Paramount

WorkOrder: 1510B17
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

TO15 Canister Certification in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Can Cert (IA-1)	1510B17-001B	Indoor Air	10/30/2015 08:45	GC24	112466

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
15.00	15.00	MW

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	6.0	1	05/31/2015 01:30
Acrolein	ND	0.58	1	05/31/2015 01:30
Acrylonitrile	ND	0.22	1	05/31/2015 01:30
tert-Amyl methyl ether (TAME)	ND	0.42	1	05/31/2015 01:30
Benzene	ND	0.032	1	05/31/2015 01:30
Benzyl chloride	ND	0.53	1	05/31/2015 01:30
Bromodichloromethane	ND	0.0070	1	05/31/2015 01:30
Bromoform	ND	1.1	1	05/31/2015 01:30
Bromomethane	ND	0.39	1	05/31/2015 01:30
1,3-Butadiene	ND	0.22	1	05/31/2015 01:30
2-Butanone (MEK)	ND	7.5	1	05/31/2015 01:30
t-Butyl alcohol (TBA)	ND	6.2	1	05/31/2015 01:30
Carbon Disulfide	ND	0.32	1	05/31/2015 01:30
Carbon Tetrachloride	ND	0.0064	1	05/31/2015 01:30
Chlorobenzene	ND	0.47	1	05/31/2015 01:30
Chloroethane	ND	0.27	1	05/31/2015 01:30
Chloroform	ND	0.025	1	05/31/2015 01:30
Chloromethane	ND	0.21	1	05/31/2015 01:30
Cyclohexane	ND	1.8	1	05/31/2015 01:30
Dibromochloromethane	ND	0.87	1	05/31/2015 01:30
1,2-Dibromo-3-chloropropane	ND	0.050	1	05/31/2015 01:30
1,2-Dibromoethane (EDB)	ND	0.0078	1	05/31/2015 01:30
1,2-Dichlorobenzene	ND	0.61	1	05/31/2015 01:30
1,3-Dichlorobenzene	ND	0.61	1	05/31/2015 01:30
1,4-Dichlorobenzene	ND	0.030	1	05/31/2015 01:30
Dichlorodifluoromethane	ND	0.50	1	05/31/2015 01:30
1,1-Dichloroethane	ND	0.41	1	05/31/2015 01:30
1,2-Dichloroethane (1,2-DCA)	ND	0.0041	1	05/31/2015 01:30
1,1-Dichloroethene	ND	0.10	1	05/31/2015 01:30
cis-1,2-Dichloroethene	ND	0.40	1	05/31/2015 01:30
trans-1,2-Dichloroethene	ND	0.40	1	05/31/2015 01:30
1,2-Dichloropropane	ND	0.0047	1	05/31/2015 01:30
cis-1,3-Dichloropropene	ND	0.12	1	05/31/2015 01:30

(Cont.)



Analytical Report

Client: Stellar Environmental Solutions
Date Received: NA
Date Prepared: 5/31/15-6/7/15
Project: 2015-16; Paramount

WorkOrder: 1510B17
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

TO15 Canister Certification in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Can Cert (IA-1)	1510B17-001B	Indoor Air	10/30/2015 08:45	GC24	112466

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
15.00	15.00	MW

Analytes	Result	RL	DF	Date Analyzed
trans-1,3-Dichloropropene	ND	0.12	1	05/31/2015 01:30
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.71	1	05/31/2015 01:30
Diisopropyl ether (DIPE)	ND	0.42	1	05/31/2015 01:30
1,4-Dioxane	ND	0.018	1	05/31/2015 01:30
Ethyl acetate	ND	0.92	1	05/31/2015 01:30
Ethyl tert-butyl ether (ETBE)	ND	0.42	1	05/31/2015 01:30
Ethylbenzene	ND	0.44	1	05/31/2015 01:30
4-Ethyltoluene	ND	0.50	1	05/31/2015 01:30
Freon 113	ND	0.78	1	05/31/2015 01:30
Heptane	ND	2.1	1	05/31/2015 01:30
Hexachlorobutadiene	ND	1.1	1	05/31/2015 01:30
Hexane	ND	1.8	1	05/31/2015 01:30
2-Hexanone	ND	0.42	1	05/31/2015 01:30
4-Methyl-2-pentanone (MIBK)	ND	0.42	1	05/31/2015 01:30
Methyl-t-butyl ether (MTBE)	ND	0.37	1	05/31/2015 01:30
Methylene chloride	ND	0.88	1	05/31/2015 01:30
Methyl methacrylate	ND	0.42	1	05/31/2015 01:30
Naphthalene	ND	0.050	1	05/31/2015 01:30
Propene	ND	8.8	1	05/31/2015 01:30
Styrene	ND	0.43	1	05/31/2015 01:30
1,1,1,2-Tetrachloroethane	ND	0.0070	1	05/31/2015 01:30
1,1,2,2-Tetrachloroethane	ND	0.0070	1	05/31/2015 01:30
Tetrachloroethene	ND	0.069	1	05/31/2015 01:30
Tetrahydrofuran	ND	0.60	1	05/31/2015 01:30
Toluene	ND	0.38	1	05/31/2015 01:30
1,2,4-Trichlorobenzene	ND	0.75	1	05/31/2015 01:30
1,1,1-Trichloroethane	ND	0.55	1	05/31/2015 01:30
1,1,2-Trichloroethane	ND	0.0055	1	05/31/2015 01:30
Trichloroethene	ND	0.027	1	05/31/2015 01:30
Trichlorofluoromethane	ND	0.57	1	05/31/2015 01:30
1,2,4-Trimethylbenzene	ND	0.50	1	05/31/2015 01:30
1,3,5-Trimethylbenzene	ND	0.50	1	05/31/2015 01:30
Vinyl Acetate	ND	1.8	1	05/31/2015 01:30

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Analytical Report

Client: Stellar Environmental Solutions
Date Received: NA
Date Prepared: 5/31/15-6/7/15
Project: 2015-16; Paramount

WorkOrder: 1510B17
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

TO15 Canister Certification in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Can Cert (IA-1)	1510B17-001B	Indoor Air	10/30/2015 08:45	GC24	112466

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
15.00	15.00	MW

Analytes	Result	RL	DF	Date Analyzed
Vinyl Chloride	ND	0.013	1	05/31/2015 01:30
Xylenes, Total	ND	1.3	1	05/31/2015 01:30

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	94	70-130	05/31/2015 01:30
Toluene-d8	98	70-130	05/31/2015 01:30
4-BFB	97	70-130	05/31/2015 01:30

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Analytical Report

Client: Stellar Environmental Solutions
Date Received: NA
Date Prepared: 5/31/15-6/7/15
Project: 2015-16; Paramount

WorkOrder: 1510B17
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

TO15 Canister Certification in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Can Cert (OA-1)	1510B17-003B	Indoor Air	10/30/2015 08:50	GC24	112466

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
15.00	15.00	MW

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	6.0	1	06/07/2015 03:41
Acrolein	ND	0.58	1	06/07/2015 03:41
Acrylonitrile	ND	0.22	1	06/07/2015 03:41
tert-Amyl methyl ether (TAME)	ND	0.42	1	06/07/2015 03:41
Benzene	ND	0.032	1	06/07/2015 03:41
Benzyl chloride	ND	0.53	1	06/07/2015 03:41
Bromodichloromethane	ND	0.0070	1	06/07/2015 03:41
Bromoform	ND	1.1	1	06/07/2015 03:41
Bromomethane	ND	0.39	1	06/07/2015 03:41
1,3-Butadiene	ND	0.22	1	06/07/2015 03:41
2-Butanone (MEK)	ND	7.5	1	06/07/2015 03:41
t-Butyl alcohol (TBA)	ND	6.2	1	06/07/2015 03:41
Carbon Disulfide	ND	0.32	1	06/07/2015 03:41
Carbon Tetrachloride	ND	0.0064	1	06/07/2015 03:41
Chlorobenzene	ND	0.47	1	06/07/2015 03:41
Chloroethane	ND	0.27	1	06/07/2015 03:41
Chloroform	ND	0.025	1	06/07/2015 03:41
Chloromethane	ND	0.21	1	06/07/2015 03:41
Cyclohexane	ND	1.8	1	06/07/2015 03:41
Dibromochloromethane	ND	0.87	1	06/07/2015 03:41
1,2-Dibromo-3-chloropropane	ND	0.050	1	06/07/2015 03:41
1,2-Dibromoethane (EDB)	ND	0.0078	1	06/07/2015 03:41
1,2-Dichlorobenzene	ND	0.61	1	06/07/2015 03:41
1,3-Dichlorobenzene	ND	0.61	1	06/07/2015 03:41
1,4-Dichlorobenzene	ND	0.030	1	06/07/2015 03:41
Dichlorodifluoromethane	ND	0.50	1	06/07/2015 03:41
1,1-Dichloroethane	ND	0.41	1	06/07/2015 03:41
1,2-Dichloroethane (1,2-DCA)	0.0049	0.0041	1	06/07/2015 03:41
1,1-Dichloroethene	ND	0.10	1	06/07/2015 03:41
cis-1,2-Dichloroethene	ND	0.40	1	06/07/2015 03:41
trans-1,2-Dichloroethene	ND	0.40	1	06/07/2015 03:41
1,2-Dichloropropane	0.0053	0.0047	1	06/07/2015 03:41
cis-1,3-Dichloropropene	ND	0.12	1	06/07/2015 03:41

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Analytical Report

Client: Stellar Environmental Solutions
Date Received: NA
Date Prepared: 5/31/15-6/7/15
Project: 2015-16; Paramount

WorkOrder: 1510B17
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

TO15 Canister Certification in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Can Cert (OA-1)	1510B17-003B	Indoor Air	10/30/2015 08:50	GC24	112466

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
15.00	15.00	MW

Analytes	Result	RL	DF	Date Analyzed
trans-1,3-Dichloropropene	ND	0.12	1	06/07/2015 03:41
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.71	1	06/07/2015 03:41
Diisopropyl ether (DIPE)	ND	0.42	1	06/07/2015 03:41
1,4-Dioxane	ND	0.018	1	06/07/2015 03:41
Ethyl acetate	ND	0.92	1	06/07/2015 03:41
Ethyl tert-butyl ether (ETBE)	ND	0.42	1	06/07/2015 03:41
Ethylbenzene	ND	0.44	1	06/07/2015 03:41
4-Ethyltoluene	ND	0.50	1	06/07/2015 03:41
Freon 113	ND	0.78	1	06/07/2015 03:41
Heptane	ND	2.1	1	06/07/2015 03:41
Hexachlorobutadiene	ND	1.1	1	06/07/2015 03:41
Hexane	ND	1.8	1	06/07/2015 03:41
2-Hexanone	ND	0.42	1	06/07/2015 03:41
4-Methyl-2-pentanone (MIBK)	ND	0.42	1	06/07/2015 03:41
Methyl-t-butyl ether (MTBE)	ND	0.37	1	06/07/2015 03:41
Methylene chloride	ND	0.88	1	06/07/2015 03:41
Methyl methacrylate	ND	0.42	1	06/07/2015 03:41
Naphthalene	ND	0.050	1	06/07/2015 03:41
Propene	ND	8.8	1	06/07/2015 03:41
Styrene	ND	0.43	1	06/07/2015 03:41
1,1,1,2-Tetrachloroethane	ND	0.0070	1	06/07/2015 03:41
1,1,2,2-Tetrachloroethane	ND	0.0070	1	06/07/2015 03:41
Tetrachloroethene	ND	0.069	1	06/07/2015 03:41
Tetrahydrofuran	ND	0.60	1	06/07/2015 03:41
Toluene	ND	0.38	1	06/07/2015 03:41
1,2,4-Trichlorobenzene	ND	0.75	1	06/07/2015 03:41
1,1,1-Trichloroethane	ND	0.55	1	06/07/2015 03:41
1,1,2-Trichloroethane	ND	0.0055	1	06/07/2015 03:41
Trichloroethene	ND	0.027	1	06/07/2015 03:41
Trichlorofluoromethane	ND	0.57	1	06/07/2015 03:41
1,2,4-Trimethylbenzene	ND	0.50	1	06/07/2015 03:41
1,3,5-Trimethylbenzene	ND	0.50	1	06/07/2015 03:41
Vinyl Acetate	ND	1.8	1	06/07/2015 03:41

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Analytical Report

Client: Stellar Environmental Solutions
Date Received: NA
Date Prepared: 5/31/15-6/7/15
Project: 2015-16; Paramount

WorkOrder: 1510B17
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

TO15 Canister Certification in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Can Cert (OA-1)	1510B17-003B	Indoor Air	10/30/2015 08:50	GC24	112466

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
15.00	15.00	MW

Analytes	Result	RL	DF	Date Analyzed
Vinyl Chloride	ND	0.013	1	06/07/2015 03:41
Xylenes, Total	ND	1.3	1	06/07/2015 03:41

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	96	70-130	06/07/2015 03:41
Toluene-d8	99	70-130	06/07/2015 03:41
4-BFB	97	70-130	06/07/2015 03:41



Analytical Report

Client: Stellar Environmental Solutions
Date Received: 10/30/15 16:07
Date Prepared: 11/4/15
Project: 2015-16; Paramount

WorkOrder: 1510B17
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IA-1	1510B17-001A	Indoor Air	10/30/2015 08:45	GC24	112466

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.03	13.03	AK

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	6.0	1	11/04/2015 19:32
Acrolein	ND	0.58	1	11/04/2015 19:32
Acrylonitrile	ND	0.22	1	11/04/2015 19:32
tert-Amyl methyl ether (TAME)	ND	0.42	1	11/04/2015 19:32
Benzene	0.20	0.032	1	11/04/2015 19:32
Benzyl chloride	ND	0.53	1	11/04/2015 19:32
Bromodichloromethane	ND	0.0070	1	11/04/2015 19:32
Bromoform	ND	1.1	1	11/04/2015 19:32
Bromomethane	ND	0.39	1	11/04/2015 19:32
1,3-Butadiene	ND	0.22	1	11/04/2015 19:32
2-Butanone (MEK)	ND	7.5	1	11/04/2015 19:32
t-Butyl alcohol (TBA)	ND	6.2	1	11/04/2015 19:32
Carbon Disulfide	ND	0.32	1	11/04/2015 19:32
Carbon Tetrachloride	0.062	0.0064	1	11/04/2015 19:32
Chlorobenzene	ND	0.47	1	11/04/2015 19:32
Chloroethane	ND	0.27	1	11/04/2015 19:32
Chloroform	0.034	0.025	1	11/04/2015 19:32
Chloromethane	ND	0.21	1	11/04/2015 19:32
Cyclohexane	ND	1.8	1	11/04/2015 19:32
Dibromochloromethane	ND	0.87	1	11/04/2015 19:32
1,2-Dibromo-3-chloropropane	ND	0.050	1	11/04/2015 19:32
1,2-Dibromoethane (EDB)	ND	0.0078	1	11/04/2015 19:32
1,2-Dichlorobenzene	ND	0.61	1	11/04/2015 19:32
1,3-Dichlorobenzene	ND	0.61	1	11/04/2015 19:32
1,4-Dichlorobenzene	ND	0.030	1	11/04/2015 19:32
Dichlorodifluoromethane	ND	0.50	1	11/04/2015 19:32
1,1-Dichloroethane	ND	0.41	1	11/04/2015 19:32
1,2-Dichloroethane (1,2-DCA)	ND	0.0041	1	11/04/2015 19:32
1,1-Dichloroethene	ND	0.10	1	11/04/2015 19:32
cis-1,2-Dichloroethene	ND	0.40	1	11/04/2015 19:32
trans-1,2-Dichloroethene	ND	0.40	1	11/04/2015 19:32
1,2-Dichloropropane	ND	0.0047	1	11/04/2015 19:32
cis-1,3-Dichloropropene	ND	0.12	1	11/04/2015 19:32

(Cont.)



Analytical Report

Client: Stellar Environmental Solutions
Date Received: 10/30/15 16:07
Date Prepared: 11/4/15
Project: 2015-16; Paramount

WorkOrder: 1510B17
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IA-1	1510B17-001A	Indoor Air	10/30/2015 08:45	GC24	112466

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.03	13.03	AK

Analytes	Result	RL	DF	Date Analyzed
trans-1,3-Dichloropropene	ND	0.12	1	11/04/2015 19:32
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.71	1	11/04/2015 19:32
Diisopropyl ether (DIPE)	ND	0.42	1	11/04/2015 19:32
1,4-Dioxane	0.021	0.018	1	11/04/2015 19:32
Ethyl acetate	ND	0.92	1	11/04/2015 19:32
Ethyl tert-butyl ether (ETBE)	ND	0.42	1	11/04/2015 19:32
Ethylbenzene	ND	0.44	1	11/04/2015 19:32
4-Ethyltoluene	ND	0.50	1	11/04/2015 19:32
Freon 113	ND	0.78	1	11/04/2015 19:32
Heptane	ND	2.1	1	11/04/2015 19:32
Hexachlorobutadiene	ND	1.1	1	11/04/2015 19:32
Hexane	ND	1.8	1	11/04/2015 19:32
2-Hexanone	ND	0.42	1	11/04/2015 19:32
4-Methyl-2-pentanone (MIBK)	ND	0.42	1	11/04/2015 19:32
Methyl-t-butyl ether (MTBE)	ND	0.37	1	11/04/2015 19:32
Methylene chloride	ND	0.88	1	11/04/2015 19:32
Methyl methacrylate	ND	0.42	1	11/04/2015 19:32
Naphthalene	ND	0.050	1	11/04/2015 19:32
Propene	ND	8.8	1	11/04/2015 19:32
Styrene	ND	0.43	1	11/04/2015 19:32
1,1,1,2-Tetrachloroethane	ND	0.0070	1	11/04/2015 19:32
1,1,2,2-Tetrachloroethane	ND	0.0070	1	11/04/2015 19:32
Tetrachloroethene	ND	0.069	1	11/04/2015 19:32
Tetrahydrofuran	ND	0.60	1	11/04/2015 19:32
Toluene	0.56	0.38	1	11/04/2015 19:32
1,2,4-Trichlorobenzene	ND	0.75	1	11/04/2015 19:32
1,1,1-Trichloroethane	ND	0.55	1	11/04/2015 19:32
1,1,2-Trichloroethane	ND	0.0055	1	11/04/2015 19:32
Trichloroethene	ND	0.027	1	11/04/2015 19:32
Trichlorofluoromethane	ND	0.57	1	11/04/2015 19:32
1,2,4-Trimethylbenzene	ND	0.50	1	11/04/2015 19:32
1,3,5-Trimethylbenzene	ND	0.50	1	11/04/2015 19:32
Vinyl Acetate	ND	1.8	1	11/04/2015 19:32

(Cont.)



Analytical Report

Client: Stellar Environmental Solutions
Date Received: 10/30/15 16:07
Date Prepared: 11/4/15
Project: 2015-16; Paramount

WorkOrder: 1510B17
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IA-1	1510B17-001A	Indoor Air	10/30/2015 08:45	GC24	112466

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.03	13.03	AK

Analytes	Result	RL	DF	Date Analyzed
Vinyl Chloride	ND	0.013	1	11/04/2015 19:32
Xylenes, Total	ND	1.3	1	11/04/2015 19:32

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	81	70-130	11/04/2015 19:32
Toluene-d8	94	70-130	11/04/2015 19:32
4-BFB	101	70-130	11/04/2015 19:32

(Cont.)



Analytical Report

Client: Stellar Environmental Solutions
Date Received: 10/30/15 16:07
Date Prepared: 11/4/15
Project: 2015-16; Paramount

WorkOrder: 1510B17
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
OA-1	1510B17-003A	Indoor Air	10/30/2015 08:50	GC24	112466

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.50	11.50	AK

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Acetone	6.2		6.0	1	11/04/2015 18:17
Acrolein	ND		0.58	1	11/04/2015 18:17
Acrylonitrile	0.36		0.22	1	11/04/2015 18:17
tert-Amyl methyl ether (TAME)	ND		0.42	1	11/04/2015 18:17
Benzene	1.0		0.032	1	11/04/2015 18:17
Benzyl chloride	ND		0.53	1	11/04/2015 18:17
Bromodichloromethane	ND		0.0070	1	11/04/2015 18:17
Bromoform	ND		1.1	1	11/04/2015 18:17
Bromomethane	ND		0.39	1	11/04/2015 18:17
1,3-Butadiene	ND		0.22	1	11/04/2015 18:17
2-Butanone (MEK)	ND		7.5	1	11/04/2015 18:17
t-Butyl alcohol (TBA)	ND		6.2	1	11/04/2015 18:17
Carbon Disulfide	ND		0.32	1	11/04/2015 18:17
Carbon Tetrachloride	0.41		0.0064	1	11/04/2015 18:17
Chlorobenzene	ND		0.47	1	11/04/2015 18:17
Chloroethane	ND		0.27	1	11/04/2015 18:17
Chloroform	0.17		0.025	1	11/04/2015 18:17
Chloromethane	0.52		0.21	1	11/04/2015 18:17
Cyclohexane	ND		1.8	1	11/04/2015 18:17
Dibromochloromethane	ND		0.87	1	11/04/2015 18:17
1,2-Dibromo-3-chloropropane	ND		0.050	1	11/04/2015 18:17
1,2-Dibromoethane (EDB)	ND		0.0078	1	11/04/2015 18:17
1,2-Dichlorobenzene	ND		0.61	1	11/04/2015 18:17
1,3-Dichlorobenzene	ND		0.61	1	11/04/2015 18:17
1,4-Dichlorobenzene	0.49		0.030	1	11/04/2015 18:17
Dichlorodifluoromethane	2.4		0.50	1	11/04/2015 18:17
1,1-Dichloroethane	ND		0.41	1	11/04/2015 18:17
1,2-Dichloroethane (1,2-DCA)	0.037	C	0.0041	1	11/04/2015 18:17
1,1-Dichloroethene	ND		0.10	1	11/04/2015 18:17
cis-1,2-Dichloroethene	ND		0.40	1	11/04/2015 18:17
trans-1,2-Dichloroethene	ND		0.40	1	11/04/2015 18:17
1,2-Dichloropropane	0.017	C	0.0047	1	11/04/2015 18:17
cis-1,3-Dichloropropene	ND		0.12	1	11/04/2015 18:17

(Cont.)



Analytical Report

Client: Stellar Environmental Solutions
Date Received: 10/30/15 16:07
Date Prepared: 11/4/15
Project: 2015-16; Paramount

WorkOrder: 1510B17
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
OA-1	1510B17-003A	Indoor Air	10/30/2015 08:50	GC24	112466

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.50	11.50	AK

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
trans-1,3-Dichloropropene	ND		0.12	1	11/04/2015 18:17
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.71	1	11/04/2015 18:17
Diisopropyl ether (DIPE)	ND		0.42	1	11/04/2015 18:17
1,4-Dioxane	ND		0.018	1	11/04/2015 18:17
Ethyl acetate	ND		0.92	1	11/04/2015 18:17
Ethyl tert-butyl ether (ETBE)	ND		0.42	1	11/04/2015 18:17
Ethylbenzene	0.82		0.44	1	11/04/2015 18:17
4-Ethyltoluene	ND		0.50	1	11/04/2015 18:17
Freon 113	ND		0.78	1	11/04/2015 18:17
Heptane	ND		2.1	1	11/04/2015 18:17
Hexachlorobutadiene	ND		1.1	1	11/04/2015 18:17
Hexane	ND		1.8	1	11/04/2015 18:17
2-Hexanone	ND		0.42	1	11/04/2015 18:17
4-Methyl-2-pentanone (MIBK)	ND		0.42	1	11/04/2015 18:17
Methyl-t-butyl ether (MTBE)	ND		0.37	1	11/04/2015 18:17
Methylene chloride	ND		0.88	1	11/04/2015 18:17
Methyl methacrylate	ND		0.42	1	11/04/2015 18:17
Naphthalene	0.21		0.050	1	11/04/2015 18:17
Propene	ND		8.8	1	11/04/2015 18:17
Styrene	ND		0.43	1	11/04/2015 18:17
1,1,1,2-Tetrachloroethane	ND		0.0070	1	11/04/2015 18:17
1,1,2,2-Tetrachloroethane	ND		0.0070	1	11/04/2015 18:17
Tetrachloroethene	ND		0.069	1	11/04/2015 18:17
Tetrahydrofuran	ND		0.60	1	11/04/2015 18:17
Toluene	3.9		0.38	1	11/04/2015 18:17
1,2,4-Trichlorobenzene	ND		0.75	1	11/04/2015 18:17
1,1,1-Trichloroethane	ND		0.55	1	11/04/2015 18:17
1,1,2-Trichloroethane	ND		0.0055	1	11/04/2015 18:17
Trichloroethene	ND		0.027	1	11/04/2015 18:17
Trichlorofluoromethane	1.3		0.57	1	11/04/2015 18:17
1,2,4-Trimethylbenzene	1.0		0.50	1	11/04/2015 18:17
1,3,5-Trimethylbenzene	ND		0.50	1	11/04/2015 18:17
Vinyl Acetate	ND		1.8	1	11/04/2015 18:17

(Cont.)



Analytical Report

Client: Stellar Environmental Solutions
Date Received: 10/30/15 16:07
Date Prepared: 11/4/15
Project: 2015-16; Paramount

WorkOrder: 1510B17
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
OA-1	1510B17-003A	Indoor Air	10/30/2015 08:50	GC24	112466

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.50	11.50	AK

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Vinyl Chloride	ND		0.013	1	11/04/2015 18:17
Xylenes, Total	3.6		1.3	1	11/04/2015 18:17
Surrogates	REC (%)	Limits			
1,2-DCA-d4	79	70-130			11/04/2015 18:17
Toluene-d8	104	70-130			11/04/2015 18:17
4-BFB	103	70-130			11/04/2015 18:17



Analytical Report

Client: Stellar Environmental Solutions
Date Received: 10/30/15 16:07
Date Prepared: 11/10/15
Project: 2015-16; Paramount

WorkOrder: 1510B17
Extraction Method: TO17
Analytical Method: TO17
Unit: µg/m³

Volatile Organic Compounds in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IA-1	1510B17-002A	Indoor Air	10/30/2015 08:45	GC37	112772

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND		31	230	1	11/10/2015 21:02
Naphthalene	0.51	J	0.44	0.62	1	11/10/2015 21:02

Surrogates	REC (%)	Limits
4-BFB	99	70-130

Analyst(s): KBO



Quality Control Report

Client: Stellar Environmental Solutions
Date Prepared: 11/4/15
Date Analyzed: 11/4/15
Instrument: GC24
Matrix: Soilgas
Project: 2015-16; Paramount

WorkOrder: 1510B17
BatchID: 112466
Extraction Method: TO15
Analytical Method: TO15
Unit: nL/L
Sample ID: MB/LCS-112466

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	12	-	-	-	-
Acrolein	ND	19.7	1.2	25	-	79	60-140
Acrylonitrile	ND	21.1	0.25	25	-	85	60-140
tert-Amyl methyl ether (TAME)	ND	20.4	0.25	25	-	81	60-140
Benzene	ND	19.3	0.25	25	-	77	60-140
Benzyl chloride	ND	20.0	0.25	25	-	80	60-140
Bromodichloromethane	ND	18.4	0.25	25	-	74	60-140
Bromoform	ND	21.6	0.25	25	-	86	60-140
Bromomethane	ND	22.7	0.25	25	-	91	60-140
1,3-Butadiene	ND	20.2	0.25	25	-	81	60-140
2-Butanone (MEK)	ND	-	12	-	-	-	-
t-Butyl alcohol (TBA)	ND	18.8	5.0	25	-	75	60-140
Carbon Disulfide	ND	20.4	0.25	25	-	81	60-140
Carbon Tetrachloride	ND	19.1	0.25	25	-	77	60-140
Chlorobenzene	ND	20.7	0.25	25	-	83	60-140
Chloroethane	ND	21.9	0.25	25	-	87	60-140
Chloroform	ND	16.5	0.25	25	-	66	60-140
Chloromethane	ND	15.8	0.25	25	-	63	60-140
Cyclohexane	ND	19.6	2.5	25	-	78	60-140
Dibromochloromethane	ND	19.4	0.25	25	-	78	60-140
1,2-Dibromo-3-chloropropane	ND	15.8	0.0060	25	-	63	60-140
1,2-Dibromoethane (EDB)	ND	19.2	0.25	25	-	77	60-140
1,2-Dichlorobenzene	ND	17.2	0.25	25	-	69	60-140
1,3-Dichlorobenzene	ND	17.9	0.25	25	-	72	60-140
1,4-Dichlorobenzene	ND	17.1	0.25	25	-	68	60-140
Dichlorodifluoromethane	ND	18.3	0.25	25	-	73	60-140
1,1-Dichloroethane	ND	19.6	0.25	25	-	78	60-140
1,2-Dichloroethane (1,2-DCA)	ND	16.8	0.25	25	-	67	60-140
1,1-Dichloroethene	ND	19.5	0.25	25	-	78	60-140
cis-1,2-Dichloroethene	ND	20.0	0.25	25	-	80	60-140
trans-1,2-Dichloroethene	ND	18.2	0.25	25	-	73	60-140
1,2-Dichloropropane	ND	18.6	0.25	25	-	74	60-140
cis-1,3-Dichloropropene	ND	18.5	0.25	25	-	74	60-140
trans-1,3-Dichloropropene	ND	17.8	0.25	25	-	71	60-140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	18.2	0.25	25	-	73	60-140
Diisopropyl ether (DIPE)	ND	21.4	0.25	25	-	86	60-140
1,4-Dioxane	ND	21.0	0.25	25	-	84	60-140

(Cont.)



Quality Control Report

Client: Stellar Environmental Solutions
Date Prepared: 11/4/15
Date Analyzed: 11/4/15
Instrument: GC24
Matrix: Soilgas
Project: 2015-16; Paramount

WorkOrder: 1510B17
BatchID: 112466
Extraction Method: TO15
Analytical Method: TO15
Unit: nL/L
Sample ID: MB/LCS-112466

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Ethanol	ND	-	25	-	-	-	-
Ethyl acetate	ND	21.8	0.25	25	-	87	60-140
Ethyl tert-butyl ether (ETBE)	ND	19.8	0.25	25	-	79	60-140
Ethylbenzene	ND	20.3	0.25	25	-	81	60-140
4-Ethyltoluene	ND	20.6	0.25	25	-	82	60-140
Freon 113	ND	18.9	0.25	25	-	76	60-140
Heptane	ND	19.2	2.5	25	-	77	60-140
Hexachlorobutadiene	ND	17.5	0.25	25	-	70	60-140
Hexane	ND	21.1	2.5	25	-	85	60-140
2-Hexanone	ND	20.6	0.25	25	-	82	60-140
4-Methyl-2-pentanone (MIBK)	ND	21.0	0.25	25	-	84	60-140
Methyl-t-butyl ether (MTBE)	ND	19.7	0.25	25	-	79	60-140
Methylene chloride	ND	18.2	1.2	25	-	73	60-140
Methyl methacrylate	ND	24.0	0.25	25	-	96	60-140
Naphthalene	ND	39.4	0.50	50	-	79	60-140
Propene	ND	-	25	-	-	-	-
Styrene	ND	21.9	0.25	25	-	88	60-140
1,1,1,2-Tetrachloroethane	ND	17.6	0.25	25	-	71	60-140
1,1,2,2-Tetrachloroethane	ND	19.7	0.25	25	-	79	60-140
Tetrachloroethene	ND	19.3	0.25	25	-	77	60-140
Tetrahydrofuran	ND	21.3	0.50	25	-	85	60-140
Toluene	ND	18.0	0.25	25	-	72	60-140
1,2,4-Trichlorobenzene	ND	19.9	0.25	25	-	80	60-140
1,1,1-Trichloroethane	ND	17.9	0.25	25	-	72	60-140
1,1,2-Trichloroethane	ND	18.2	0.10	25	-	73	60-140
Trichloroethene	ND	19.6	0.25	25	-	78	60-140
Trichlorofluoromethane	ND	19.0	0.25	25	-	76	60-140
1,2,4-Trimethylbenzene	ND	18.2	0.25	25	-	73	60-140
1,3,5-Trimethylbenzene	ND	20.5	0.25	25	-	82	60-140
Vinyl Acetate	ND	24.6	2.5	25	-	99	60-140
Vinyl Chloride	ND	18.8	0.25	25	-	75	60-140
Xylenes, Total	ND	61.2	0.75	75	-	82	60-140

(Cont.)



Quality Control Report

Client: Stellar Environmental Solutions
Date Prepared: 11/4/15
Date Analyzed: 11/4/15
Instrument: GC24
Matrix: Soilgas
Project: 2015-16; Paramount

WorkOrder: 1510B17
BatchID: 112466
Extraction Method: TO15
Analytical Method: TO15
Unit: nL/L
Sample ID: MB/LCS-112466

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
1,2-DCA-d4	377	368		500	75	74	70-130
Toluene-d8	476	439		500	95	88	70-130
4-BFB	484	498		500	97	100	70-130



Quality Control Report

Client: Stellar Environmental Solutions
Date Prepared: 11/10/15
Date Analyzed: 11/10/15
Instrument: GC37
Matrix: Sorbent Tube
Project: 2015-16; Paramount

WorkOrder: 1510B17
BatchID: 112772
Extraction Method: TO17
Analytical Method: TO17
Unit: µg/m³
Sample ID: MB/LCS-112772

QC Summary Report for TO17

Analyte	MB Result	LCS Result	MDL	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	13,900	140	1000	10000	-	139	60-140
Naphthalene	ND	4.88	0.36	0.50	5	-	98	60-140
Surrogate Recovery								
4-BFB	111	114			100	111	114	60-140

1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262



CHAIN-OF-CUSTODY RECORD

WorkOrder: 1510B17

ClientCode: SESB

WaterTrax
 WriteOn
 EDF
 Excel
 EQuIS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
 Henry Pietropaoli
 Stellar Environmental Solutions
 2198 Sixth St. #201
 Berkeley, CA 94710
 510-644-3123 FAX: 510-644-3859

Email: hpietropaoli@stellar-environmental.com; r
 cc/3rd Party:
 PO:
 ProjectNo: 2015-16; Paramount

Bill to:
 Accounts Payable
 Stellar Enviornmental Solutions
 2198 Sixth St. #201
 Berkeley, CA 94710
 lwheeler@stellar-environmental.com

Requested TAT: 5 days;

Date Received: 10/30/2015
Date Printed: 11/03/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1510B17-001	Can Cert (IA-1)	Indoor Air	10/30/2015 8:45	<input type="checkbox"/>			B										
1510B17-001	IA-1	Indoor Air	10/30/2015 8:45	<input type="checkbox"/>				A	A								
1510B17-002	IA-1	Indoor Air	10/30/2015 8:45	<input type="checkbox"/>						A							
1510B17-002	IA-1 (B)	Indoor Air	10/30/2015 8:45	<input type="checkbox"/>	B					B							
1510B17-003	Can Cert (OA-1)	Indoor Air	10/30/2015 8:50	<input type="checkbox"/>			B										
1510B17-003	OA-1	Indoor Air	10/30/2015 8:50	<input type="checkbox"/>				A	A								
1510B17-004	Sorbent Purge Can	Indoor Air	10/30/2015	<input type="checkbox"/>		A											

Test Legend:

1	PREFD REPORT	2	PRSUMACLEAN	3	TO15_CERT_ScanSim_Indoor(ug/m3)	4	TO15_SCAN-SIM_Indoor(ug/m3)
5	TO15GAS_SCAN-SIM_INDOOR(UG/M3)	6	TO17_ST(UG/M3)	7		8	
9		10		11		12	

The following SamplIDs: 001A, 003A contain testgroup.

Prepared by: Jena Alfaro

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



WORK ORDER SUMMARY

Client Name: STELLAR ENVIRONMENTAL SOLUTIONS

QC Level:

Work Order: 1510B17

Project: 2015-16; Paramount

Client Contact: Henry Pietropaoli

Date Received: 10/30/2015

Comments:

Contact's Email: hpietropaoli@stellar-environmental.com;
 rmakdisi@stellar-

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1510B17-001A	IA-1	Indoor Air	TO15 + TPHgas for Indoor Air	1	6L Summa	<input type="checkbox"/>	10/30/2015 8:45	5 days		<input type="checkbox"/>	
1510B17-001B	Can Cert (IA-1)	Indoor Air	TO15 (VOCs, Scan SIM CERT) (µg/m³)	1	6L Summa	<input type="checkbox"/>	10/30/2015 8:45	5 days		<input type="checkbox"/>	
1510B17-002A	IA-1	Indoor Air	TO17 (VOCs) (µg/m³) <Naphthalene, TPH-Diesel (C10-C23)>	1	Sorbent Tube	<input type="checkbox"/>	10/30/2015 8:45	5 days		<input type="checkbox"/>	
1510B17-002B	IA-1 (B)	Indoor Air	TO17 (VOCs) (µg/m³) <Naphthalene, TPH-Diesel (C10-C23)>	1	Sorbent Tube	<input type="checkbox"/>	10/30/2015 8:45	5 days		<input type="checkbox"/>	
1510B17-003A	OA-1	Indoor Air	TO15 + TPHgas for Indoor Air	1	6L Summa	<input type="checkbox"/>	10/30/2015 8:50	5 days		<input type="checkbox"/>	
1510B17-003B	Can Cert (OA-1)	Indoor Air	TO15 (VOCs, Scan SIM CERT) (µg/m³)	1	6L Summa	<input type="checkbox"/>	10/30/2015 8:50	5 days		<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



McC Campbell Analytical, Inc.

1534 Willow Pass Rd. / Pittsburg, Ca. 94565-1701
 www.mcccampbell.com / main@mcccampbell.com
 Telephone: (877) 252-9262 / Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH 1 Day 2 Day 3 Day 5 DAY
 GeoTracker EDF PDF EDD EQuIS 10 DAY
 UST Clean Up Fund Project Claim # T10000006106

Report To: Henry Pietropoli Bill To: same
 Company: Stellar Environmental Solutions
Berkeley, CA
hprietropoli@stellar-env.com
 E-Mail:
 Tele: (510) 644-3123 Fax: (510) 644
 Project #: 2015-16 Project Name: Paramount
 Project Location: 811 Paramount Oakland.
 Sampler Signature: [Signature]

Analysis Requested

Helium Shroud SN# NA
 Other:
 Notes: Please Specify units if different than defaults VOCs is ug/m3 and fixed gas is uL/L. Leak check default is IPA.
A meet Residential ESLs

Field Sample ID (Location)	Collection		Canister SN#	Sampler Kit SN#
	Date	Time		
IA-1	10/30/15	0845	1959	
IA-1		0845	60148963	
IA-1(B)		0845	60147701	
OA-1		0850	1957	
Sorbent purge can			1940	

VOCs by TO-15 (ug/m3)	75-R0
8010 by TO-15 (ug/m3)	
TPH(g) (ug/m3)	
LEAD (inc. 4-PCH, Formaldehyde, CO, Ethanol) (ug/m3)	
TO-17 naphthalene	
Fixed Gas: CO2, Methane, Ethane, Ethylene, Acetylene, CO (please circle or indicate in notes) uL/L	
Fixed Gas: O2, N2 (please circle) uL/L	
Fixed Gas: Propane uL/L	
Helium Leak Check (%)	
Leak Check (IPA, Norflorane, 1,1-difluoroethane) ug/m3	
APH: Aliphatic and/or Aromatic (please circle) ug/m3	
Other:	

Matrix		Cannister Pressure/ Vacuum	
Soilgas	Indoor Air	Initial	Final
	X	-30	-7
	X	-30	3ml/min
(B)	X	-30	3ml/min
	X	-30	-5
		-30	-8

Relinquished By: [Signature] Date: 10/30/15 Time: 1135 Received By: [Signature]
 Relinquished By: [Signature] Date: 10/30/15 Time: 1430 Received By: [Signature]
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____

Temp (°C): _____ Work Order #: _____
 Condition: _____
 Custody Seals Intact?: Yes _____ No _____ None _____
 Shipped Via: _____

(B) break through sorbent tube, do not analyze unless breakthrough occurs in 60148963



Sample Receipt Checklist

Client Name: **Stellar Environmental Solutions** Date and Time Received: **10/30/2015 4:07:57 PM**
 Project Name: **2015-16; Paramount** LogIn Reviewed by: **Jena Alfaro**
 WorkOrder No: **1510B17** Matrix: Indoor Air Carrier: Bernie Cummins (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present? Yes No
 Chain of custody signed when relinquished and received? Yes No
 Chain of custody agrees with sample labels? Yes No
 Sample IDs noted by Client on COC? Yes No
 Date and Time of collection noted by Client on COC? Yes No
 Sampler's name noted on COC? Yes No

Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes No NA
 Shipping container/cooler in good condition? Yes No
 Samples in proper containers/bottles? Yes No
 Sample containers intact? Yes No
 Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No
 Sample/Temp Blank temperature Temp: NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes No NA
 Samples Received on Ice? Yes No

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes No NA
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes No NA

* NOTE: If the "No" box is checked, see comments below.

 Comments: