Appendix E
Hazardous Materials Studies – Part 2

Continued Phase II Environmental Site Assessment Report

1335, 1337, 1341 and 1343 West 141st Street
Gardena, California

September 19, 2019

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Table of Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Executive Summary

This report presents the methodology and findings of continued Phase II Environmental Site Assessment (ESA) activities completed by Stantec Consulting Services Inc. (Stantec) at the property associated with address 1335, 1337, 1341 and 1343 West 141St Street, Gardena, California (collectively the "Site").

The Property consists of approximately 2.02 acres of land developed with a nursery and two residential structures. Surrounding properties are a mix of commercial and residential properties. A Property location map is illustrated on **Figure 1**. A Property map illustrating the main features of the Property is provided as **Figure 2**.

According to available historical references, the Site has operated as a nursery since approximately 1950. As part of the nursery operations, a 500-gallon steel-clad unleaded gasoline underground storage tank (UST) was installed at the Site. The UST was reported to have been removed in 1987 under a permit issued by the County of Los Angeles Department of Public Works (LACDPW), but regulatory closure for the tank removal was not obtained. In 1991, a subsurface investigation was conducted by the environmental consultant Tetra Tech, to evaluate Site soils at the former UST location in order to pursue regulatory closure from LACDPW. The investigation consisted of drilling one (1) soil boring to 40 feet below ground surface (bgs) for the purposes of collecting soil samples for laboratory analysis and lithologic description at five-foot intervals. The collected soil samples were composited into a single sample and analyzed for the presence of total petroleum hydrocarbons (TPH) and aromatic volatile organic compounds (AVOCs). The soil sample analyzed reported no presence of target analytes above laboratory reporting limits.

During the investigation, groundwater was reportedly encountered at a depth of approximately 35 feet bgs and reportedly rose to an elevation of approximately 16 feet bgs, indicating that groundwater is present at the Site under confined conditions. The encountered groundwater was not sampled, however, as was required by the LACDPW permit (if encountered, which it was). In addition, no soil vapor sample appears to have been collected to evaluate soil vapor conditions. The UST case was subsequently transferred to the Los Angeles Regional Water Quality Control Board (LARWQCB) in correspondence dated November 10, 2015. Based on the discussions with LACDPW personnel, the case was apparently transferred due to the absence of groundwater data that would have been required to confirm the absence of any environmental impacts. The case currently appears to be dormant, and no formal file appears to have been created with Regional Board.

Based on the presence of the open UST case, and lack of soil vapor data needed to evaluate inhalation risks to future residential receptors, Stantec recommended performing a preliminary Phase II ESA to evaluate soil vapor data in the vicinity of the former UST. Accordingly, as part of the investigation, two soil vapor probes were installed (SB-1 and SB-2) – which were set at 7-feet bgs. Soil vapor samples were collected from the probes and were analyzed for the presence of volatile organic compounds (VOCs) following EPA method 8260B.

The soil vapor sample results reported generally low concentrations of numerous VOCs including: chloromethane, methylene chloride, carbon disulfide, 2-butanone, chloroform, benzene, 4-methyl-2-pentanone, toluene, tetrachloroethene (PCE), ethylbenzene, xylenes, 4-ethyltoluene, 1,3,5-

trimethylbenzene, and 1,2,4-trimethylbenzene. All reported vapor concentrations were below the Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO) Note 3 and USEPA Regional Screening Levels (RSLs) when compared using an attenuation factor of 0.001 for future residential development. When compared to the attenuation factor that LARWQCB is currently applying for risk screening and evaluation, however (which is set at 0.03), concentrations of chloroform, benzene and PCE were found to exceed the screening levels. The sample results are provided on **Table 1**.

As a result of these findings, Stantec recommended further assessment of Site soil vapor and potential groundwater to further evaluate Site conditions. Stantec was subsequently retained to perform the further recommended Phase II ESA investigations.

The Phase II ESA was conducted in two phases between June 18, 2019 and August 22, 2019. The results of the additional investigations are summarized below and in detail in the full report.

Based on the results of the completed investigations, Stantec provides the following summary:

- Subsurface soils encountered during drilling generally consisted of fine-grained silts and clays with variable sand and occasional thin sand interbeds to depths ranging between 22-23 feet below ground surface. Below the upper fine-grained interval, soils consisted of clay/ sand interbeds to the total explored depth of approximately 30 feet bgs.

- Groundwater was encountered in soil borings TW-1 and TW-2 at approximately 27 feet bgs.

- No staining, odors or other obvious signs of contamination were noted during the investigation. Recorded VOC measurements using a PID reported concentrations ranging from approximately 0.0 parts per million by volume (ppmV) up to 7.1 ppmV.

- Gasoline range organics (GRO) were reported above laboratory reporting limits in soil vapor samples collected and analyzed from samples SV5-5, SV7-15 and SV8-15 at concentrations ranging from 3,950 ug/m3 up to 4,680 ug/m3, with the highest concentration reported in sample SV8-15. Reported concentrations of these three samples exceed the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Tier 1 environmental screening level (ESL) of 3,300 ug/m3. No other samples exceeded regulatory screening levels.

- Chloroform was reported above laboratory reporting limits in three soil vapor samples (SB-1-7, SB-2-7, and SV5-5) at concentrations ranging between 9.5 ug/m3 up to 19 ug/m3, with the highest concentration reported in sample SV5-5. All three samples exceed the Tier 1 ESL of 4.1 ug/m3, and the USEPA Region 9 RSL modified indoor air screening level (MIASL) of 4 ug/m3, based on an attenuation factor of 0.03. Chloroform is a common artifact of drinking water chlorination. These concentrations are assumed to be related to ordinary landscaping irrigation or an off-site leaking waterline. No other samples exceeded regulatory screening levels.

- Benzene was reported above laboratory reporting limits in three soil vapor samples (SB-1-7, SB-2-7 and SV5-5) at concentrations ranging from 9.8 ug/m3 up to 45 ug/m3, with the highest concentration reported in sample SV5-5. All three samples exceed the DTSC Human and Ecological Risk Office (HERO) Note 3 MIASL of 3.2 ug/m3 ant Tier 1 ESL of 3.2 ug/m3. Samples

SB-2-7 and SV-5-5 also exceed the EPA Region 9 MIASL of 12 ug/m3. It is noted that the laboratory reporting limit for benzene (8 ug/m3) is above applicable residential screening levels). Like the GRO detected in soil gas, given the absence of benzene in groundwater or detected concentrations in the soil matrix, it is likely that concentrations of benzene are associated either with the former onsite UST or a transient groundwater plume.

- PCE was reported above laboratory reporting limits in four soil vapor samples (SB-2-7, SV2-5, SV4-15 and SV5-15) at concentrations ranging from 8 ug/m3 up to 37 ug/m3. The concentration reported in sample SB-2-7 exceeded the DTSC HERO Note 3 MIASL, the Tier 1 ESL and EPA Region 9 MIASL of 15.3 ug/m3, 11 ug/m3 and 15 ug/m3, respectively. The sporadic, mostly very low concentrations of PCE, which were detected only in soil gas and are not typically associated with nursery use, potentially originates from an off-site source, such as BP Chemicals, Hitco Gardena/ HITCO Carbon Composite Facility, located approximately 1500 feet northwest of the Site at 1600 West 135th Street, in Gardena, which is currently undergoing site remediation.

- Other concentrations of VOCs were reported in analyzed soil vapor samples including: chloromethane, methylene chloride, carbon disulfide, 2-butanone, 1,1-dichloroethene, trichloroethene (TCE), 4-methyle-2-pentanone, styrene, toluene, ethylbenzene, xylenes, 4-ethyltoluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropylbenzene, and n-propylbenzene were reported sporadically at generally low concentrations in analyzed samples. None of the reported concentrations of these constituents exceeded respective screening levels.

- Diesel range organics (DRO) and oil range organics (ORO) were reported in groundwater samples analyzed from wells TW-1 and TW-2 at concentrations up to 0.34 mg/L and 0.28 mg/L, respectively, with the highest concentrations reported in well TW-1. Gasoline range organics (GRO) were not reported in analyzed groundwater samples above laboratory reporting limits.

- VOCs were not reported above laboratory reporting limits in either TW-1 or TW-2 groundwater sample. It is noted that the reporting limit for benzene is above the MCL and that the reporting limits for each of the VOCs detected above screening levels in soil gas were above the ESL for groundwater to vapor intrusion risk.

Discussion

The results of the completed investigations have identified the presence of GRO, chloroform, benzene, and PCE sporadically in soil vapor samples at concentrations above current risk-based screening levels based on a soil vapor to indoor model attenuation factor of 0.03, which is the attenuation factor currently being used by the Los Angeles Regional Water Quality Control Board (LARWQCB) and the Department of Toxic Substances Control (DTSC) for risk screening and evaluation. The distribution and concentration of sample results are not indicative of a significant onsite release. Concentrations of GRO and BTEX may be associated either the former onsite UST or historical low concentrations of petroleum related constituents in groundwater that may have passed though the Site. The sporadic, mostly very low concentrations of chlorinated VOCs potentially originate from an off-site source, such as BP Chemicals, Hitco Gardena/ HITCO Carbon Composite Facility, located approximately 1500 feet northwest of the Site

at 1600 West 135th Street, in Gardena, which is currently undergoing site remediation. There is no known prior on-site use of chlorinated solvents.

The reported soil vapor concentrations exceed current environmental screening levels for residential development. As a result, vapor mitigation measures (e.g., passive vapor mitigation system) may be necessary for future Site development for residential purposes; however, this determination will be made following preparation of a Human Health Risk Assessment (HHRA) and discussions with a regulatory agency (e.g., the Department of Toxics Substances Control).

Analysis of groundwater samples reported only trace concentrations of DRO and ORO analytes at the locations tested. The reported DRO and ORO concentrations are below typical actionable levels. No concentrations of GRO or VOCs were reported above laboratory reporting limits (i.e., the samples were non-detect for these analytes). Reported analysis of the soil matrix does not indicate significant residual impacts to soil associated with the former UST.

The absence of GRO, benzene, and other VOC concentrations in groundwater, combined with increased GRO soil gas concentrations with depth, is indicative of a historical groundwater plume that is no longer present on-site. The absence of GRO impacted soils detected on-site support this inference. It is also possible that volatilized concentrations of GRO and benzene may be associated with the former onsite UST, although soil matrix analysis makes this possibility less likely.

Based on these results, Stantec recommends no further investigation of groundwater at this time.

Recommendations

Based on the results of the completed investigations, a source of impact to soil has not been identified at concentrations that require further investigation or remediation. As a result, no further action is recommended at this time. However, given the reported MIASL exceedances of GRO, benzene, chloroform and PCE, Stantec recommends that a summary Human Health Risk Assessment (HHRA) be developed to evaluate whether vapor mitigation measures (e.g. vapor barriers) will be required for future residential Site development.

1.0 INTRODUCTION

This report presents the methodology and findings of continued Phase II Environmental Site Assessment (ESA) activities completed by Stantec Consulting Services Inc. (Stantec) at the property associated with address 1335, 1337, 1341 and 1343 West 141St Street, Gardena, California (collectively the "Site").

The ESA was performed based on the scope of work set forth in following approved Stantec proposals:

- *Proposal for Additional Phase II Environmental Site Assessment*, dated June 13, 2019; and,
- *Proposal for Preliminary Groundwater Assessment and Human Health Risk Assessment,* dated June 13, 2019.

1.1 SITE LOCATION AND DESCRIPTION

The Property consists of approximately 2.02 acres of land developed with a nursery and two residential structures. Surrounding properties are a mix of commercial and residential properties. A Property location map is illustrated on Figure 1. A Property map illustrating the main features of the Property is provided as Figure 2.

2.0 BACKGROUND

According to available historical references, the Site has operated as a nursery since approximately 1950. As part of the nursery operations, a 500-gallon steel-clad unleaded gasoline underground storage tank (UST) was installed at the Site. The UST is reported to have been removed in 1987 under a permit issued by the County of Los Angeles Department of Public Works (LACDPW), but regulatory closure for the tank removal was not obtained. In 1991, a subsurface investigation was conducted by the environmental consultant Tetra Tech, to evaluate Site soils at the former UST location in order to pursue regulatory closure from LACDPW. The investigation consisted of drilling one (1) soil boring to 40 feet below ground surface (bgs) for the purposes of collecting soil samples for laboratory analysis and lithologic description at five-foot intervals. The collected soil samples were composited into a single sample and analyzed for the presence of total petroleum hydrocarbons (TPH) and aromatic volatile organic compounds (AVOCs). The soil sample analyzed reported no presence of target analytes above laboratory reporting limits.

During the 1991 investigation, groundwater was reportedly encountered at a depth of approximately 35 feet bgs and reportedly rose to an elevation of approximately 16 feet bgs, indicating that groundwater is present at the Site under confined conditions. The encountered groundwater was not sampled. In addition, no soil vapor samples appear to have been collected to evaluate soil vapor conditions. The UST case was subsequently transferred to the Los Angeles Regional Water Quality Control Board (LARWQCB) in correspondence dated November 10, 2015. Based on the discussions with LACDPW personnel, the case was apparently transferred due to the absence of groundwater data that would have been required to confirm the absence of any environmental impacts. The case currently appears to be dormant, no formal file appears to have been created with Regional Board, and the site is not identified on the State Water Board's online database GeoTracker.

Based on the presence of the open UST case, and lack of soil vapor data needed to evaluate inhalation risks to future residential receptors, Stantec recommended performing a preliminary Phase II ESA to evaluate soil vapor data in the vicinity of the former UST. Accordingly, as part of the investigation, two soil vapor probes were installed (SB-1 and SB-2) – which were set at 7-feet bgs. Soil vapor samples were collected from the probes and were analyzed for the presence of volatile organic compounds (VOCs) following EPA method 8260B.

The soil vapor sample results reported generally low concentrations of numerous VOCs including: chloromethane, methylene chloride, carbon disulfide, 2-butanone, chloroform, benzene, 4-methyl-2-pentanone, toluene, tetrachloroethene (PCE), ethylbenzene, xylenes, 4-ethyltoluene, 1,3,5-trimethylbenzene, and 1,2,4-trimethylbenzene. All reported concentrations were reported at concentrations below the DTSC HERO Note 3 and USEPA Regional Screening Levels (RSLs) when compared using an attenuation factor of 0.001 for future residential development. When compared to the attenuation factor that LARWQCB is currently applying for risk screening and evaluation, however (which

is set at 0.03), concentrations of chloroform, benzene and PCE were found to exceed the screening levels. The sample results are provided on Table 1.

As a result of these findings, Stantec recommended further assessment of Site soil vapor and groundwater to further evaluate Site conditions. Stantec was subsequently retained to perform the further recommended investigations. The remainder of this report presents the findings of the completed additional Site investigations.

3.0 FIELD INVESTIGATION PROGRAM

Site investigations were conducted in following two phases:

- Phase 1 – subsurface soil gas investigation to evaluate Site VOC concentrations. The soil gas investigation consisted of the installation of nine (9) single or multi-depth soil vapor probes (SV-1 and SV-9) and subsequently sampling and testing for VOCs following EPA method 8260B using an on-Site mobile laboratory.
- Phase 2 – groundwater investigation to evaluate groundwater quality. The groundwater investigation consisted of the installation and sampling of two (2) temporary groundwater monitoring wells (TW-1 and TW-2).

3.1 SCOPE OF WORK

The scope of work performed by Stantec included the following general elements:

- Preparation and updating of a Site-specific Health and Safety Plan (HASP);
- Notification of Underground Service Alert (USA) to identify public utility locations;
- Geophysical screening of proposed drill locations to locate any unmarked utility lines present in the proposed drilling locations;
- Obtaining soil boring permits for grab groundwater sampling from the Los Angeles County Department of Environmental Health for the installation of two (2) temporary groundwater monitoring wells.
- Conducting a Site assessment of soil, soil gas and groundwater including the following general elements:
    - Drilling nine (9) direct push technology (DPT) soil borings (SV-1 and SV-9) to facilitate the construction of soil vapor probe sampling points. Three soil vapor probes were constructed with soil vapor probes set at a dept of 5- feet bgs (SV-2, SV-3 and SV-9). The remaining soil vapor points were constructed with soil vapor probes set at depths of five and 15 feet bgs.
    - Chemical analysis of selected soil samples for TPH quantified as gasoline (TPHg), diesel (TPHd) and oil (TPHo) by modified EPA method 8015B; VOCs following EPA method 8260B.
    - Drilling two temporary groundwater monitoring wells (TW-1 and TW-2) at the locations depicted on Figure 2 with a direct push drilling rig.

  - Collecting grab groundwater samples from wells TW-1 and TW-2 for chemical analysis of TPH(g,d,o) following modified EPA method 8015B and VOCs following EPA method 8260B.
  - Collecting soil vapor samples from soil vapor probes SV-1 through SV-9 and analyzing samples for VOCs following EPA method 8260B using an State of California certified mobile laboratory.

- Preparing a technical report presenting the methodology, results and conclusions of the Site assessment activities.

4.0 FIELD INVESTIGATION

On-Site field assessment activities were performed in general accordance with the scopes of work set forth in Stantec's proposals for environmental Site assessment. All field sampling activities were performed under a Site-specific health and safety plan (HASP). Prior to drilling, the Site boundaries were marked in white paint and Underground Service Alert (USA) was notified a minimum of 48 hours in advance of planned field investigations. Drilling permits for the soil borings extended to groundwater (TW-1 and TW-2) were obtained from the Los Angeles County Department of Environmental Health, prior to drilling (Appendix A).

4.1 SUBSURFACE SOIL VAPOR

To evaluate reported soil vapor concentrations, nine additional soil vapor borings (SV-1 through SV-9) were drilled at the approximate locations depicted on Figure 2 on June 18, 2019. The soil borings were drilled using a DPT drilling rig equipped with 2.25-inch diameter stainless steel rods. Prior to drilling, a hand auger was used to excavate soils to a depth of five feet bgs to clear for utility lines. Once a depth of five feet bgs was reached, the remainder of the boring was drilled with the DPT rig, if necessary, to depths up to approximately 15.5 feet bgs. Soil sampling commenced at a depth of five feet bgs, and subsequent samples were collected at five-foot intervals for lithologic description and field screening with a PID.

Soil samples were collected using a 24-inch long by one-inch diameter stainless steel sampler lined with a clear acetate sample liner advanced into undisturbed soils using a hydraulic ram on the drilling rig until 24 inches of penetration is achieved. Upon advancement of the sampler to the full 24-inches, the steel sampling rods were extracted from the boring and the sampler was removed. The drilling and sampling procedures were repeated to the total depth of the boring.

Upon extraction of the sampler at each sampling depth interval, the acetate liner was opened, and the soils contained therein were logged in accordance with the unified soil classification system (USCS). A photoionization detector (PID) calibrated to 100 ppmV isobutylene span gas, was used to monitor headspace for VOC vapors in soil samples. Boring logs depicting the encountered lithology and PID measurements are included in Appendix B.

4.2 SOIL VAPOR SAMPLING PROCEDURES

Soil vapor samples were collected on June 27, 2019 in accordance with the methods and procedures outlined by the DTSC and CalEPA Advisory – Active Soil Gas Investigations, dated July 2015.

Prior to sampling, a shut-in test was conducted on the sampling train to insure all connections and fittings were airtight. The shut-in test was performed on the sampling train by applying a vacuum of 100 inches of water to the sampling train and monitoring magnehelic gauges for a pressure drop for one minute. If loss of vacuum was observed, the fittings were adjusted as needed until no vacuum loss was observed during subsequent shut-in tests.

After the sampling equipment passed the shut-in test, the probes were purged to remove internal air from the sample train (calculated from the internal volume of the tubing, probe tip; the void space of the sand pack around the probe tip; and the void space of the dry bentonite (in the annular space). Three internal volumes were purged from each sampling location at a rate less than 200 millilters per minute (ml/min).

Immediately following purging the internal volumes, the soil vapor samples were collected by the laboratory technician by connecting a foil-wrapped glass bulb to the sampling port with Teflon® or Nylaflow® tubing and drawing the sample into the bulb at a rate of less than 200ml/min. A tracer compound Isopropanol was placed above the surface seal and along the sampling train to evaluate the integrity of the seal. No tracer compounds were detected in the soil vapor samples collected during this investigation.

4.3 GROUNDWATER INVESTIGATION

To evaluate groundwater conditions and flow directions, two temporary groundwater monitoring wells (TW-1 and TW-2) were installed at the approximate locations depicted on **Figure 2** to facilitate the collection of grab groundwater samples. The soil borings were drilled using a DPT drill rig equipped with 2.25-inch diameter stainless steel rods. A hand auger was used to excavate soils to a depth of five feet bgs to clear for utilities lines. Once a depth of five feet bgs was reached, the remainder of the boring was drilled with the DPT rig to a depth of approximately 25.5 feet bgs. Soil sampling commenced at a depth of five feet bgs, and subsequent samples were collected at five-foot intervals for lithologic description and field screening with a photoionization device (PID).

Soil samples were collected using a 24-inch long by one-inch diameter stainless steel sampler lined with a clear acetate sample liner advanced into undisturbed soils using a hydraulic ram on the drilling rig until 24 inches of penetration is achieved. Upon advancement of the sampler to the full 24-inches, the steel sampling rods were extracted from the boring and the sampler was removed. The drilling and sampling procedures were repeated to the total depth of the boring.

Upon extraction of the sampler at each sampling depth interval, the acetate liner was opened, and the soils contained therein were visually examined by Stantec field personnel and logged in accordance with the unified soil classification system (USCS). A photoionization detector (PID) calibrated to 100 ppmV isobutylene span gas, was used to monitor headspace for VOC vapors in soil samples. Boring logs depicting the encountered lithology and PID measurements are included in **Appendix B**.

4.3.1 Grab Groundwater Sampling

Temporary wells were constructed in well-bores TW-1 and TW-2 following the completion of drilling. During drilling, wet soil was encountered at approximately 27 feet bgs. Accordingly, drilling was subsequently terminated at approximately 30 feet bgs, and a grab groundwater sample was collected after installing a ¾-inch diameter temporary PVC well casing into the borehole after withdrawing the drilling rods.

Following installation of the well casing, approximately 3 volumes of water were then bailed from the well casing using a dedicated polyethylene bailer. Following bailing of the well, a disposable bailer was used to sample water in the casing and then transferred to laboratory provided 40 ml volatile organic analysis (VOA) vials preserved with dilute hydrochloric acid (HCl) and a 1-liter unpreserved amber using a bottom emptying device to minimize volatilization. Samples were labeled, annotated on chain of custody sheets, stored in an ice-filled cooler and delivered to the laboratory for chemical analysis of VOCs following EPA test method 8260B and TPH (gas, diesel and oil) following modified EPA test method 8015B.

Following sampling, the temporary well casings were removed, and the borehole sealed with a cement-bentonite (5% by weight) grout placed from the bottom of the borehole up using a tremmie pipe.

4.4 DECONTAMINATION AND WASTE DISPOSAL

Prior to drilling and sampling, all drilling rods and instruments that came in contact with sampled media were decontaminated in a non-phosphate scrub solution followed by a deionized water double rinse.

All soil cuttings, purge water and decontamination fluids and other potentially contaminated waste were contained into one DOT 17-gallon drum and appropriately labeled pending waste characterization, profiling and disposal.

5.0 LABORATORY SERVICES

All chemical analysis was performed at a State of California Certified Laboratory. Collected groundwater samples were analyzed at Advanced Technology Laboratories located in Signal Hill, California. Soil vapor samples were collected and analyzed by Advance Research Laboratories (ARL) using an on-Site mobile laboratory. All samples were managed under strict chain-of-custody. The results are discussed below and presented on **Tables 1-2**. Complete laboratory reports, including QA/QC documentation is included in **Appendix C.**

6.0 INVESTIGATION RESULTS

6.1 FIELD OBSERVATIONS

Subsurface soils encountered during drilling generally consisted of fine-grained silts and clays with variable sand and occasional thin sane interbeds to depths ranging between 22-23 feet below ground surface. Below the upper fine-grained interval, soils consisted of clay/ sand interbeds to the total explored depth of approximately 30 feet bgs. Groundwater was encountered in soil borings TW-1 and TW-2 at approximately 27 feet bgs. No staining, odors or other obvious signs of contamination were noted during the investigation. Recorded VOC measurements using a PID reported concentrations ranging from approximately 0.0 parts per million by volume (ppmV) up to 7.1 ppmV. Boring logs depicting encountered lithology and PID readings are included in **Appendix B**.

6.2 SOIL VAPOR ANALYTICAL RESULTS

Soil vapor samples were collected from soil vapor probes SV-1 through SV-9 and analyzed for the presence of VOCs following EPA method 8260B using an on-Site mobile laboratory. Analytical results are tabulated on **Table 1**. Laboratory reports including QA/QC documentation are included in **Appendix C**. The following paragraphs summarize the current and historical soil vapor analytical results:

- Gasoline range organics (GRO) were reported above laboratory reporting limits in samples collected and analyzed from samples SV5-5, SV7-15 and SV8-15 at concentrations ranging from 3,950 ug/m3 up to 4,680 ug/m3, with the highest concentration reported in sample SV8-15. Reported concentrations of these three samples exceed the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Tier 1 environmental screening level (ESL) of 3,300 ug/m3. No other samples exceeded regulatory screening levels.

- Chloroform was reported above laboratory reporting limits in three samples (SB-1-7, SB-2-7, and SV5-5) at concentrations ranging between 9.5 ug/m3 up to 19 ug/m3, with the highest concentration reported in sample SV5-5. All three samples exceed the Tier 1 ESL of 4.1 ug/m3, and the USEPA Region 9 RSL modified indoor air screening level (MIASL) of 4 ug/m3, based on an attenuation factor of 0.03. No other samples exceeded regulatory screening levels.

- Benzene was reported above laboratory reporting limits in three samples (SB-1-7, SB-2-7 and SV5-5) at concentrations ranging from 9.8 ug/m3 up to 45 ug/m3, with the highest concentration reported in sample SV5-5. All three samples exceed the DTSC Human and Ecological Risk Office (HERO) Note 3 MIASL of 3.2 ug/m3 ant Tier 1 ESL of 3.2 ug/m3. Samples SB-2-7 and SV-5-5 also exceed the EPA Region 9 MIASL of 12 ug/m3. It is noted that the laboratory reporting limit for benzene (8 ug/m3) is above applicable residential screening levels).

- PCE was reported above laboratory reporting limits in four samples (SB-2-7, SV2-5, SV4-15 and SV5-15) at concentrations ranging from 8 ug/m3 up to 37 ug/m3. The concentration reported in

sample SB-2-7 exceeded the DTSC HERO Note 3 MIASL, the Tier 1 ESL and EPA Region 9 MIASL of 15.3 ug/m3, 11 ug/m3 and 15 ug/m3, respectively.

- Other concentrations of other VOCs including: chloromethane, methylene chloride, carbon disulfide, 2-butanone, 1,1-dichloroethene, trichloroethene (TCE), 4-methyle-2-pentanone, styrene, toluene, ethylbenzene, xylenes, 4-ethyltoluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropylbenzene, and n-propylbenzene were reported sporadically at generally low concentrations in analyzed samples. None of the reported concentrations of these constituents exceeded respective screening levels.

6.3 GROUNDWATER ANALYTICAL RESULTS

Grab groundwater samples were collected from temporary groundwater monitoring wells TW-1 and TW-2 and analyzed for TPH quantified as gasoline GRO, diesel range organics(DRO) and oil range organics (ORO) following modified EPA method 8015B and for VOCs following EPA method 8260B. Analytical results are tabulated on **Table 2**. Laboratory reports including QA/QC documentation are included in **Appendix C**. The following paragraphs summarize the analytical results.

- DRO and ORO were reported in groundwater samples analyzed from wells TW-1 and TW-2 at concentrations up to 0.34 mg/L and 0.28 mg/L, respectively, with the highest concentrations reported in well TW-1. GRO were not reported in analyzed groundwater samples above laboratory reporting limits.

- VOCs were not reported above laboratory reporting limits in any analyzed groundwater sample (i.e., the samples were non-detect). It is noted that the reporting limit for benzene is above the MCL and that the reporting limits for each of the VOCs detected above screening levels in soil gas were above the ESL for groundwater to vapor intrusion risk.

7.0 SUMMARY OF FINDINGS

Based on the results of the completed investigations, Stantec provides the following summary:

- Subsurface soils encountered during drilling generally consisted of fine-grained silts and clays with variable sand and occasional thin sand interbeds to depths ranging between 22-23 feet below ground surface. Below the upper fine-grained interval, soils consisted of clay/ sand interbeds to the total explored depth of approximately 30 feet bgs.
- Groundwater was encountered in soil borings TW-1 and TW-2 at approximately 27 feet bgs.
- No staining, odors or other obvious signs of contamination were noted during the investigation. Recorded VOC measurements using a PID reported concentrations ranging from approximately 0.0 parts per million by volume (ppmV) up to 7.1 ppmV.
- Gasoline range organics (GRO) were reported above laboratory reporting limits in soil vapor samples collected and analyzed from samples SV5-5, SV7-15 and SV8-15 at concentrations ranging from 3,950 ug/m3 up to 4,680 ug/m3, with the highest concentration reported in sample SV8-15. Reported concentrations of these three samples exceed the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Tier 1 environmental screening level (ESL) of 3,300 ug/m3. No other samples exceeded regulatory screening levels.
- Chloroform was reported above laboratory reporting limits in three soil vapor samples (SB-1-7, SB-2-7, and SV5-5) at concentrations ranging between 9.5 ug/m3 up to 19 ug/m3, with the highest concentration reported in sample SV5-5. All three samples exceed the Tier 1 ESL of 4.1 ug/m3, and the USEPA Region 9 RSL modified indoor air screening level (MIASL) of 4 ug/m3, based on an attenuation factor of 0.03. Chloroform is a common artifact of drinking water chlorination. These concentrations are assumed to be related to ordinary landscaping irrigation or an off-site leaking waterline. No other samples exceeded regulatory screening levels.
- Benzene was reported above laboratory reporting limits in three soil vapor samples (SB-1-7, SB-2-7 and SV5-5) at concentrations ranging from 9.8 ug/m3 up to 45 ug/m3, with the highest concentration reported in sample SV5-5. All three samples exceed the DTSC Human and Ecological Risk Office (HERO) Note 3 MIASL of 3.2 ug/m3 ant Tier 1 ESL of 3.2 ug/m3. Samples SB-2-7 and SV-5-5 also exceed the EPA Region 9 MIASL of 12 ug/m3. It is noted that the laboratory reporting limit for benzene (8 ug/m3) is above applicable residential screening levels). Like the GRO detected in soil gas, given the absence of benzene in groundwater or detected concentrations in the soil matrix, it is likely that concentrations of benzene are associated either with the former onsite UST or a transient groundwater plume.
- PCE was reported above laboratory reporting limits in four soil vapor samples (SB-2-7, SV2-5, SV4-15 and SV5-15) at concentrations ranging from 8 ug/m3 up to 37 ug/m3. The concentration reported in sample SB-2-7 exceeded the DTSC HERO Note 3 MIASL, the Tier 1 ESL and EPA Region 9 MIASL of 15.3 ug/m3, 11 ug/m3 and 15 ug/m3, respectively. The sporadic, mostly very

low concentrations of PCE, which were detected only in soil gas and are not typically associated with nursery use, potentially originates from an off-site source, such as BP Chemicals, Hitco Gardena/ HITCO Carbon Composite Facility, located approximately 1500 feet northwest of the Site at 1600 West 135th Street, in Gardena, which is currently undergoing site remediation.

- Other concentrations of VOCs were reported in analyzed soil vapor samples including: chloromethane, methylene chloride, carbon disulfide, 2-butanone, 1,1-dichloroethene, trichloroethene (TCE), 4-methyle-2-pentanone, styrene, toluene, ethylbenzene, xylenes, 4-ethyltoluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropylbenzene, and n-propylbenzene were reported sporadically at generally low concentrations in analyzed samples. None of the reported concentrations of these constituents exceeded respective screening levels.

- Diesel range organics (DRO) and oil range organics (ORO) were reported in groundwater samples analyzed from wells TW-1 and TW-2 at concentrations up to 0.34 mg/L and 0.28 mg/L, respectively, with the highest concentrations reported in well TW-1. Gasoline range organics (GRO) were not reported in analyzed groundwater samples above laboratory reporting limits.

- VOCs were not reported above laboratory reporting limits in either TW-1 or TW-2 groundwater sample. It is noted that the reporting limit for benzene is above the MCL and that the reporting limits for each of the VOCs detected above screening levels in soil gas were above the ESL for groundwater to vapor intrusion risk.

Discussion

The results of the completed investigations have identified the presence of GRO, chloroform, benzene, and PCE sporadically in soil vapor samples at concentrations above current risk-based screening levels based on a soil vapor to indoor model attenuation factor of 0.03, which is the attenuation factor currently being used by the Los Angeles Regional Water Quality Control Board (LARWQCB) and the Department of Toxic Substances Control (DTSC) for risk screening and evaluation. The distribution and concentration of sample results are not indicative of a significant onsite release. Concentrations of GRO and BTEX may be associated either the former onsite UST or historical low concentrations of petroleum related constituents in groundwater that may have passed though the Site. The sporadic, mostly very low concentrations of chlorinated VOCs potentially originate from an off-site source, such as BP Chemicals, Hitco Gardena/ HITCO Carbon Composite Facility, located approximately 1500 feet northwest of the Site at 1600 West 135th Street, in Gardena, which is currently undergoing site remediation. There is no known prior on-site use of chlorinated solvents.

The reported soil vapor concentrations exceed current environmental screening levels for residential development. As a result, vapor mitigation measures (e.g., passive vapor mitigation system) may be necessary for future Site development for residential purposes; however, this determination will be made following preparation of a Human Health Risk Assessment (HHRA) and discussions with a regulatory agency (e.g., the Department of Toxics Substances Control).

Analysis of groundwater samples reported only trace concentrations of DRO and ORO analytes at the locations tested. The reported DRO and ORO concentrations are below typical actionable levels. No

concentrations of GRO or VOCs were reported above laboratory reporting limits (i.e., the samples were non-detect for these analytes). Reported analysis of the soil matrix does not indicate significant residual impacts to soil associated with the former UST.

The absence of GRO, benzene, and other VOC concentrations in groundwater, combined with increased GRO soil gas concentrations with depth, is indicative of a historical groundwater plume that is no longer present on-site. The absence of GRO impacted soils detected on-site support this inference. It is also possible that volatilized concentrations of GRO and benzene may be associated with the former onsite UST, although soil matrix analysis makes this possibility less likely.

Based on these results, Stantec recommends no further investigation of groundwater at this time.

Recommendations

Based on the results of the completed investigations, a source of impact to soil has not been identified at concentrations that require further investigation or remediation. As a result, no further action is recommended at this time. However, given the reported MIASL exceedances of GRO, benzene, chloroform and PCE, Stantec recommends that a summary Human Health Risk Assessment (HHRA) be developed to evaluate whether vapor mitigation measures (e.g. vapor barriers) will be required for future residential Site development.

8.0 LIMITATIONS

Stantec's investigation has been performed with the degree of skill generally exercised by practicing engineers and geologists in the environmental field. Stantec makes no other warranty, either expressed or implied, concerning the conclusions and professional advice that is contained within the body of this report.

Inherent in most projects performed in a heterogeneous subsurface environment, continuing excavation and assessments may reveal findings that are different than those presented herein. This facet of the environmental profession should be considered when formulating professional opinions on the limited data collected on these projects.

This report has been issued with the clear understanding that it is the responsibility of the owner, or their representative, to make appropriate notifications to regulatory agencies. It is specifically not the responsibility of Stantec to conduct appropriate notifications as specified by current regulations.

The information presented in this report is valid as of the date our exploration was performed. Site conditions may change with time or with further investigation; consequently, the findings presented herein are subject to change.

Tables

TABLE 1
SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
Gardena (141st and Normandie)

Sample ID	Sample Date	GRO	Chloromethane	Methylene chloride	Carbon Disulfide	2-Butanone (MEK)	Chloroform	Benzene	1,1 - DCE	TCE	4-Methyl-2-pentanone	Styrene	Toluene	PCE	Ethylbenzene	m,p-Xylene	o-Xylene	4-Ethyltoluene	1,3,5-TMB	1,2,4-TMB	Other VOCs
DTSC HERO Note 3 - Residential Ambient Air SLs		NE	NE	1.0	*NE*	*NE*	*NE*	*0.10*	*7.3*	*NE*	*NE*	*0.09*	*310*	*0.46*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*varies*
0.03 Attenuation Factor		*NE*	*NE*	*33*	*NE*	*NE*	*NE*	*3.2*	*243*	*NE*	*NE*	*3.1*	*10333*	*15.3*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*varies*
US EPA Region 9 - Residential Air SLs		310	*94*	*100*	730	NE	0.12	*0*	*210*	0	3,100	1,000	5,200	11	1.1	100	100	*NE*	63	63	***varies***
0.03 Attenuation Factor		10333	3133	3333	24333	NE	4	12	7000	15	103333	33333	173333	367	37	3333	3333	NE	2100	2100	***varies***
SFRWQCB Tier 1 Subslab/ Soil Gas ESLs		3300	3,100	34	*NE*	*170,000*	*4.1*	*3.2*	*58*	*16*	*NE*	*31000*	*10000*	*15*	*37*	*3,500*	*3,500*	*NE*	*NE*	*NE*	*varies*
SB-1-7[1]	**5/10/2019**	NA	**2.9**	<2.8	**3.3**	**23**	**9.5**	**9.8**	<3.2	<4.4	**20**	**<3.5**	**42**	<5.5	**7.3**	**33**	**9.3**	<4.0	**5.1**	**12**	<varies
SB-2-7[1]	**5/10/2019**	NA	**4.2**	**4.3**	**5.2**	**28**	**15**	**18**	<3.2	<4.4	**40**	**<3.5**	**79**	**37**	**15**	**66**	**19**	**6.0**	**11**	**29**	<varies
SV1-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**14**	**31**	<8	<8	**26**	**14**	NA	<8	**11**	<varies
SV1-15	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**14**	**57**	<8	**10**	**34**	**16**	NA	<8	**10**	<varies
SV2-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	<8	<8	**10**	<8	<16	<8	NA	<8	**<8**	<varies
SV3-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	<8	<8	<8	<8	<16	<8	NA	<8	**<8**	<varies
SV4-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**10**	**67**	<8	**8**	**33**	**13**	NA	<8	**12**	<varies
SV4-15	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	**11**	**15**	NA	<8	**15**	**9**	<8	<16	<8	NA	<8	<8	<varies
SV5-5	**6/27/2019**	**3,980**	NA	<8	NA	NA	**19**	**45**	**9**	<8	NA	**31**	**201**	**8**	<8	**162**	**54**	NA	<8	**35**	***Isopropylbenzene: 10 n-Propylbenzene: 11***
SV5-15	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**15**	**57**	<8	**10**	**52**	**15**	NA	<8	**17**	<varies
SV6-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**9**	<8	<8	**10**	**23**	**10**	NA	<8	**13**	<varies
SV6-15	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	<8	<8	<8	<8	<16	<8	NA	<8	**8**	<varies
SV7-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**11**	<8	<8	**9**	**23**	**12**	NA	<8	**15**	<varies
SV7-5REP	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**11**	<8	<8	**8**	**23**	**12**	NA	<8	**14**	<varies
SV7-15	**6/27/2019**	**3,950**	NA	<8	NA	NA	<8	<8	**11**	<8	NA	**8**	**45**	<8	**8**	**83**	**38**	NA	<8	**9**	<varies
SV8-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	**13**	<8	NA	**10**	<8	<8	**13**	**21**	**17**	NA	<8	**10**	<varies
SV8-15	**6/27/2019**	**4,680**	NA	<8	NA	NA	<8	<8	<8	<8	NA	**9**	**34**	<8	<8	**21**	**23**	NA	<8	**8**	<varies
SV9-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**8**	**12**	<8	<8	<16	<8	NA	<8	**10**	<varies

(1) Sample collected via 1L summa canister.
(2) Residential Screening Level (SL) USEPA Region 9 Regional Screening Levels (RSL - April 2019)
(3) Residential DTSC HERO HHRA Note #3 (April 2019)
(4) SFRWQCB ESLs - Sub slab/ Soil Gas (ug/m3) January 2019
<8: Results reported below Laboratory Reporting Limit.
CalEPA - California Environmental Protection Agency
DTSC - Department of Toxic Substance Control
HERO - Human and Ecological Risk Office Human Health Risk Assessment

Yellow shading indicates value above the RSLs or HERO Note 3 (0.03 attenuation factor) residential screening level.

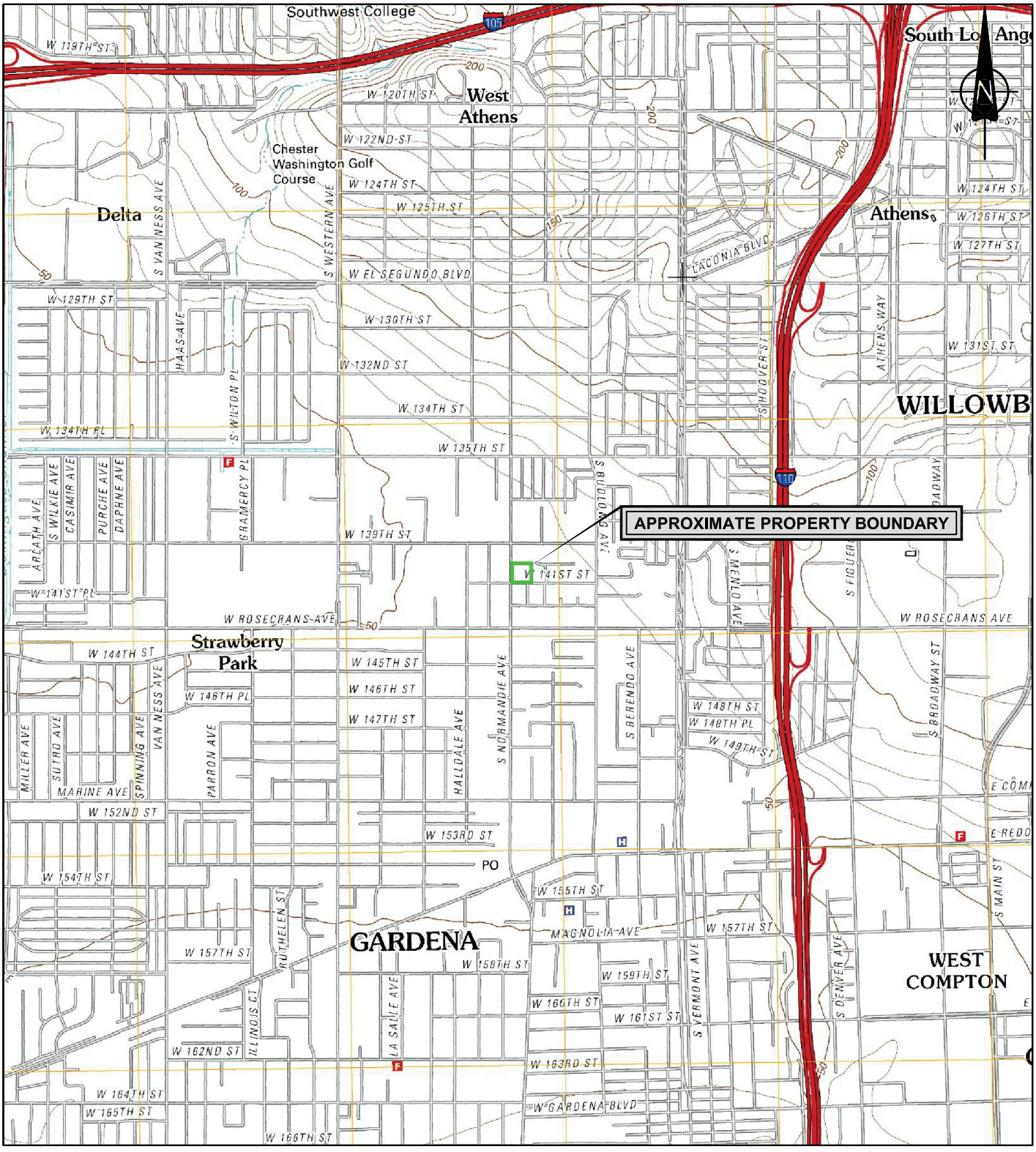
Trichloroethene
Tetrachloroethene
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Gardena (141st and Normandie)

Sample ID [1]	Sample Date	TPH (EPA 8015B) - mg/L			VOC (EPA 8260B) - µg/L				Other VOCs
		GRO	DRO	ORO	Benzene	Ethylbenzene	Toluene	Total Xylene	
USEPA Region 9 RSLs, MCLs [2]		*NE*	*NE*	*NE*	*5.0*	*700*	*1,000*	*10,000*	*Varies*
HERO Note #3 - MCLs [3]		*NE*	*NE*	*NE*	*1.0*	*300*	*150*	*NE*	*Varies*
TW-1	8/22/2019	ND<0.20	**0.34**	**0.28**	ND<5.0	ND<5.0	ND<5.0	ND<15	ND<varies
TW-2	8/22/2019	ND<0.20	**0.28**	**0.25**	ND<5.0	ND<5.0	ND<5.0	ND<15	ND<varies

Notes:
(1) Refer to Figure 2 for sample location.
(2) USEPA Region 9, Regional Screening Levels (RSLs), Maximum Contaminant Levels (MCLs), (April 2019)
(3) DTSC HERO HHRA Note #3, Maximum Contaminant Levels, (April 2019)
DTSC - California Department of Toxic Substance Control
HERO - Human and Ecological Risk Office Human Health Risk Assessment
"ND<" - Results Not Detected above laboratory Practical Quantitation Limit for the indicated analyte.

Figures



NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC SERVICES INC. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

PROPERTY LOCATION MAP

PHASE I ESA

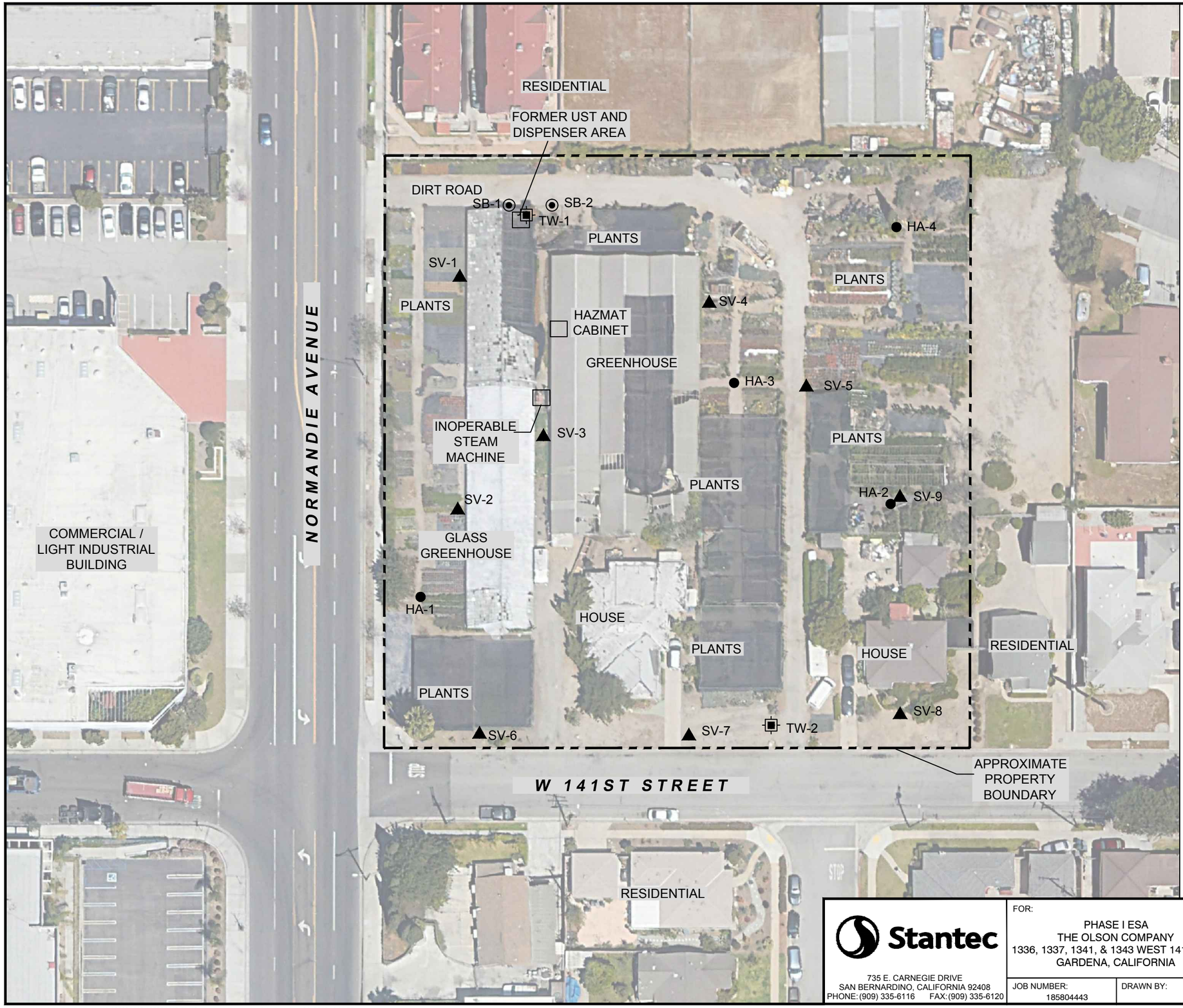
1335, 1337, 1341, & 1343 WEST 141ST STREET, GARDENA, CA

Client: THE OLSON COMPANY

Project No.:	185804443
Scale:	AS SHOWN
Date:	19/05/02
Dwn. By:	CD DM SC2019050003
App'd By:	KE

Fig. No.: 1

Stantec



LEGEND:

- PROPERTY LINE
- SB-2 — SOIL SAMPLE/ SOIL VAPOR PROBE LOCATION
- HA-2 — SHALLOW SOIL SAMPLE LOCATION
- SV-9 — SHALLOW SOIL VAPOR LOCATION
- TW-2 — GROUNDWATER SAMPLE LOCATION

N

0 50 100

APPROXIMATE SCALE (FEET)

Stantec
735 E. CARNEGIE DRIVE
SAN BERNARDINO, CALIFORNIA 92408
PHONE: (909) 335-6116 FAX: (909) 335-6120

FOR:
PHASE I ESA
THE OLSON COMPANY
1336, 1337, 1341, & 1343 WEST 141ST ST.
GARDENA, CALIFORNIA

PROPERTY DETAILS

FIGURE: **2**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185804443	KM	MB	BV	09/03/19

FILEPATH:W:\OFFICE- REDLANDS\185804443\185804443-SM19.dwg modified by kmitchell on Sep 04, 2019 at 11:59

Appendix A –
Well Permits

ENVIRONMENTAL HEALTH

Drinking Water Program

5050 Commerce Drive, Baldwin Park, CA 91706
Telephone: (626) 430-5420 • http://publichealth.lacounty.gov/eh/ep/dw/dw_main.htm

Work Plan Approval

WORK SITE ADDRESS	CITY	ZIP	EMAIL ADDRESS
1335 W 141st St	Gardena	90247	Brian.viggiano@stantec.com

NOTICE:

- WORK PLAN APPROVALS ARE VALID FOR 180 DAYS. 30 DAY EXTENSIONS OF WORK PLAN APPROVALS ARE CONSIDERED ON AN INDIVIDUAL (CASE-BY-CASE) BASIS AND MAY BE SUBJECT TO ADDITIONAL PLAN REVIEW FEES (HOURLY RATE AS APPLICABLE).
- WORK PLAN MODIFICATIONS MAY BE REQUIRED IF WELL AND GEOLOGIC CONDITIONS ENCOUNTERED AT THE SITE INSPECTION ARE FOUND TO DIFFER FROM THE SCOPE OF WORK PRESENTED TO THE DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM.
- WORK PLAN APPROVALS ARE LIMITED TO COMPLIANCE WITH THE CALIFORNIA WELL STANDARDS AND THE LOS ANGELES COUNTY CODE AND DOES NOT GRANT ANY RIGHTS TO CONSTRUCT, RENOVATE, OR DECOMMISSION ANY WELL. THE APPLICANT IS RESPONSIBLE FOR SECURING ALL OTHER NECESSARY PERMITS SUCH AS WATER RIGHTS, PROPERTY RIGHTS, COASTAL COMMISSION APPROVALS, USE COVENANTS, ENCROACHMENT PERMISSIONS, UTILITY LINE SETBACKS, CITY/COUNTY PUBLIC WORKS RIGHTS OF WAY, ETC.
- THIS PERMIT IS NOT COMPLETE UNTIL ALL OF THE FOLLOWING REQUIREMENTS ARE SIGNED BY THE DEPUTY HEALTH OFFICER. WORK SHALL NOT BE INITIATED WITHOUT A WORK PLAN APPROVAL STAMPED BY THE DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM.

TO BE COMPLETED BY DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM:

X	WORK PLAN APPROVED FOR: 1 Soil Boring/Exp. Hole	**PERMIT NUMBER:**	SR0194263	**DATE:**	8-13-2019

ADDITIONAL APPROVAL CONDITIONS:

- Work plan approval is issued for scope of work submitted to the Drinking Water Program. Any modifications to the scope of work will require additional work plan review.
- Ensure the boring/exploration hole is backfilled within 24 hours of boring construction.
- Ensure to backfill using a tremie pipe under pressure or equivalent equipment with approved cement grout, proceeding upward from the bottom of the boring/exploration hole.
- Ensure soil borings are sealed per California Well Standards 74-90
  - Cement grout mix ratio of 5-6 gallons of water per 94-pound bag of Portland cement.
  - Up to 6% of Bentonite may be added to the cement-based mix.
  - No hydrated Bentonite chips
- Borings/Exploration holes must comply with all applicable requirements published in the California Well Standards (Bulletins 74-81 and 74-90) and the Los Angeles County Code, Title 11.

APPROVED BY:

Belinda Larsen, REHS
21515 Vanowen St. Ste. 116
Canoga Park, Ca 91303
(818) 593-7308

5838

ENVIRONMENTAL HEALTH

Drinking Water Program

5050 Commerce Drive, Baldwin Park, CA 91706
Telephone: (626) 430-5420 • http://publichealth.lacounty.gov/eh/ep/dw/dw_main.htm

Work Plan Approval

WORK SITE ADDRESS	CITY	ZIP	EMAIL ADDRESS
1343 W 141st St	Gardena	90247	Brian.viggiano@stantec.com

NOTICE:

- WORK PLAN APPROVALS ARE VALID FOR 180 DAYS. 30 DAY EXTENSIONS OF WORK PLAN APPROVALS ARE CONSIDERED ON AN INDIVIDUAL (CASE-BY-CASE) BASIS AND MAY BE SUBJECT TO ADDITIONAL PLAN REVIEW FEES (HOURLY RATE AS APPLICABLE).
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- THIS PERMIT IS NOT COMPLETE UNTIL ALL OF THE FOLLOWING REQUIREMENTS ARE SIGNED BY THE DEPUTY HEALTH OFFICER. WORK SHALL NOT BE INITIATED WITHOUT A WORK PLAN APPROVAL STAMPED BY THE DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM.

TO BE COMPLETED BY DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM:

X	WORK PLAN APPROVED FOR: 1 Soil Boring/Exp. Hole	**PERMIT NUMBER:**	SR0194268	**DATE:**	8-13-2019

ADDITIONAL APPROVAL CONDITIONS:

- Work plan approval is issued for scope of work submitted to the Drinking Water Program. Any modifications to the scope of work will require additional work plan review.
- Ensure the boring/exploration hole is backfilled within 24 hours of boring construction.
- Ensure to backfill using a tremie pipe under pressure or equivalent equipment with approved cement grout, proceeding upward from the bottom of the boring/exploration hole.
- Ensure soil borings are sealed per California Well Standards 74-90
  - Cement grout mix ratio of 5-6 gallons of water per 94-pound bag of Portland cement.
  - Up to 6% of Bentonite may be added to the cement-based mix.
  - No hydrated Bentonite chips
- Borings/Exploration holes must comply with all applicable requirements published in the California Well Standards (Bulletins 74-81 and 74-90) and the Los Angeles County Code, Title 11.

APPROVED BY:

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5838

Appendix B –
Boring Logs

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **SV-1** PAGE 1 OF 1

Stantec

DRILLING: STARTED **6/18/19** COMPLETED: **6/18/19**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **HA/5400**
DRILLING METHOD: **Manual/DPT**
SAMPLING EQUIPMENT: **Grab/Acetate**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **15.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2.25**
LOGGED BY: **MAB** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Borehole Backfill
		SC	**CLAYEY SAND** ; SC; 10YR 4/4 dark yellowish brown; fine to medium-grained; medium dense; moist; no odor; no staining; some clay		-			0.0		1/4" Nylaflow Tubing in Hydrated Granular Bentonite
5					-			0.0	5	6" Dry Granular Bentonite 11" Penn Plax Filter in #3 Sand
10					-			0.0	10	1/4" Nylaflow Tubing in Hydrated Granular Bentonite
		CL	**SANDY CLAY** ; CL; 10YR 4/4 dark yellowish brown; medium stiff; moist; no odor; no staining; some fine to medium sand							
15					-			0.0	15	6" Dry Granular Bentonite 11" Penn Plax Filter in #3 Sand
			Hole terminated at 15.5 feet.							

GEO FORM 304 SV_LOGS.GPJ STANTEC001.GDT 7/3/19

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **SV-2** PAGE 1 OF 1

Stantec

DRILLING: STARTED **6/18/19** COMPLETED: **6/18/19**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **HA**
DRILLING METHOD: **Manual**
SAMPLING EQUIPMENT: **Grab**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **5.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **3**
LOGGED BY: **MAB** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Borehole Backfill
		SC	**CLAYEY SAND** ; SC; 10YR 3/3 dark brown; fine-grained; low plasticity; moist; no odor; no staining; some clay		-			0.0		1/4" Nylaflow Tubing in Hydrated Granular Bentonite
5					-			0.0	5	6" Dry Granular Bentonite 11" Penn Plax Filter in #3 Sand
			Hole terminated at 5.5 feet.							

GEO FORM 304 SV_LOGS.GPJ STANTEC001.GDT 7/3/19

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **SV-3** PAGE 1 OF 1

DRILLING: STARTED **6/18/19** COMPLETED: **6/18/19**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **HA**
DRILLING METHOD: **Manual**
SAMPLING EQUIPMENT: **Grab**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **5.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **3**
LOGGED BY: **MAB** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Borehole Backfill
		SP	**POORLY GRADED SAND** ; SP; dark brown; fine to medium-grained; moist; no odor; no staining		-			0.0		
		SC	**CLAYEY SAND** ; SC; dark brown; moist; no odor; no staining; some fine sand							1/4" Nylaflow Tubing in Hydrated Granular Bentonite
		CL	**LEAN CLAY** ; CL; dark brown; medium plasticity; moist; no odor; no staining							
		CL	**SANDY CLAY** ; CL; dark yellowish brown; moist; no odor; no staining; some sand							6" Dry Granular Bentonite
5					-			0.0	5	11" Penn Plax Filter in #3 Sand
			Hole terminated at 5.5 feet.							

GEO FORM 304 SV_LOGS.GPJ STANTEC001.GDT 7/3/19

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **SV-4** PAGE 1 OF 1

Stantec

DRILLING: STARTED **6/18/19** COMPLETED: **6/18/19**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **HA/5400**
DRILLING METHOD: **Manual/DPT**
SAMPLING EQUIPMENT: **Grab/Acetate**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **15.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2.25**
LOGGED BY: **MAB** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Borehole Backfill
		SP	**POORLY GRADED SAND** ; SP; 10YR 3/6 dark yellowish brown; fine to medium-grained; no odor; no staining; trace coarse sand; trace clay		-			0.1		1/4" Nylaflow Tubing in Hydrated Granular Bentonite
5		CH	**FAT CLAY** ; CH; 10YR 3/4 dark yellowish brown; high plasticity; moist; no odor; no staining; trace fine to medium sand		-			0.0	5	6" Dry Granular Bentonite 11" Penn Plax Filter in #3 Sand
		SP	**POORLY GRADED SAND** ; SP; 10YR 3/6 dark yellowish brown; fine to medium-grained; no odor; no staining; trace coarse sand; trace clay							
10		CL	**SANDY CLAY** ; CL; 10YR 3/4 dark yellowish brown; moist; no odor; no staining; some fine to medium sand		-			0.0	10	1/4" Nylaflow Tubing in Hydrated Granular Bentonite
15					-			0.0	15	6" Dry Granular Bentonite 11" Penn Plax Filter in #3 Sand
			Hole terminated at 15.5 feet.							

GEO FORM 304 SV_LOGS.GPJ STANTEC001.GDT 7/3/19

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **SV-5** PAGE 1 OF 1

Stantec

DRILLING: STARTED **6/18/19** COMPLETED: **6/18/19**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **HA/5400**
DRILLING METHOD: **Manual/DPT**
SAMPLING EQUIPMENT: **Grab/Acetate**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **15.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2.25**
LOGGED BY: **MAB** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Borehole Backfill
		SW	**WELL GRADED SAND** ; SW; 10YR 3/4 dark yellowish brown; fine to coarse-grained; medium dense; no odor; slight odor		-			7.1		1/4" Nylaflow Tubing in Hydrated Granular Bentonite
		CL	**LEAN CLAY** ; CL; 10YR 3/3 dark brown; moist; no odor; no staining; trace fine to medium sand		-			3.3		
5		CH	**FAT CLAY** ; CH; 10YR 3/4 dark yellowish brown; high plasticity; moist; no odor; no staining; trace fine to medium sand		-			0.7	5	6" Dry Granular Bentonite 11" Penn Plax Filter in #3 Sand
					-			0.1		
		SP	**POORLY GRADED SAND** ; SP; 10YR 3/6 dark yellowish brown; fine to medium-grained; no odor; no staining; trace coarse sand; trace clay							
10		CL	**SANDY CLAY** ; CL; 10YR 3/4 dark yellowish brown; moist; no odor; no staining; some fine to medium sand		-			0.0	10	1/4" Nylaflow Tubing in Hydrated Granular Bentonite
15					-			0.5	15	6" Dry Granular Bentonite 11" Penn Plax Filter in #3 Sand
			Hole terminated at 15.5 feet.							

GEO FORM 304 SV_LOGS.GPJ STANTEC001.GDT 7/3/19

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **SV-6** PAGE 1 OF 1

Stantec

DRILLING: STARTED **6/18/19** COMPLETED: **6/18/19**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **HA/5400**
DRILLING METHOD: **Manual/DPT**
SAMPLING EQUIPMENT: **Grab/Acetate**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **15.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2.25**
LOGGED BY: **MAB** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Borehole Backfill
		SM	**SILTY SAND** ; SM; 10YR 4/2 dark grayish brown; fine to medium-grained; loose; dry; no odor; no staining; some silt		-			0.0		1/4" Nylaflow Tubing in Hydrated Granular Bentonite
		SC	**CLAYEY SAND** ; SC; 10YR 3/6 dark yellowish brown; fine to medium-grained; low plasticity; dense; slightly moist; no odor; no staining; some clay		-			0.6		
5					-			0.1	5	6" Dry Granular Bentonite 11" Penn Plax Filter in #3 Sand
10					-			0.1	10	1/4" Nylaflow Tubing in Hydrated Granular Bentonite
		SP	**POORLY GRADED SAND** ; SP; 10YR 3/4 dark yellowish brown; fine to medium-grained; no odor; no staining; little clay							
15					-			0.2	15	6" Dry Granular Bentonite 11" Penn Plax Filter in #3 Sand
			Hole terminated at 15.5 feet.							

GEO FORM 304 SV_LOGS.GPJ STANTEC001.GDT 7/3/19

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **SV-7** PAGE 1 OF 1

Stantec

DRILLING: STARTED **6/18/19** COMPLETED: **6/18/19**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **HA/5400**
DRILLING METHOD: **Manual/DPT**
SAMPLING EQUIPMENT: **Grab/Acetate**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **15.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2.25**
LOGGED BY: **MAB** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Borehole Backfill
		SC	**CLAYEY SAND** ; SC; 10YR 3/6 dark yellowish brown		-			0.2		1/4" Nylaflow Tubing in Hydrated Granular Bentonite
5		SP	**POORLY GRADED SAND** ; SP; 10YR 3/6 dark yellowish brown; fine to medium-grained; medium dense; moist; no odor; no staining; little clay		-			0.0	5	6" Dry Granular Bentonite 11" Penn Plax Filter in #3 Sand
10		SC	**CLAYEY SAND** ; SC; 10YR 3/4 dark yellowish brown; fine to medium-grained; dense; moist; no odor; no staining		-			0.0	10	1/4" Nylaflow Tubing in Hydrated Granular Bentonite
15			Hole terminated at 15.5 feet.		-			0.0	15	6" Dry Granular Bentonite 11" Penn Plax Filter in #3 Sand

GEO FORM 304 SV_LOGS.GPJ STANTEC001.GDT 7/3/19

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **SV-8** PAGE 1 OF 1

Stantec

DRILLING: STARTED **6/18/19** COMPLETED: **6/18/19**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **HA/5400**
DRILLING METHOD: **Manual/DPT**
SAMPLING EQUIPMENT: **Grab/Acetate**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **15.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2.25**
LOGGED BY: **MAB** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Borehole Backfill
		SP	**POORLY GRADED SAND** ; SP; 10YR 3/6 dark yellowish brown; fine to medium-grained; moist; no odor; no staining; some clay		-			0.0		1/4" Nylaflow Tubing in Hydrated Granular Bentonite
5					-			0.0	5	6" Dry Granular Bentonite 11" Penn Plax Filter in #3 Sand
		SC	**CLAYEY SAND** ; SC; 10YR 3/4 dark yellowish brown; fine to medium-grained; dense; moist; no odor; no staining							
10					-			0.0	10	1/4" Nylaflow Tubing in Hydrated Granular Bentonite
15					-			0.0	15	6" Dry Granular Bentonite 11" Penn Plax Filter in #3 Sand
			Hole terminated at 15.5 feet.							

GEO FORM 304 SV_LOGS.GPJ STANTEC001.GDT 7/3/19

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **SV-9** PAGE 1 OF 1

Stantec

DRILLING: STARTED **6/18/19** COMPLETED: **6/18/19**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **HA**
DRILLING METHOD: **Manual**
SAMPLING EQUIPMENT: **Grab**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **5.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **3**
LOGGED BY: **MAB** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Borehole Backfill
		SC	**CLAYEY SAND** ; SC; 10YR 3/4 dark yellowish brown; dense; moist; no odor; no staining		-			0.0		1/4" Nylaflow Tubing in Hydrated Granular Bentonite
		SP	**POORLY GRADED SAND** ; SP; 10YR 3/6 dark yellowish brown; fine to medium-grained; no odor; no staining; trace clay							6" Dry Granular Bentonite
5					-			0.0	5	11" Penn Plax Filter in #3 Sand
			Hole terminated at 5.5 feet.							

GEO FORM 304 SV_LOGS.GPJ STANTEC001.GDT 7/3/19

PROJECT: **Olson - Gardena - 141**
LOCATION: **1335-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **TW-1** PAGE 1 OF 2

Stantec

DRILLING: STARTED **8/22/19** COMPLETED: **8/22/19**
INSTALLATION: STARTED **8/22/19** COMPLETED: **8/22/19**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **7822DT**
DRILLING METHOD: **DPT**
SAMPLING EQUIPMENT: **Acetate**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **28** **8/22/19**
BOREHOLE DEPTH (ft): **30.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **30.0**
WELL CASING DIAMETER (in): **0.75**
BOREHOLE DIAMETER (in): **2.25**
LOGGED BY: **MFB**
CHECKED BY: **BV**

Time & Depth (feet)	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		~6" Topsoil							
	SC	**CLAYEY SAND WITH SILT** ; SC; 10YR 4/6 dark yellowish brown; fine-grained; non plastic; slightly moist; no odor; no staining; some clay fines; few silt fines; trace medium sand			5				
	SC	**CLAYEY SAND** ; SC; 10YR 4/6 dark yellowish brown; fine-grained; non to low plasticity; moist; no odor; no staining; some clay fines; few medium sand; trace coarse sand							
5				--			0.0	5	
		@ 6' - decreasing clay content			5				
		@ 8' - increasing clay content							
		@ 9' - 1/2" layer of fine to coarse sand							
	SP	**POORLY GRADED SAND** ; SP; 10YR 4/4 dark yellowish brown; fine-grained; moist; no odor; no staining; few to little fines							
10		@ 10' - 1/2" layer of fine to coarse sand		--			0.0	10	
	SC	**CLAYEY SAND** ; SC; 10YR 4/6 dark yellowish brown; fine-grained; non to low plasticity; moist; no odor; no staining; some clay fines; few medium sand; trace coarse sand			5				Freestanding 0.75" Dia. Sch. 40 PVC Blank Casing
	CL	**LEAN CLAY** ; CL; 10YR 4/6 dark yellowish brown; low plasticity; moist; no odor; no staining; few fine sand							
	SC	**CLAYEY SAND** ; SC; 10YR 4/6 dark yellowish brown; fine-grained; non to low plasticity; moist; no odor; very stiff/dense; some clay fines; few medium sand; few black stringers							
15				--			0.0	15	
	SP	**POORLY GRADED SAND** ; SP; 10YR 3/6 dark yellowish brown; fine to coarse-grained; moist; no odor; no staining; few fines; 3" layer							
	SC	**CLAYEY SAND** ; SC; 10YR 4/6 dark yellowish brown; fine to medium-grained; non to low plasticity; moist; no odor; oxidation staining; some clay fines; minor black and oxidation staining			5				
		@ 18' - 1" layer - fine to coarse sand							
		@ 19' - increasing clay - oxidation staining throughout							

GEO FORM 304 TW.GPJ STANTEC001.GDT 8/27/19

PROJECT: **Olson - Gardena - 141**
LOCATION: **1335-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **TW-1** PAGE 2 OF 2

DRILLING: STARTED **8/22/19** COMPLETED: **8/22/19**
INSTALLATION: STARTED **8/22/19** COMPLETED: **8/22/19**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **7822DT**
DRILLING METHOD: **DPT**
SAMPLING EQUIPMENT: **Acetate**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **28** **8/22/19** BOREHOLE DEPTH (ft): **30.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **30.0**
WELL CASING DIAMETER (in): **0.75** BOREHOLE DIAMETER (in): **2.25**
LOGGED BY: **MFB** CHECKED BY: **BV**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
			@ 20' - black staining with oxidation staining; no odor		--			0.0		
		SP	**POORLY GRADED SAND** ; SP; 10YR 4/4 dark yellowish brown; fine to coarse-grained; slightly moist; no odor; no staining; few to little fines							
		CL	**LEAN CLAY** ; CL; 10YR 4/3 brown; non to low plasticity; moist; no odor; trace oxidation staining; trace fine sand			5				
		SC	**CLAYEY SAND** ; SC; 10YR 4/6 dark yellowish brown; fine to medium-grained; non to low plasticity; moist; no odor; oxidation staining; some clay fines; minor oxidation staining							
		SP	**POORLY GRADED SAND WITH CLAY** ; SP; 10YR 4/4 dark yellowish brown; fine-grained; non plastic; moist; no odor; no staining; few to little clay fines							
25		CL	**POORLY GRADED SAND** ; SP; 10YR 5/4 yellowish brown; fine-grained; moist; no odor; no staining; few to little fines; trace medium sand		--			0.0	25	
		SP	**LEAN CLAY WITH SAND** ; CL; 10YR 3/3 dark yellowish brown; low plasticity; moist; no odor; no staining; little to some fine sand			5				Freestanding 0.75" Dia. Sch 40 Slotted PVC (0.010")
		SM	**POORLY GRADED SAND WITH CLAY** ; SP; 10YR 3/3 dark yellowish brown; fine to coarse-grained; non plastic; moist; no odor; no staining; little to some clay fines							
		SP	**SILTY SAND** ; SM; 10YR 4/3 brown; fine-grained; moist; no odor; no staining; some silt interbedding (~1mm) throughout this layer							
30			**POORLY GRADED SAND** ; SP; 10YR 4/4 dark yellowish brown; fine to medium-grained; moist to wet; no odor; no staining; few to little fines (silt interbeds)		--			0.0	30	
			Hole terminated at 30 feet.							
35									35	

GEO FORM 304 TW.GPJ STANTEC001.GDT 8/27/19

PROJECT: **Olson - Gardena - 141**
LOCATION: **1335-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **TW-2** PAGE 1 OF 2

Stantec

DRILLING: STARTED **8/22/19** COMPLETED: **8/22/19**
INSTALLATION: STARTED **8/22/19** COMPLETED: **8/22/19**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **7822DT**
DRILLING METHOD: **DPT**
SAMPLING EQUIPMENT: **Acetate**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **28** **8/22/19** BOREHOLE DEPTH (ft): **30.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **30.0**
WELL CASING DIAMETER (in): **0.75** BOREHOLE DIAMETER (in): **2.25**
LOGGED BY: **MFB** CHECKED BY: **BV**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
			6" topsoil							
		SM	**SILTY SAND** ; SM; 7.5YR 4/4 brown; fine to medium-grained; non plastic; moist; no odor; no staining; some silt fines; trace clay; few organic matter			5				
		SC	**CLAYEY SAND** ; SC; 10YR 4/6 dark yellowish brown; fine-grained; non to low plasticity; moist; no odor; no staining; some clay fines; few medium sand; trace coarse sand							
5			**SAME AS ABOVE** ; no coarse sand		--			0.0	5	
						5				
10			**SAME AS ABOVE** ; 7.5YR 4/3 brown; very fine to fine-grained; non to low plasticity; moist; very dense/stiff; trace medium sand		--			0.0	10	
			@ 13.5' - few medium sand			5				Freestanding 0.75" Dia. Sch. 40 PVC Blank Casing
15			**SAME AS ABOVE** ; 10YR 4/4 dark yellowish brown; few silt fines		--			0.0	15	
			SAME AS ABOVE ; fine to medium-grained			5				

GEO FORM 304 TW.GPJ STANTEC001.GDT 8/27/19

PROJECT: **Olson - Gardena - 141**
LOCATION: **1335-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **TW-2** PAGE 2 OF 2

DRILLING: STARTED **8/22/19** COMPLETED: **8/22/19**
INSTALLATION: STARTED **8/22/19** COMPLETED: **8/22/19**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **7822DT**
DRILLING METHOD: **DPT**
SAMPLING EQUIPMENT: **Acetate**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **28** **8/22/19**
BOREHOLE DEPTH (ft): **30.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **30.0**
WELL CASING DIAMETER (in): **0.75**
BOREHOLE DIAMETER (in): **2.25**
LOGGED BY: **MFB**
CHECKED BY: **BV**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SC	**SAME AS ABOVE** ; soft/loose		--			0.0		
		SM	**SILTY SAND** ; SM; 10YR 3/4 dark yellowish brown; fine-grained; non plastic; moist; no odor; no staining; some silt; trace medium sand			5				
		SC	**CLAYEY SAND** ; SC; 10YR 4/4 dark yellowish brown; very fine to fine-grained; non to low plasticity; moist; no odor; some clay fines; few medium sand; minor oxidation staining							
		SM								
25		SC	**SILTY SAND** ; SM; 10YR 3/4 dark yellowish brown; fine-grained; non plastic; moist; no odor; no staining; some silt; trace medium sand		--			0.0	25	
		SP-SM	**CLAYEY SAND** ; SC; 10YR 3/3 dark yellowish brown; fine-grained; non to low plasticity; moist; no odor; no staining; some clay							
		ML	From 25.6' to 25.9' - black organic material layer with fine to coarse sand; loose; roots; leaves and other organic material; organic odor			5				Freestanding 0.75" Dia. Sch 40 Slotted PVC (0.010")
		SP	**POORLY GRADED SAND - SILTY SAND** ; SP-SM; 10YR 5/6 yellowish brown; fine-grained; non plastic; moist; no odor; no staining; little to some silt; few medium sand							
		CL								
		SM								
30			**SILT WITH SAND** ; ML; 10YR 4/3 brown; non plastic; moist to wet; no odor; no staining; few to little fine to medium sand		--			0.0	30	
			POORLY GRADED SAND ; SP; 10YR 5/4 yellowish brown; fine to coarse-grained; moist to wet; no odor; no staining; trace to few fines							
			LEAN CLAY ; CL; 10YR 5/3 brown; non to low plasticity; moist; no odor; oxidation staining; trace fine sand							
			SILTY SAND ; SM; 10YR 4/2 dark grayish brown; very fine to fine-grained; non plastic; moist to wet; no odor; oxidation staining in silt interbeds (5YR 3/3-dark reddish brown)							
			Hole terminated at 30 feet.							
35									35	

GEO FORM 304 TW.GPJ STANTEC001.GDT 8/27/19

Appendix C –
Laboratory Reports

ADVANCED TECHNOLOGY LABORATORIES

August 23, 2019

Brian Viggiano
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
Tel: (909) 255-8204
Fax:(909) 335-6120

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1903127
Client Reference : Olson Gardena 141, 185804443

Enclosed are the results for sample(s) received on August 22, 2019 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Edgar Caballero
President & Laboratory Director

Certificate of Analysis

Stantec		Project Number :	Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	08/23/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TW-1	1903127-01	Water	8/22/19 11:58	8/22/19 14:30
TW-2	1903127-02	Water	8/22/19 12:33	8/22/19 14:30
Trip Blank	1903127-03	Water	8/22/19 0:00	8/22/19 14:30

Certificate of Analysis

Stantec	Project Number : Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 08/23/2019

Client Sample ID: TW-1

Lab ID: 1903127-01

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte		Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	0.20	1	B9H0542	08/23/2019	08/23/19 09:59	
Surrogate: 4-Bromofluorobenzene	*86.2 %*		*70 - 130*		B9H0542	08/23/2019	*08/23/19 09:59*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte		Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**0.34**	0.20	1	B9H0534	08/22/2019	08/23/19 01:05	
ORO		**0.28**	0.20	1	B9H0534	08/22/2019	08/23/19 01:05	
Surrogate: p-Terphenyl	*70.9 %*		*32 - 169*		B9H0534	08/22/2019	*08/23/19 01:05*	

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,1,1-Trichloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,1,2-Trichloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,1-Dichloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,1-Dichloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,1-Dichloropropene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,2,3-Trichloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,2,3-Trichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,2,4-Trichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,2,4-Trimethylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,2-Dibromo-3-chloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,2-Dibromoethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,2-Dichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,2-Dichloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,2-Dichloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,3,5-Trimethylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,3-Dichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,3-Dichloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
1,4-Dichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
2,2-Dichloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
2-Chlorotoluene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	

Certificate of Analysis

Stantec	Project Number : Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 08/23/2019

Client Sample ID: TW-1

Lab ID: 1903127-01

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
4-Isopropyltoluene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Benzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Bromobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Bromochloromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Bromodichloromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Bromoform	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Bromomethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Carbon disulfide	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Carbon tetrachloride	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Chlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Chloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Chloroform	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Chloromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
cis-1,2-Dichloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
cis-1,3-Dichloropropene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Di-isopropyl ether	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Dibromochloromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Dibromomethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Dichlorodifluoromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Ethyl Acetate	ND	50	1	B9H0520	08/22/2019	08/22/19 17:36	
Ethyl Ether	ND	50	1	B9H0520	08/22/2019	08/22/19 17:36	
Ethyl tert-butyl ether	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Ethylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Freon-113	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Hexachlorobutadiene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Isopropylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
m,p-Xylene	ND	10	1	B9H0520	08/22/2019	08/22/19 17:36	
Methylene chloride	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
MTBE	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
n-Butylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
n-Propylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Naphthalene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
o-Xylene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
sec-Butylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Styrene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
tert-Amyl methyl ether	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	

Certificate of Analysis

Stantec		Project Number :	Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	08/23/2019

Client Sample ID: TW-1

Lab ID: 1903127-01

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B9H0520	08/22/2019	08/22/19 17:36	
tert-Butylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Tetrachloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Toluene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
trans-1,2-Dichloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
trans-1,3-Dichloropropene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Trichloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Trichlorofluoromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Vinyl acetate	ND	50	1	B9H0520	08/22/2019	08/22/19 17:36	
Vinyl chloride	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:36	
Surrogate: 1,2-Dichloroethane-d4	*145 %*	*59 - 158*		B9H0520	08/22/2019	*08/22/19 17:36*	
Surrogate: 4-Bromofluorobenzene	*97.5 %*	*71 - 127*		B9H0520	08/22/2019	*08/22/19 17:36*	
Surrogate: Dibromofluoromethane	*147 %*	*66 - 147*		B9H0520	08/22/2019	*08/22/19 17:36*	
Surrogate: Toluene-d8	*133 %*	*77 - 138*		B9H0520	08/22/2019	*08/22/19 17:36*	

Certificate of Analysis

Stantec	Project Number : Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 08/23/2019

Client Sample ID: TW-2

Lab ID: 1903127-02

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte		Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	0.20	1	B9H0542	08/23/2019	08/23/19 10:23	
Surrogate: 4-Bromofluorobenzene	*87.5 %*		*70 - 130*		B9H0542	08/23/2019	*08/23/19 10:23*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte		Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**0.28**	0.20	1	B9H0534	08/22/2019	08/23/19 01:39	
ORO		**0.25**	0.20	1	B9H0534	08/22/2019	08/23/19 01:39	
Surrogate: p-Terphenyl	*95.3 %*		*32 - 169*		B9H0534	08/22/2019	*08/23/19 01:39*	

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,1,1-Trichloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,1,2-Trichloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,1-Dichloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,1-Dichloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,1-Dichloropropene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,2,3-Trichloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,2,3-Trichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,2,4-Trichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,2,4-Trimethylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,2-Dibromo-3-chloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,2-Dibromoethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,2-Dichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,2-Dichloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,2-Dichloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,3,5-Trimethylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,3-Dichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,3-Dichloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
1,4-Dichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
2,2-Dichloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
2-Chlorotoluene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	

Certificate of Analysis

Stantec	Project Number : Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 08/23/2019

Client Sample ID: TW-2

Lab ID: 1903127-02

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
4-Isopropyltoluene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Benzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Bromobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Bromochloromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Bromodichloromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Bromoform	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Bromomethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Carbon disulfide	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Carbon tetrachloride	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Chlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Chloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Chloroform	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Chloromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
cis-1,2-Dichloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
cis-1,3-Dichloropropene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Di-isopropyl ether	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Dibromochloromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Dibromomethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Dichlorodifluoromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Ethyl Acetate	ND	50	1	B9H0520	08/22/2019	08/22/19 17:12	
Ethyl Ether	ND	50	1	B9H0520	08/22/2019	08/22/19 17:12	
Ethyl tert-butyl ether	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Ethylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Freon-113	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Hexachlorobutadiene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Isopropylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
m,p-Xylene	ND	10	1	B9H0520	08/22/2019	08/22/19 17:12	
Methylene chloride	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
MTBE	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
n-Butylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
n-Propylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Naphthalene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
o-Xylene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
sec-Butylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Styrene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
tert-Amyl methyl ether	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	

Certificate of Analysis

Stantec		Project Number :	Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	08/23/2019

Client Sample ID: TW-2

Lab ID: 1903127-02

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B9H0520	08/22/2019	08/22/19 17:12	
tert-Butylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Tetrachloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Toluene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
trans-1,2-Dichloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
trans-1,3-Dichloropropene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Trichloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Trichlorofluoromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Vinyl acetate	ND	50	1	B9H0520	08/22/2019	08/22/19 17:12	
Vinyl chloride	ND	5.0	1	B9H0520	08/22/2019	08/22/19 17:12	
Surrogate: 1,2-Dichloroethane-d4	*140 %*	*59 - 158*		B9H0520	08/22/2019	*08/22/19 17:12*	
Surrogate: 4-Bromofluorobenzene	*99.2 %*	*71 - 127*		B9H0520	08/22/2019	*08/22/19 17:12*	
Surrogate: Dibromofluoromethane	*132 %*	*66 - 147*		B9H0520	08/22/2019	*08/22/19 17:12*	
Surrogate: Toluene-d8	*133 %*	*77 - 138*		B9H0520	08/22/2019	*08/22/19 17:12*	

Certificate of Analysis

Stantec	Project Number : Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 08/23/2019

Client Sample ID: Trip Blank

Lab ID: 1903127-03

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,1,1-Trichloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,1,2-Trichloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,1-Dichloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,1-Dichloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,1-Dichloropropene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,2,3-Trichloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,2,3-Trichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,2,4-Trichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,2,4-Trimethylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,2-Dibromo-3-chloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,2-Dibromoethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,2-Dichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,2-Dichloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,2-Dichloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,3,5-Trimethylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,3-Dichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,3-Dichloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
1,4-Dichlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
2,2-Dichloropropane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
2-Chlorotoluene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
4-Chlorotoluene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
4-Isopropyltoluene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Benzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Bromobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Bromochloromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Bromodichloromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Bromoform	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Bromomethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Carbon disulfide	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Carbon tetrachloride	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Chlorobenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Chloroethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Chloroform	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Chloromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
cis-1,2-Dichloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	

Certificate of Analysis

Stantec	Project Number : Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 08/23/2019

Client Sample ID: Trip Blank

Lab ID: 1903127-03

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Di-isopropyl ether	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Dibromochloromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Dibromomethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Dichlorodifluoromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Ethyl Acetate	ND	50	1	B9H0520	08/22/2019	08/22/19 16:48	
Ethyl Ether	ND	50	1	B9H0520	08/22/2019	08/22/19 16:48	
Ethyl tert-butyl ether	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Ethylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Freon-113	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Hexachlorobutadiene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Isopropylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
m,p-Xylene	ND	10	1	B9H0520	08/22/2019	08/22/19 16:48	
Methylene chloride	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
MTBE	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
n-Butylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
n-Propylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Naphthalene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
o-Xylene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
sec-Butylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Styrene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
tert-Amyl methyl ether	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
tert-Butanol	ND	100	1	B9H0520	08/22/2019	08/22/19 16:48	
tert-Butylbenzene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Tetrachloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Toluene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
trans-1,2-Dichloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
trans-1,3-Dichloropropene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Trichloroethene	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Trichlorofluoromethane	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Vinyl acetate	ND	50	1	B9H0520	08/22/2019	08/22/19 16:48	
Vinyl chloride	ND	5.0	1	B9H0520	08/22/2019	08/22/19 16:48	
Surrogate: 1,2-Dichloroethane-d4	*142 %*	*59 - 158*		B9H0520	08/22/2019	*08/22/19 16:48*	
Surrogate: 4-Bromofluorobenzene	*101 %*	*71 - 127*		B9H0520	08/22/2019	*08/22/19 16:48*	
Surrogate: Dibromofluoromethane	*140 %*	*66 - 147*		B9H0520	08/22/2019	*08/22/19 16:48*	
Surrogate: Toluene-d8	*130 %*	*77 - 138*		B9H0520	08/22/2019	*08/22/19 16:48*	

Certificate of Analysis

Stantec	Project Number : Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 08/23/2019

QUALITY CONTROL SECTION

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9H0542 - GCVOA_W										
Blank (B9H0542-BLK1)					Prepared: 8/23/2019 Analyzed: 8/23/2019					
Gasoline Range Organics	ND	0.20	0.05							
Surrogate: 4-Bromofluorobenzene	*0.09398*			*0.100000*		*94.0*	*70 - 130*			
LCS (B9H0542-BS1)					Prepared: 8/23/2019 Analyzed: 8/23/2019					
Gasoline Range Organics	0.845000	0.20	0.05	1.00000		84.5	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.1030*			*0.100000*		*103*	*70 - 130*			
LCS Dup (B9H0542-BSD1)					Prepared: 8/23/2019 Analyzed: 8/23/2019					
Gasoline Range Organics	0.830000	0.20	0.05	1.00000		83.0	70 - 130	1.79	20	
Surrogate: 4-Bromofluorobenzene	*0.08789*			*0.100000*		*87.9*	*70 - 130*			

Certificate of Analysis

Stantec	Project Number : Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 08/23/2019

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9H0534 - GCSEMI_DRO_W										
Blank (B9H0534-BLK1)						Prepared: 8/22/2019 Analyzed: 8/23/2019				
DRO	ND	0.20	0.20							
ORO	ND	0.20	0.20							
Surrogate: p-Terphenyl	*0.08206*			*8.00000E-2*		*103*	*32 - 169*			
LCS (B9H0534-BS1)						Prepared: 8/22/2019 Analyzed: 8/23/2019				
DRO	0.823580	0.20	0.20	1.00000		82.4	45 - 161			
Surrogate: p-Terphenyl	*0.07516*			*8.00000E-2*		*94.0*	*32 - 169*			
LCS Dup (B9H0534-BSD1)						Prepared: 8/22/2019 Analyzed: 8/23/2019				
DRO	0.886820	0.20	0.20	1.00000		88.7	45 - 161	7.39	20	
Surrogate: p-Terphenyl	*0.08148*			*8.00000E-2*		*102*	*32 - 169*			

Certificate of Analysis

Stantec	Project Number : Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 08/23/2019

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9H0520 - MSVOA_LL_W										
Blank (B9H0520-BLK1)					Prepared: 8/22/2019 Analyzed: 8/22/2019					
1,1,1,2-Tetrachloroethane	ND	5.0	0.11							
1,1,1-Trichloroethane	ND	5.0	0.07							
1,1,2,2-Tetrachloroethane	ND	5.0	0.36							
1,1,2-Trichloroethane	ND	5.0	0.25							
1,1-Dichloroethane	ND	5.0	0.09							
1,1-Dichloroethene	ND	5.0	0.13							
1,1-Dichloropropene	ND	5.0	0.13							
1,2,3-Trichloropropane	ND	5.0	0.39							
1,2,3-Trichlorobenzene	ND	5.0	0.18							
1,2,4-Trichlorobenzene	ND	5.0	0.16							
1,2,4-Trimethylbenzene	ND	5.0	0.14							
1,2-Dibromo-3-chloropropane	ND	5.0	0.41							
1,2-Dibromoethane	ND	5.0	0.24							
1,2-Dichlorobenzene	ND	5.0	0.20							
1,2-Dichloroethane	ND	5.0	0.20							
1,2-Dichloropropane	ND	5.0	0.15							
1,3,5-Trimethylbenzene	ND	5.0	0.13							
1,3-Dichlorobenzene	ND	5.0	0.16							
1,3-Dichloropropane	ND	5.0	0.21							
1,4-Dichlorobenzene	ND	5.0	0.17							
2,2-Dichloropropane	ND	5.0	0.38							
2-Chlorotoluene	ND	5.0	0.11							
4-Chlorotoluene	ND	5.0	0.12							
4-Isopropyltoluene	ND	5.0	0.11							
Benzene	ND	5.0	0.13							
Bromobenzene	ND	5.0	0.21							
Bromochloromethane	ND	5.0	0.16							
Bromodichloromethane	ND	5.0	0.14							
Bromoform	ND	5.0	0.20							
Bromomethane	ND	5.0	0.17							
Carbon disulfide	ND	5.0	0.07							
Carbon tetrachloride	ND	5.0	0.09							
Chlorobenzene	ND	5.0	0.13							
Chloroethane	ND	5.0	0.15							
Chloroform	ND	5.0	0.11							
Chloromethane	ND	5.0	0.12							
cis-1,2-Dichloroethene	ND	5.0	0.14							
cis-1,3-Dichloropropene	ND	5.0	0.13							
Di-isopropyl ether	ND	5.0	0.15							
Dibromochloromethane	ND	5.0	0.16							
Dibromomethane	ND	5.0	0.19							

Certificate of Analysis

Stantec	Project Number : Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 08/23/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9H0520 - MSVOA_LL_W (continued)										
Blank (B9H0520-BLK1) - Continued					Prepared: 8/22/2019 Analyzed: 8/22/2019					
Dichlorodifluoromethane	ND	5.0	0.05							
Ethyl Acetate	ND	50	3.1							
Ethyl Ether	ND	50	2.0							
Ethyl tert-butyl ether	ND	5.0	0.21							
Ethylbenzene	ND	5.0	0.13							
Freon-113	ND	5.0	0.13							
Hexachlorobutadiene	ND	5.0	0.15							
Isopropylbenzene	ND	5.0	0.10							
m,p-Xylene	ND	10	0.19							
Methylene chloride	ND	5.0	0.71							
MTBE	ND	5.0	0.26							
n-Butylbenzene	ND	5.0	0.11							
n-Propylbenzene	ND	5.0	0.10							
Naphthalene	ND	5.0	0.41							
o-Xylene	ND	5.0	0.13							
sec-Butylbenzene	ND	5.0	0.09							
Styrene	ND	5.0	0.13							
tert-Amyl methyl ether	ND	5.0	0.41							
tert-Butanol	ND	100	2.4							
tert-Butylbenzene	ND	5.0	0.09							
Tetrachloroethene	ND	5.0	0.10							
Toluene	ND	5.0	0.12							
trans-1,2-Dichloroethene	ND	5.0	0.09							
trans-1,3-Dichloropropene	ND	5.0	0.23							
Trichloroethene	ND	5.0	0.10							
Trichlorofluoromethane	ND	5.0	0.10							
Vinyl acetate	ND	50	1.7							
Vinyl chloride	ND	5.0	0.05							
Surrogate: 1,2-Dichloroethane-d4	*30.75*			*25.0000*		*123*	*59 - 158*			
Surrogate: 4-Bromofluorobenzene	*24.90*			*25.0000*		*99.6*	*71 - 127*			
Surrogate: Dibromofluoromethan	*29.43*			*25.0000*		*118*	*66 - 147*			
Surrogate: Toluene-d8	*29.62*			*25.0000*		*118*	*77 - 138*			
LCS (B9H0520-BS1)					Prepared: 8/22/2019 Analyzed: 8/22/2019					
1,1,1,2-Tetrachloroethane	18.9500	5.0	0.11	20.0000		94.8	71 - 133			
1,1,1-Trichloroethane	21.2700	5.0	0.07	20.0000		106	62 - 124			
1,1,2,2-Tetrachloroethane	18.8400	5.0	0.36	20.0000		94.2	50 - 131			
1,1,2-Trichloroethane	21.0100	5.0	0.25	20.0000		105	77 - 121			
1,1-Dichloroethane	23.2900	5.0	0.09	20.0000		116	52 - 130			
1,1-Dichloroethene	22.8700	5.0	0.13	20.0000		114	61 - 136			
1,1-Dichloropropene	21.6200	5.0	0.13	20.0000		108	80 - 128			

Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino , CA 92408

Project Number : Olson Gardena 141, 185804443
Report To : Brian Viggiano
Reported : 08/23/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9H0520 - MSVOA_LL_W (continued)										
LCS (B9H0520-BS1) - Continued					Prepared: 8/22/2019 Analyzed: 8/22/2019					
1,2,3-Trichloropropane	18.4700	5.0	0.39	20.0000		92.4	59 - 126			
1,2,3-Trichlorobenzene	17.9600	5.0	0.18	20.0000		89.8	69 - 138			
1,2,4-Trichlorobenzene	17.3700	5.0	0.16	20.0000		86.8	78 - 125			
1,2,4-Trimethylbenzene	19.5200	5.0	0.14	20.0000		97.6	70 - 126			
1,2-Dibromo-3-chloropropane	16.8600	5.0	0.41	20.0000		84.3	58 - 127			
1,2-Dibromoethane	20.3100	5.0	0.24	20.0000		102	76 - 120			
1,2-Dichlorobenzene	17.6200	5.0	0.20	20.0000		88.1	82 - 117			
1,2-Dichloroethane	21.5600	5.0	0.20	20.0000		108	66 - 126			
1,2-Dichloropropane	19.8500	5.0	0.15	20.0000		99.2	70 - 117			
1,3,5-Trimethylbenzene	19.3700	5.0	0.13	20.0000		96.8	71 - 125			
1,3-Dichlorobenzene	17.9400	5.0	0.16	20.0000		89.7	81 - 116			
1,3-Dichloropropane	18.1000	5.0	0.21	20.0000		90.5	69 - 124			
1,4-Dichlorobenzene	18.6600	5.0	0.17	20.0000		93.3	80 - 114			
2,2-Dichloropropane	25.4300	5.0	0.38	20.0000		127	58 - 132			
2-Chlorotoluene	18.8800	5.0	0.11	20.0000		94.4	71 - 119			
4-Chlorotoluene	18.7200	5.0	0.12	20.0000		93.6	72 - 122			
4-Isopropyltoluene	19.2100	5.0	0.11	20.0000		96.0	69 - 126			
Benzene	40.9800	5.0	0.13	40.0000		102	80 - 116			
Bromobenzene	18.6500	5.0	0.21	20.0000		93.2	77 - 118			
Bromochloromethane	22.0900	5.0	0.16	20.0000		110	68 - 121			
Bromodichloromethane	20.8700	5.0	0.14	20.0000		104	73 - 118			
Bromoform	17.5500	5.0	0.20	20.0000		87.8	65 - 133			
Bromomethane	26.1600	5.0	0.17	20.0000		131	7 - 205			
Carbon disulfide	21.0600	5.0	0.07	20.0000		105	55 - 131			
Carbon tetrachloride	20.2900	5.0	0.09	20.0000		101	63 - 133			
Chlorobenzene	18.5200	5.0	0.13	20.0000		92.6	86 - 113			
Chloroethane	24.3900	5.0	0.15	20.0000		122	66 - 141			
Chloroform	22.7000	5.0	0.11	20.0000		114	63 - 127			
Chloromethane	21.2600	5.0	0.12	20.0000		106	0 - 207			
cis-1,2-Dichloroethene	22.5800	5.0	0.14	20.0000		113	64 - 126			
cis-1,3-Dichloropropene	24.0300	5.0	0.13	20.0000		120	70 - 141			
Di-isopropyl ether	20.5500	5.0	0.15	20.0000		103	56 - 131			
Dibromochloromethane	18.3700	5.0	0.16	20.0000		91.8	67 - 135			
Dibromomethane	20.8500	5.0	0.19	20.0000		104	74 - 118			
Dichlorodifluoromethane	25.3000	5.0	0.05	20.0000		126	14 - 181			
Ethyl Acetate	177.270	50	3.1	200.000		88.6	49 - 128			
Ethyl Ether	201.740	50	2.0	200.000		101	53 - 143			
Ethyl tert-butyl ether	20.0800	5.0	0.21	20.0000		100	54 - 132			
Ethylbenzene	36.0400	5.0	0.13	40.0000		90.1	77 - 118			
Freon-113	23.3100	5.0	0.13	20.0000		117	68 - 145			
Hexachlorobutadiene	18.9100	5.0	0.15	20.0000		94.6	66 - 125			
Isopropylbenzene	20.7300	5.0	0.10	20.0000		104	68 - 137			

Certificate of Analysis

Stantec	Project Number : Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 08/23/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9H0520 - MSVOA_LL_W (continued)										
LCS (B9H0520-BS1) - Continued					Prepared: 8/22/2019 Analyzed: 8/22/2019					
m,p-Xylene	38.5400	10	0.19	40.0000		96.4	78 - 126			
Methylene chloride	28.6800	5.0	0.71	20.0000		143	51 - 149			
MTBE	20.2900	5.0	0.26	20.0000		101	63 - 128			
n-Butylbenzene	19.1000	5.0	0.11	20.0000		95.5	63 - 127			
n-Propylbenzene	19.3200	5.0	0.10	20.0000		96.6	69 - 124			
Naphthalene	15.4200	5.0	0.41	20.0000		77.1	60 - 126			
o-Xylene	39.1500	5.0	0.13	40.0000		97.9	79 - 126			
sec-Butylbenzene	19.2700	5.0	0.09	20.0000		96.4	69 - 124			
Styrene	19.6200	5.0	0.13	20.0000		98.1	80 - 127			
tert-Amyl methyl ether	18.7900	5.0	0.41	20.0000		94.0	49 - 130			
tert-Butanol	153.750	100	2.4	100.000		154	29 - 163			
tert-Butylbenzene	19.6300	5.0	0.09	20.0000		98.2	71 - 124			
Tetrachloroethene	17.8400	5.0	0.10	20.0000		89.2	73 - 129			
Toluene	41.0800	5.0	0.12	40.0000		103	78 - 121			
trans-1,2-Dichloroethene	21.9200	5.0	0.09	20.0000		110	58 - 141			
trans-1,3-Dichloropropene	21.1000	5.0	0.23	20.0000		106	68 - 128			
Trichloroethene	19.3400	5.0	0.10	20.0000		96.7	73 - 126			
Trichlorofluoromethane	24.0200	5.0	0.10	20.0000		120	62 - 146			
Vinyl acetate	309.490	50	1.7	200.000		155	53 - 153			L5
Vinyl chloride	24.0300	5.0	0.05	20.0000		120	61 - 137			
Surrogate: 1,2-Dichloroethane-d4	*27.99*			*25.0000*		*112*	*59 - 158*			
Surrogate: 4-Bromofluorobenzene	*25.97*			*25.0000*		*104*	*71 - 127*			
Surrogate: Dibromofluoromethan	*28.58*			*25.0000*		*114*	*66 - 147*			
Surrogate: Toluene-d8	*28.69*			*25.0000*		*115*	*77 - 138*			
LCS Dup (B9H0520-BSD1)					Prepared: 8/22/2019 Analyzed: 8/22/2019					
1,1,1,2-Tetrachloroethane	20.2500	5.0	0.11	20.0000		101	71 - 133	6.63	20	
1,1,1-Trichloroethane	23.5600	5.0	0.07	20.0000		118	62 - 124	10.2	20	
1,1,2,2-Tetrachloroethane	20.1800	5.0	0.36	20.0000		101	50 - 131	6.87	20	
1,1,2-Trichloroethane	21.8200	5.0	0.25	20.0000		109	77 - 121	3.78	20	
1,1-Dichloroethane	24.2000	5.0	0.09	20.0000		121	52 - 130	3.83	20	
1,1-Dichloroethene	24.6500	5.0	0.13	20.0000		123	61 - 136	7.49	20	
1,1-Dichloropropene	22.8500	5.0	0.13	20.0000		114	80 - 128	5.53	20	
1,2,3-Trichloropropane	18.7700	5.0	0.39	20.0000		93.8	59 - 126	1.61	20	
1,2,3-Trichlorobenzene	19.4300	5.0	0.18	20.0000		97.2	69 - 138	7.86	20	
1,2,4-Trichlorobenzene	18.8300	5.0	0.16	20.0000		94.2	78 - 125	8.07	20	
1,2,4-Trimethylbenzene	20.5200	5.0	0.14	20.0000		103	70 - 126	5.00	20	
1,2-Dibromo-3-chloropropane	18.3700	5.0	0.41	20.0000		91.8	58 - 127	8.57	20	
1,2-Dibromoethane	21.3300	5.0	0.24	20.0000		107	76 - 120	4.90	20	
1,2-Dichlorobenzene	18.2300	5.0	0.20	20.0000		91.2	82 - 117	3.40	20	
1,2-Dichloroethane	22.4000	5.0	0.20	20.0000		112	66 - 126	3.82	20	

Certificate of Analysis

Stantec	Project Number : Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 08/23/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9H0520 - MSVOA_LL_W (continued)										
LCS Dup (B9H0520-BSD1) - Continued					Prepared: 8/22/2019 Analyzed: 8/22/2019					
1,2-Dichloropropane	20.3400	5.0	0.15	20.0000		102	70 - 117	2.44	20	
1,3,5-Trimethylbenzene	20.4200	5.0	0.13	20.0000		102	71 - 125	5.28	20	
1,3-Dichlorobenzene	18.8600	5.0	0.16	20.0000		94.3	81 - 116	5.00	20	
1,3-Dichloropropane	19.0800	5.0	0.21	20.0000		95.4	69 - 124	5.27	20	
1,4-Dichlorobenzene	19.2800	5.0	0.17	20.0000		96.4	80 - 114	3.27	20	
2,2-Dichloropropane	26.8400	5.0	0.38	20.0000		134	58 - 132	5.40	20	L5
2-Chlorotoluene	19.6300	5.0	0.11	20.0000		98.2	71 - 119	3.90	20	
4-Chlorotoluene	19.2100	5.0	0.12	20.0000		96.0	72 - 122	2.58	20	
4-Isopropyltoluene	20.4400	5.0	0.11	20.0000		102	69 - 126	6.20	20	
Benzene	42.1800	5.0	0.13	40.0000		105	80 - 116	2.89	20	
Bromobenzene	19.0100	5.0	0.21	20.0000		95.0	77 - 118	1.91	20	
Bromochloromethane	24.5000	5.0	0.16	20.0000		122	68 - 121	10.3	20	L3
Bromodichloromethane	20.9100	5.0	0.14	20.0000		105	73 - 118	0.191	20	
Bromoform	18.8800	5.0	0.20	20.0000		94.4	65 - 133	7.30	20	
Bromomethane	28.4600	5.0	0.17	20.0000		142	7 - 205	8.42	20	
Carbon disulfide	22.4600	5.0	0.07	20.0000		112	55 - 131	6.43	20	
Carbon tetrachloride	21.6400	5.0	0.09	20.0000		108	63 - 133	6.44	20	
Chlorobenzene	19.9600	5.0	0.13	20.0000		99.8	86 - 113	7.48	20	
Chloroethane	26.0400	5.0	0.15	20.0000		130	66 - 141	6.54	20	
Chloroform	24.7100	5.0	0.11	20.0000		124	63 - 127	8.48	20	
Chloromethane	22.6800	5.0	0.12	20.0000		113	0 - 207	6.46	20	
cis-1,2-Dichloroethene	24.1900	5.0	0.14	20.0000		121	64 - 126	6.88	20	
cis-1,3-Dichloropropene	24.2900	5.0	0.13	20.0000		121	70 - 141	1.08	20	
Di-isopropyl ether	22.4800	5.0	0.15	20.0000		112	56 - 131	8.97	20	
Dibromochloromethane	19.2400	5.0	0.16	20.0000		96.2	67 - 135	4.63	20	
Dibromomethane	21.6500	5.0	0.19	20.0000		108	74 - 118	3.76	20	
Dichlorodifluoromethane	25.8600	5.0	0.05	20.0000		129	14 - 181	2.19	20	
Ethyl Acetate	254.530	50	3.1	200.000		127	49 - 128	35.8	20	R
Ethyl Ether	222.910	50	2.0	200.000		111	53 - 143	9.97	20	
Ethyl tert-butyl ether	22.1900	5.0	0.21	20.0000		111	54 - 132	9.98	20	
Ethylbenzene	38.1900	5.0	0.13	40.0000		95.5	77 - 118	5.79	20	
Freon-113	25.0000	5.0	0.13	20.0000		125	68 - 145	7.00	20	
Hexachlorobutadiene	20.2100	5.0	0.15	20.0000		101	66 - 125	6.65	20	
Isopropylbenzene	21.3300	5.0	0.10	20.0000		107	68 - 137	2.85	20	
m,p-Xylene	41.1000	10	0.19	40.0000		103	78 - 126	6.43	20	
Methylene chloride	30.2100	5.0	0.71	20.0000		151	51 - 149	5.20	20	L4
MTBE	22.7000	5.0	0.26	20.0000		114	63 - 128	11.2	20	
n-Butylbenzene	19.7900	5.0	0.11	20.0000		99.0	63 - 127	3.55	20	
n-Propylbenzene	19.9500	5.0	0.10	20.0000		99.8	69 - 124	3.21	20	
Naphthalene	16.9000	5.0	0.41	20.0000		84.5	60 - 126	9.16	20	
o-Xylene	41.9900	5.0	0.13	40.0000		105	79 - 126	7.00	20	
sec-Butylbenzene	20.4900	5.0	0.09	20.0000		102	69 - 124	6.14	20	

Certificate of Analysis

Stantec	Project Number : Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 08/23/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9H0520 - MSVOA_LL_W (continued)										
LCS Dup (B9H0520-BSD1) - Continued					Prepared: 8/22/2019 Analyzed: 8/22/2019					
Styrene	21.0300	5.0	0.13	20.0000		105	80 - 127	6.94	20	
tert-Amyl methyl ether	20.9300	5.0	0.41	20.0000		105	49 - 130	10.8	20	
tert-Butanol	161.380	100	2.4	100.000		161	29 - 163	4.84	20	
tert-Butylbenzene	20.4300	5.0	0.09	20.0000		102	71 - 124	3.99	20	
Tetrachloroethene	18.9000	5.0	0.10	20.0000		94.5	73 - 129	5.77	20	
Toluene	42.7400	5.0	0.12	40.0000		107	78 - 121	3.96	20	
trans-1,2-Dichloroethene	23.2000	5.0	0.09	20.0000		116	58 - 141	5.67	20	
trans-1,3-Dichloropropene	21.0900	5.0	0.23	20.0000		105	68 - 128	0.0474	20	
Trichloroethene	19.7700	5.0	0.10	20.0000		98.8	73 - 126	2.20	20	
Trichlorofluoromethane	25.2700	5.0	0.10	20.0000		126	62 - 146	5.07	20	
Vinyl acetate	336.810	50	1.7	200.000		168	53 - 153	8.45	20	L5
Vinyl chloride	24.9600	5.0	0.05	20.0000		125	61 - 137	3.80	20	
Surrogate: 1,2-Dichloroethane-d4	*29.89*			*25.0000*		*120*	*59 - 158*			
Surrogate: 4-Bromofluorobenzene	*26.24*			*25.0000*		*105*	*71 - 127*			
Surrogate: Dibromofluoromethan	*29.95*			*25.0000*		*120*	*66 - 147*			
Surrogate: Toluene-d8	*28.03*			*25.0000*		*112*	*77 - 138*			

Certificate of Analysis

Stantec		Project Number :	Olson Gardena 141, 185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	08/23/2019

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
L5	Laboratory Control Sample high biased. Sample result/s was non-detect (ND) for the target analyte; therefore reanalysis was not necessary.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
L3	Laboratory control sample outside in-house established limits but within method criteria.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

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CHAIN OF CUSTODY

Laboratory Project Number: 1903127

Page 1 of 1

Client Name/Address:	Project Manager:
Stantec Consulting Services Inc.	**Brian Viggiano**
735 E. Carnegie Drive, Suite 280	E-Mail Address:
San Bernardino, CA 92408	**brian.viggiano@stantec.com**
909-335-6116	Sampler Name:
Laboratory:	**Mitchell Bohn**
ATL	Stantec Project Number:
3275 Walnut Ave.	**185804443**
Signal Hill, CA	Project:
800-499-4388	**Olson Gardena 141**

Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	8260B	8015B (GRO - DRO - ORO)								
01 TW-1	H2O	1, 2	7	8/22/19	1158		X	X								
02 TW-2	H2O	1, 2	7	8/22/19	1233		X	X								
03 Trip Blank	H2O	1, 2	2	—	—		X									

Analysis Required

Turn Around Time:
- Normal TAT:
- 72 Hour:
- 48 Hour
- 24 Hour X
- Same Day:
- Other:

Sample Temp °C: 2.4 / 1.4

Special Instructions

Sample Preservative: **1**=ICE - **2**=HCl - **3**=H_2SO_4 - **4**=HNO_3 - **5**=NaOH - **6**=Other:

Special Instructions:

Relinquished By:	Date	Time	Received By + Company Name:	Date	Time
	8/22/19	1430	AM	8/22/19	1430
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Stantec	**Report date:**	7/2/2019
Client Address:	735 East Carnegie Drive, Suite 280 San Bernadino, CA 92408	**Jones Ref. No.:**	G-0011
Attn:	Brian Viggiano	**Date Sampled:**	6/27/2019
		Date Received:	6/27/2019
		Date Analyzed:	6/27/2019
Project Address:	1343 W. 141st Street Gardena, CA	**Physical State:**	Soil Gas

ANALYSES REQUESTED

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

Sampling – Soil Gas samples were collected in glass gas-tight syringes equipped with Teflon plungers.

A tracer gas mixture of n-pentane, n-hexane, and n-heptane was placed at the tubing-surface interface before sampling. These compounds were analyzed during the 8260B analytical run to determine if there were surface leaks into the subsurface due to improper installation of the probe. No tracer was detected in any of the samples reported herein.

The sampling rate was approximately 200 cc/min, except when noted differently on the chain of custody record, using a glass gas-tight syringe. Purging was completed using a pump set at approximately 200 cc/min, except when noted differently on the chain of custody record. A default of 3 purge volumes was used as recommended by July 2015 DTSC/RWQCB guidance documents.

Prior to purging and sampling of soil gas at each point, a shut-in test was conducted to check for leaks in the above ground fittings. The shut-in test was performed on the above ground apparatus by evacuating the line to a vacuum of 100 inches of water, sealing the entire system and watching the vacuum for at least one minute. A vacuum gauge attached in parallel to the apparatus measured the vacuum. If there was any observable loss of vacuum, the fittings were adjusted as needed until the vacuum did not change noticeably. The soil gas sample was then taken.

No flow conditions occur when a sampling rate greater than 10 mL/min cannot be maintained without applying a vacuum greater than 100 inches of water to the sampling train. The sampling train is left at a vacuum for no less than three minutes. If the vacuum does not subside appreciably after three minutes, the sample location is determined to be a no flow sample.

Analytical – Soil Gas samples were analyzed using EPA Method 8260 that includes extra compounds required by DTSC/RWQCB (such as Freon 113). Instrument Continuing Calibration Verification, QC Reference Standards, Instrument Blanks and Sampling Blanks were analyzed every 12 hours as prescribed by the method. In addition, a Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were analyzed with each batch of Soil Gas samples. A duplicate/replicate sample was analyzed each day of the sampling activity. All samples were injected into the GC/MS system within 30 minutes of sampling.

Approval:

Colby Wakeman
QA/QC Manager

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Attn:	Brian Viggiano	**Date Sampled:**	6/27/2019
		Date Received:	6/27/2019
		Date Analyzed:	6/27/2019
Project Address:	1343 W. 141st Street Gardena, CA	**Physical State:**	Soil Gas

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

Sample ID:	**SV6-5**	**SV6-15**	**SV7-5**	**SV7-5 REP**	**SV7-15**		
Jones ID:	**G-0011-01**	**G-0011-02**	**G-0011-03**	**G-0011-04**	**G-0011-05**	**Reporting Limit**	**Units**
Analytes:							
Benzene	ND	ND	ND	ND	ND	8	µg/m3
Bromobenzene	ND	ND	ND	ND	ND	8	µg/m3
Bromodichloromethane	ND	ND	ND	ND	ND	8	µg/m3
Bromoform	ND	ND	ND	ND	ND	8	µg/m3
n-Butylbenzene	ND	ND	ND	ND	ND	12	µg/m3
sec-Butylbenzene	ND	ND	ND	ND	ND	12	µg/m3
tert-Butylbenzene	ND	ND	ND	ND	ND	12	µg/m3
Carbon tetrachloride	ND	ND	ND	ND	ND	8	µg/m3
Chlorobenzene	ND	ND	ND	ND	ND	8	µg/m3
Chloroform	ND	ND	ND	ND	ND	8	µg/m3
2-Chlorotoluene	ND	ND	ND	ND	ND	12	µg/m3
4-Chlorotoluene	ND	ND	ND	ND	ND	12	µg/m3
Dibromochloromethane	ND	ND	ND	ND	ND	8	µg/m3
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	8	µg/m3
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	8	µg/m3
Dibromomethane	ND	ND	ND	ND	ND	8	µg/m3
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
Dichlorodifluoromethane	ND	ND	ND	ND	ND	8	µg/m3
1,1-Dichloroethane	ND	ND	ND	ND	ND	8	µg/m3
1,2-Dichloroethane	ND	ND	ND	ND	ND	8	µg/m3
1,1-Dichloroethene	ND	ND	ND	ND	**11**	8	µg/m3
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	8	µg/m3
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	8	µg/m3
1,2-Dichloropropane	ND	ND	ND	ND	ND	8	µg/m3
1,3-Dichloropropane	ND	ND	ND	ND	ND	8	µg/m3
2,2-Dichloropropane	ND	ND	ND	ND	ND	16	µg/m3
1,1-Dichloropropene	ND	ND	ND	ND	ND	10	µg/m3

JONES ENVIRONMENTAL LABORATORY RESULTS

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

Sample ID:	**SV6-5**	**SV6-15**	**SV7-5**	**SV7-5 REP**	**SV7-15**		
Jones ID:	**G-0011-01**	**G-0011-02**	**G-0011-03**	**G-0011-04**	**G-0011-05**	**Reporting Limit**	**Units**
Analytes:							
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	8	µg/m3
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	8	µg/m3
Ethylbenzene	**10**	ND	**9**	**8**	ND	8	µg/m3
Freon 113	ND	ND	ND	ND	ND	16	µg/m3
Hexachlorobutadiene	ND	ND	ND	ND	ND	24	µg/m3
Isopropylbenzene	ND	ND	ND	ND	ND	8	µg/m3
4-Isopropyltoluene	ND	ND	ND	ND	ND	8	µg/m3
Methylene chloride	ND	ND	ND	ND	ND	8	µg/m3
Naphthalene	ND	ND	ND	ND	ND	40	µg/m3
n-Propylbenzene	ND	ND	ND	ND	ND	8	µg/m3
Styrene	**9**	ND	**11**	**11**	**8**	8	µg/m3
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	8	µg/m3
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	16	µg/m3
Tetrachloroethene	ND	ND	ND	ND	ND	8	µg/m3
Toluene	ND	ND	ND	ND	**45**	8	µg/m3
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	8	µg/m3
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	8	µg/m3
Trichloroethene	ND	ND	ND	ND	ND	8	µg/m3
Trichlorofluoromethane	ND	ND	ND	ND	ND	16	µg/m3
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	8	µg/m3
1,2,4-Trimethylbenzene	**13**	**8**	**15**	**14**	**9**	8	µg/m3
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	8	µg/m3
Vinyl chloride	ND	ND	ND	ND	ND	8	µg/m3
m,p-Xylene	**23**	ND	**23**	**23**	**83**	16	µg/m3
o-Xylene	**10**	ND	**12**	**12**	**38**	8	µg/m3
MTBE	ND	ND	ND	ND	ND	40	µg/m3
Ethyl-tert-butylether	ND	ND	ND	ND	ND	40	µg/m3
Di-isopropylether	ND	ND	ND	ND	ND	40	µg/m3
tert-amylmethylether	ND	ND	ND	ND	ND	40	µg/m3
tert-Butylalcohol	ND	ND	ND	ND	ND	400	µg/m3
Gasoline Range Organics (C4-C12)	ND	ND	ND	ND	**3950**	2000	µg/m3
Tracer:							
n-Pentane	ND	ND	ND	ND	ND	80	µg/m3
n-Hexane	ND	ND	ND	ND	ND	80	µg/m3
n-Heptane	ND	ND	ND	ND	ND	80	µg/m3
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
1, 2 Dichloroethane-d4	78%	74%	81%	73%	80%	60 - 140	
Toluene-d_8	97%	98%	97%	97%	96%	60 - 140	
4-Bromofluorobenzene	97%	97%	96%	100%	96%	60 - 140	
Batch ID:	G1-062719-01	G1-062719-01	G1-062719-01	G1-062719-01	G1-062719-01		

ND = Value below reporting limit

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Stantec	**Report date:**	7/2/2019
Client Address:	735 East Carnegie Drive, Suite 280 San Bernadino, CA 92408	**Jones Ref. No.:**	G-0011
Attn:	Brian Viggiano	**Date Sampled:**	6/27/2019
		Date Received:	6/27/2019
		Date Analyzed:	6/27/2019
Project Address:	1343 W. 141st Street Gardena, CA	**Physical State:**	Soil Gas

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

Sample ID:	**SV8-5**	**SV8-15**	**SV2-5**	**SV3-5**	**SV1-5**		
Jones ID:	**G-0011-06**	**G-0011-07**	**G-0011-08**	**G-0011-09**	**G-0011-10**	**Reporting Limit**	**Units**
Analytes:							
Benzene	ND	ND	ND	ND	ND	8	µg/m3
Bromobenzene	ND	ND	ND	ND	ND	8	µg/m3
Bromodichloromethane	ND	ND	ND	ND	ND	8	µg/m3
Bromoform	ND	ND	ND	ND	ND	8	µg/m3
n-Butylbenzene	ND	ND	ND	ND	ND	12	µg/m3
sec-Butylbenzene	ND	ND	ND	ND	ND	12	µg/m3
tert-Butylbenzene	ND	ND	ND	ND	ND	12	µg/m3
Carbon tetrachloride	ND	ND	ND	ND	ND	8	µg/m3
Chlorobenzene	ND	ND	ND	ND	ND	8	µg/m3
Chloroform	ND	ND	ND	ND	ND	8	µg/m3
2-Chlorotoluene	ND	ND	ND	ND	ND	12	µg/m3
4-Chlorotoluene	ND	ND	ND	ND	ND	12	µg/m3
Dibromochloromethane	ND	ND	ND	ND	ND	8	µg/m3
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	8	µg/m3
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	8	µg/m3
Dibromomethane	ND	ND	ND	ND	ND	8	µg/m3
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
Dichlorodifluoromethane	ND	ND	ND	ND	ND	8	µg/m3
1,1-Dichloroethane	ND	ND	ND	ND	ND	8	µg/m3
1,2-Dichloroethane	ND	ND	ND	ND	ND	8	µg/m3
1,1-Dichloroethene	ND	ND	ND	ND	ND	8	µg/m3
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	8	µg/m3
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	8	µg/m3
1,2-Dichloropropane	ND	ND	ND	ND	ND	8	µg/m3
1,3-Dichloropropane	ND	ND	ND	ND	ND	8	µg/m3
2,2-Dichloropropane	ND	ND	ND	ND	ND	16	µg/m3
1,1-Dichloropropene	ND	ND	ND	ND	ND	10	µg/m3

JONES ENVIRONMENTAL LABORATORY RESULTS

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

Sample ID:	**SV8-5**	**SV8-15**	**SV2-5**	**SV3-5**	**SV1-5**		
Jones ID:	**G-0011-06**	**G-0011-07**	**G-0011-08**	**G-0011-09**	**G-0011-10**	**Reporting Limit**	**Units**
Analytes:							
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	8	µg/m3
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	8	µg/m3
Ethylbenzene	**13**	ND	ND	ND	ND	8	µg/m3
Freon 113	ND	ND	ND	ND	ND	16	µg/m3
Hexachlorobutadiene	ND	ND	ND	ND	ND	24	µg/m3
Isopropylbenzene	ND	ND	ND	ND	ND	8	µg/m3
4-Isopropyltoluene	ND	ND	ND	ND	ND	8	µg/m3
Methylene chloride	ND	ND	ND	ND	ND	8	µg/m3
Naphthalene	ND	ND	ND	ND	ND	40	µg/m3
n-Propylbenzene	ND	ND	ND	ND	ND	8	µg/m3
Styrene	**10**	**9**	ND	ND	**14**	8	µg/m3
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	8	µg/m3
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	16	µg/m3
Tetrachloroethene	ND	ND	**10**	ND	ND	8	µg/m3
Toluene	ND	**34**	ND	ND	**31**	8	µg/m3
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	8	µg/m3
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	8	µg/m3
Trichloroethene	ND	ND	ND	ND	ND	8	µg/m3
Trichlorofluoromethane	ND	ND	ND	ND	ND	16	µg/m3
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	8	µg/m3
1,2,4-Trimethylbenzene	**10**	**8**	ND	ND	**11**	8	µg/m3
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	8	µg/m3
Vinyl chloride	ND	ND	ND	ND	ND	8	µg/m3
m,p-Xylene	**21**	**21**	ND	ND	**26**	16	µg/m3
o-Xylene	**17**	**23**	ND	ND	**14**	8	µg/m3
MTBE	ND	ND	ND	ND	ND	40	µg/m3
Ethyl-tert-butylether	ND	ND	ND	ND	ND	40	µg/m3
Di-isopropylether	ND	ND	ND	ND	ND	40	µg/m3
tert-amylmethylether	ND	ND	ND	ND	ND	40	µg/m3
tert-Butylalcohol	ND	ND	ND	ND	ND	400	µg/m3
Gasoline Range Organics (C4-C12)	ND	**4680**	ND	ND	ND	2000	µg/m3
Tracer:							
n-Pentane	ND	ND	ND	ND	ND	80	µg/m3
n-Hexane	ND	ND	ND	ND	ND	80	µg/m3
n-Heptane	ND	ND	ND	ND	ND	80	µg/m3
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
1, 2 Dichloroethane-d4	80%	75%	78%	78%	73%	60 - 140	
Toluene-d_8	99%	100%	97%	98%	102%	60 - 140	
4-Bromofluorobenzene	94%	100%	98%	99%	100%	60 - 140	
Batch ID:	G1-062719-01	G1-062719-01	G1-062719-01	G1-062719-01	G1-062719-01		

ND = Value below reporting limit

JONES ENVIRONMENTAL, INC.

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Stantec	**Report date:**	7/2/2019
Client Address:	735 East Carnegie Drive, Suite 280 San Bernadino, CA 92408	**Jones Ref. No.:**	G-0011
Attn:	Brian Viggiano	**Date Sampled:**	6/27/2019
		Date Received:	6/27/2019
		Date Analyzed:	6/27/2019
Project Address:	1343 W. 141st Street Gardena, CA	**Physical State:**	Soil Gas

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

Sample ID:	**SV1-15**	**SV4-5**	**SV4-15**	**SV5-5**	**SV5-15**		
Jones ID:	**G-0011-11**	**G-0011-12**	**G-0011-13**	**G-0011-14**	**G-0011-15**	**Reporting Limit**	**Units**
Analytes:							
Benzene	ND	ND	ND	**45**	ND	8	µg/m3
Bromobenzene	ND	ND	ND	ND	ND	8	µg/m3
Bromodichloromethane	ND	ND	ND	ND	ND	8	µg/m3
Bromoform	ND	ND	ND	ND	ND	8	µg/m3
n-Butylbenzene	ND	ND	ND	ND	ND	12	µg/m3
sec-Butylbenzene	ND	ND	ND	ND	ND	12	µg/m3
tert-Butylbenzene	ND	ND	ND	ND	ND	12	µg/m3
Carbon tetrachloride	ND	ND	ND	ND	ND	8	µg/m3
Chlorobenzene	ND	ND	ND	ND	ND	8	µg/m3
Chloroform	ND	ND	ND	**19**	ND	8	µg/m3
2-Chlorotoluene	ND	ND	ND	ND	ND	12	µg/m3
4-Chlorotoluene	ND	ND	ND	ND	ND	12	µg/m3
Dibromochloromethane	ND	ND	ND	ND	ND	8	µg/m3
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	8	µg/m3
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	8	µg/m3
Dibromomethane	ND	ND	ND	ND	ND	8	µg/m3
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
Dichlorodifluoromethane	ND	ND	ND	ND	ND	8	µg/m3
1,1-Dichloroethane	ND	ND	ND	ND	ND	8	µg/m3
1,2-Dichloroethane	ND	ND	ND	ND	ND	8	µg/m3
1,1-Dichloroethene	ND	ND	**11**	**9**	ND	8	µg/m3
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	8	µg/m3
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	8	µg/m3
1,2-Dichloropropane	ND	ND	ND	ND	ND	8	µg/m3
1,3-Dichloropropane	ND	ND	ND	ND	ND	8	µg/m3
2,2-Dichloropropane	ND	ND	ND	ND	ND	16	µg/m3
1,1-Dichloropropene	ND	ND	ND	ND	ND	10	µg/m3

JONES ENVIRONMENTAL LABORATORY RESULTS

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

Sample ID:	**SV1-15**	**SV4-5**	**SV4-15**	**SV5-5**	**SV5-15**		
Jones ID:	**G-0011-11**	**G-0011-12**	**G-0011-13**	**G-0011-14**	**G-0011-15**	**Reporting Limit**	**Units**
Analytes:							
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	8	µg/m3
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	8	µg/m3
Ethylbenzene	**10**	**8**	ND	ND	**10**	8	µg/m3
Freon 113	ND	ND	ND	ND	ND	16	µg/m3
Hexachlorobutadiene	ND	ND	ND	ND	ND	24	µg/m3
Isopropylbenzene	ND	ND	ND	**10**	ND	8	µg/m3
4-Isopropyltoluene	ND	ND	ND	ND	ND	8	µg/m3
Methylene chloride	ND	ND	ND	ND	ND	8	µg/m3
Naphthalene	ND	ND	ND	ND	ND	40	µg/m3
n-Propylbenzene	ND	ND	ND	**11**	ND	8	µg/m3
Styrene	**14**	**10**	ND	**31**	**15**	8	µg/m3
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	8	µg/m3
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	16	µg/m3
Tetrachloroethene	ND	ND	**9**	**8**	ND	8	µg/m3
Toluene	**57**	**67**	**15**	**201**	**57**	8	µg/m3
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	16	µg/m3
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	8	µg/m3
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	8	µg/m3
Trichloroethene	ND	ND	**15**	ND	ND	8	µg/m3
Trichlorofluoromethane	ND	ND	ND	ND	ND	16	µg/m3
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	8	µg/m3
1,2,4-Trimethylbenzene	**10**	**12**	ND	**34**	**15**	8	µg/m3
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	8	µg/m3
Vinyl chloride	ND	ND	ND	ND	ND	8	µg/m3
m,p-Xylene	**34**	**33**	ND	**162**	**52**	16	µg/m3
o-Xylene	**16**	**13**	ND	**54**	**15**	8	µg/m3
MTBE	ND	ND	ND	ND	ND	40	µg/m3
Ethyl-tert-butylether	ND	ND	ND	ND	ND	40	µg/m3
Di-isopropylether	ND	ND	ND	ND	ND	40	µg/m3
tert-amylmethylether	ND	ND	ND	ND	ND	40	µg/m3
tert-Butylalcohol	ND	ND	ND	ND	ND	400	µg/m3
Gasoline Range Organics (C4-C12)	ND	ND	ND	**3980**	ND	2000	µg/m3
Tracer:							
n-Pentane	ND	ND	ND	ND	ND	80	µg/m3
n-Hexane	ND	ND	ND	ND	ND	80	µg/m3
n-Heptane	ND	ND	ND	ND	ND	80	µg/m3
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
1, 2 Dichloroethane-d4	76%	78%	77%	78%	74%	60 - 140	
Toluene-d_8	100%	101%	102%	100%	97%	60 - 140	
4-Bromofluorobenzene	96%	99%	98%	99%	96%	60 - 140	
Batch ID:	G1-062719-01	G1-062719-01	G1-062719-01	G1-062719-01	G1-062719-01		

ND = Value below reporting limit

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Stantec	**Report date:**	7/2/2019
Client Address:	735 East Carnegie Drive, Suite 280 San Bernadino, CA 92408	**Jones Ref. No.:**	G-0011
Attn:	Brian Viggiano	**Date Sampled:**	6/27/2019
		Date Received:	6/27/2019
		Date Analyzed:	6/27/2019
Project Address:	1343 W. 141st Street Gardena, CA	**Physical State:**	Soil Gas

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

Sample ID: **SV9-5**

Jones ID: **G-0011-16**

Analytes:		**Reporting Limit**	**Units**
Benzene	ND	8	µg/m3
Bromobenzene	ND	8	µg/m3
Bromodichloromethane	ND	8	µg/m3
Bromoform	ND	8	µg/m3
n-Butylbenzene	ND	12	µg/m3
sec-Butylbenzene	ND	12	µg/m3
tert-Butylbenzene	ND	12	µg/m3
Carbon tetrachloride	ND	8	µg/m3
Chlorobenzene	ND	8	µg/m3
Chloroform	ND	8	µg/m3
2-Chlorotoluene	ND	12	µg/m3
4-Chlorotoluene	ND	12	µg/m3
Dibromochloromethane	ND	8	µg/m3
1,2-Dibromo-3-chloropropane	ND	8	µg/m3
1,2-Dibromoethane (EDB)	ND	8	µg/m3
Dibromomethane	ND	8	µg/m3
1,2- Dichlorobenzene	ND	16	µg/m3
1,3-Dichlorobenzene	ND	16	µg/m3
1,4-Dichlorobenzene	ND	16	µg/m3
Dichlorodifluoromethane	ND	8	µg/m3
1,1-Dichloroethane	ND	8	µg/m3
1,2-Dichloroethane	ND	8	µg/m3
1,1-Dichloroethene	ND	8	µg/m3
cis-1,2-Dichloroethene	ND	8	µg/m3
trans-1,2-Dichloroethene	ND	8	µg/m3
1,2-Dichloropropane	ND	8	µg/m3
1,3-Dichloropropane	ND	8	µg/m3
2,2-Dichloropropane	ND	16	µg/m3
1,1-Dichloropropene	ND	10	µg/m3

JONES ENVIRONMENTAL LABORATORY RESULTS

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

Sample ID:	**SV9-5**		
Jones ID:	**G-0011-16**	**Reporting Limit**	**Units**
Analytes:			
cis-1,3-Dichloropropene	ND	8	µg/m3
trans-1,3-Dichloropropene	ND	8	µg/m3
Ethylbenzene	ND	8	µg/m3
Freon 113	ND	16	µg/m3
Hexachlorobutadiene	ND	24	µg/m3
Isopropylbenzene	ND	8	µg/m3
4-Isopropyltoluene	ND	8	µg/m3
Methylene chloride	ND	8	µg/m3
Naphthalene	ND	40	µg/m3
n-Propylbenzene	ND	8	µg/m3
Styrene	**8**	8	µg/m3
1,1,1,2-Tetrachloroethane	ND	8	µg/m3
1,1,2,2-Tetrachloroethane	ND	16	µg/m3
Tetrachloroethene	ND	8	µg/m3
Toluene	**12**	8	µg/m3
1,2,3-Trichlorobenzene	ND	16	µg/m3
1,2,4-Trichlorobenzene	ND	16	µg/m3
1,1,1-Trichloroethane	ND	8	µg/m3
1,1,2-Trichloroethane	ND	8	µg/m3
Trichloroethene	ND	8	µg/m3
Trichlorofluoromethane	ND	16	µg/m3
1,2,3-Trichloropropane	ND	8	µg/m3
1,2,4-Trimethylbenzene	**10**	8	µg/m3
1,3,5-Trimethylbenzene	ND	8	µg/m3
Vinyl chloride	ND	8	µg/m3
m,p-Xylene	ND	16	µg/m3
o-Xylene	ND	8	µg/m3
MTBE	ND	40	µg/m3
Ethyl-tert-butylether	ND	40	µg/m3
Di-isopropylether	ND	40	µg/m3
tert-amylmethylether	ND	40	µg/m3
tert-Butylalcohol	ND	400	µg/m3
Gasoline Range Organics (C4-C12)	ND	2000	µg/m3
Tracer:			
n-Pentane	ND	80	µg/m3
n-Hexane	ND	80	µg/m3
n-Heptane	ND	80	µg/m3
Dilution Factor	1		
Surrogate Recoveries:		**QC Limits**	
1, 2 Dichloroethane-d4	83%	60 - 140	
Toluene-d_8	100%	60 - 140	
4-Bromofluorobenzene	96%	60 - 140	
Batch ID:	G1-062719-01		

ND = Value below reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Stantec	**Report date:**	7/2/2019
Client Address:	735 East Carnegie Drive, Suite 280 San Bernadino, CA 92408	**Jones Ref. No.:**	G-0011
Attn:	Brian Viggiano	**Date Sampled:**	6/27/2019
		Date Received:	6/27/2019
		Date Analyzed:	6/27/2019
Project Address:	1343 W. 141st Street Gardena, CA	**Physical State:**	Soil Gas

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

Sample ID:	**METHOD BLANK**	**SAMPLING BLANK**		
Jones ID:	**062719-G1MB1**	**062719-G1SB1**	**Reporting Limit**	**Units**
Analytes:				
Benzene	ND	ND	8	µg/m3
Bromobenzene	ND	ND	8	µg/m3
Bromodichloromethane	ND	ND	8	µg/m3
Bromoform	ND	ND	8	µg/m3
n-Butylbenzene	ND	ND	12	µg/m3
sec-Butylbenzene	ND	ND	12	µg/m3
tert-Butylbenzene	ND	ND	12	µg/m3
Carbon tetrachloride	ND	ND	8	µg/m3
Chlorobenzene	ND	ND	8	µg/m3
Chloroform	ND	ND	8	µg/m3
2-Chlorotoluene	ND	ND	12	µg/m3
4-Chlorotoluene	ND	ND	12	µg/m3
Dibromochloromethane	ND	ND	8	µg/m3
1,2-Dibromo-3-chloropropane	ND	ND	8	µg/m3
1,2-Dibromoethane (EDB)	ND	ND	8	µg/m3
Dibromomethane	ND	ND	8	µg/m3
1,2- Dichlorobenzene	ND	ND	16	µg/m3
1,3-Dichlorobenzene	ND	ND	16	µg/m3
1,4-Dichlorobenzene	ND	ND	16	µg/m3
Dichlorodifluoromethane	ND	ND	8	µg/m3
1,1-Dichloroethane	ND	ND	8	µg/m3
1,2-Dichloroethane	ND	ND	8	µg/m3
1,1-Dichloroethene	ND	ND	8	µg/m3
cis-1,2-Dichloroethene	ND	ND	8	µg/m3
trans-1,2-Dichloroethene	ND	ND	8	µg/m3
1,2-Dichloropropane	ND	ND	8	µg/m3
1,3-Dichloropropane	ND	ND	8	µg/m3
2,2-Dichloropropane	ND	ND	16	µg/m3
1,1-Dichloropropene	ND	ND	10	µg/m3

JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

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

Sample ID:	METHOD BLANK	SAMPLING BLANK		
Jones ID:	**062719-G1MB1**	**062719-G1SB1**	**Reporting Limit**	**Units**
Analytes:				
cis-1,3-Dichloropropene	ND	ND	8	µg/m3
trans-1,3-Dichloropropene	ND	ND	8	µg/m3
Ethylbenzene	ND	ND	8	µg/m3
Freon 113	ND	ND	16	µg/m3
Hexachlorobutadiene	ND	ND	24	µg/m3
Isopropylbenzene	ND	ND	8	µg/m3
4-Isopropyltoluene	ND	ND	8	µg/m3
Methylene chloride	ND	ND	8	µg/m3
Naphthalene	ND	ND	40	µg/m3
n-Propylbenzene	ND	ND	8	µg/m3
Styrene	ND	ND	8	µg/m3
1,1,1,2-Tetrachloroethane	ND	ND	8	µg/m3
1,1,2,2-Tetrachloroethane	ND	ND	16	µg/m3
Tetrachloroethene	ND	ND	8	µg/m3
Toluene	ND	ND	8	µg/m3
1,2,3-Trichlorobenzene	ND	ND	16	µg/m3
1,2,4-Trichlorobenzene	ND	ND	16	µg/m3
1,1,1-Trichloroethane	ND	ND	8	µg/m3
1,1,2-Trichloroethane	ND	ND	8	µg/m3
Trichloroethene	ND	ND	8	µg/m3
Trichlorofluoromethane	ND	ND	16	µg/m3
1,2,3-Trichloropropane	ND	ND	8	µg/m3
1,2,4-Trimethylbenzene	ND	ND	8	µg/m3
1,3,5-Trimethylbenzene	ND	ND	8	µg/m3
Vinyl chloride	ND	ND	8	µg/m3
m,p-Xylene	ND	ND	16	µg/m3
o-Xylene	ND	ND	8	µg/m3
MTBE	ND	ND	40	µg/m3
Ethyl-tert-butylether	ND	ND	40	µg/m3
Di-isopropylether	ND	ND	40	µg/m3
tert-amylmethylether	ND	ND	40	µg/m3
tert-Butylalcohol	ND	ND	400	µg/m3
Gasoline Range Organics (C4-C12)	ND	ND	2000	µg/m3
Tracer:				
n-Pentane	ND	ND	80	µg/m3
n-Hexane	ND	ND	80	µg/m3
n-Heptane	ND	ND	80	µg/m3
Dilution Factor	1	1		
Surrogate Recoveries:			**QC Limits**	
1, 2 Dichloroethane-d4	82%	80%	60 - 140	
Toluene-d_8	101%	104%	60 - 140	
4-Bromofluorobenzene	98%	97%	60 - 140	
Batch ID:	G1-062719-01	G1-062719-01		

ND = Value below reporting limit

JONES ENVIRONMENTAL, INC.

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

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

JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client: Stantec
Client Address: 735 East Carnegie Drive, Suite 280
San Bernadino, CA 92408

Attn: Brian Viggiano

Project Address: 1343 W. 141st Street
Gardena, CA

Report date: 7/2/2019
Jones Ref. No.: G-0011

Date Sampled: 6/27/2019
Date Received: 6/27/2019
Date Analyzed: 6/27/2019
Physical State: Soil Gas

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

Batch ID: G1-062719-01

Jones ID:	**062719-G1LCS1**	**062719-G1LCSD1**			**062719-G1CCV1**	
Parameter	LCS Recovery (%)	LCSD Recovery (%)	RPD	Acceptability Range (%)	CCV	Acceptability Range (%)
Vinyl chloride	94%	110%	15.5%	60 - 140	106%	80 - 120
1,1-Dichloroethene	89%	98%	10.1%	60 - 140	102%	80 - 120
Cis-1,2-Dichloroethene	109%	119%	8.4%	70 - 130	108%	80 - 120
1,1,1-Trichloroethane	124%	128%	2.9%	70 - 130	83%	80 - 120
Benzene	113%	121%	6.5%	70 - 130	109%	80 - 120
Trichloroethene	103%	113%	9.6%	70 - 130	108%	80 - 120
Toluene	107%	120%	11.6%	70 - 130	108%	80 - 120
Tetrachloroethene	112%	118%	5.2%	70 - 130	110%	80 - 120
Chlorobenzene	106%	118%	10.8%	70 - 130	111%	80 - 120
Ethylbenzene	110%	119%	7.9%	70 - 130	110%	80 - 120
1,2,4 Trimethylbenzene	105%	118%	12.4%	70 - 130	109%	80 - 120
Gasoline Range Organics (C4-C12)	109%	120%	9.6%	70 - 130	109%	80 - 120
Surrogate Recovery:						
1, 2 Dichloroethane-d4	90%	90%		60 - 140	88%	60 - 140
Toluene-d_8	99%	99%		60 - 140	98%	60 - 140
4-Bromofluorobenzene	99%	100%		60 - 140	102%	60 - 140

LCS = Laboratory Control Sample
LCSD = Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%

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562-646-1611
805-399-0060

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client: Stantec
Client Address: 735 East Carnegie Drive, Suite 280
San Bernadino, CA 92408

Attn: Brian Viggiano

Project Address: 1343 W. 141st Street
Gardena, CA

Report date: 7/2/2019
Jones Ref. No.: G-0011

Date Sampled: 6/27/2019
Date Received: 6/27/2019
Date Analyzed: 6/27/2019
Physical State: Soil Gas

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

QC ID: G1-062719-HL01

Jones ID:	**062719-G1LCS1**	**062719-G1LCSD1**			**062719-G1CCV1**	
Parameter	LCS Recovery (%)	LCSD Recovery (%)	RPD	Acceptability Range (%)	CCV	Acceptability Range (%)
Trichloroethene	96%	86%	11.6%	70 - 130	107%	80 - 120
Tetrachloroethene	98%	92%	6.2%	70 - 130	110%	80 - 120
Surrogate Recovery:						
1, 2 Dichloroethane-d4	90%	90%		60 - 140	88%	60 - 140
Toluene-d_8	99%	99%		60 - 140	98%	60 - 140
4-Bromofluorobenzene	99%	100%		60 - 140	102%	60 - 140

LCS = Laboratory Control Sample
LCSD = Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%

JONES ENVIRONMENTAL, INC.

11007 Forest Pl.
Santa Fe Springs, CA 90670
(714) 449-9937
Fax (714) 449-9685
www.jonesenv.com

Soil-Gas Chain-of-Custody Record

Client: Stantec

Project Name:

Project Address: 1343 W. 141st Street, Gardena, CA

Email:

Phone:

Report To:

Sampler: Casey Ellis

Date: 6/27/2019

Client Project #:

Purge Number: ☐ 1P ☒ 3P ☐ 7P ☐ 10P

Shut-In Test: (Y) / N

Report Options: EDD ____ EDF* - 10% Surcharge____

*Global ID _____

LAB USE ONLY

Jones Project #: G-0011

Page 1 of 2

Sample Container: GASTIGHT GLASS SYRINGE

If different than above, see Notes.

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24 Hours
- ☐ Rush 48 Hours
- ☐ Rush 72 Hours
- ☐ Normal
- ☒ Mobile Lab

Tracer:
- ☒ n-pentane
- ☒ n-hexane
- ☒ n-heptane
- ☐ Isopropyl Alchohol
- ☐ 1,1-DFA
- ☐ _____

Reporting Limits: ☒ Standard ☐ Low Level* ☐ MDL* (*surcharge for these limits)

Units: $\mu g/m^3$

Analysis Requested

Sample ID	Purge Number	Purge Volume (mL)	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample ID	Purge Rate (mL/min)	Pump Used	Magnehelic	Sample Matrix: Soil Gas (SG), Air (A), Material (M)	EPA 8260B (VOCs)	Gasoline Range Organics			Magnehelic Vacuum (In/H_2O)	Number of Containers	Notes & Special Instructions
SV6-5	3	1310	6/27/19	7:54	7:59	G-0011-01	200	STEVE.1	118007	SG	X	X			<2	1	
SV6-15	-	-	6/27/19	8:32	8:48	G-0011-02	200	-	118011	SG	X	X			100	1	COLLECTED UNDER NO FLOW CONDITIONS
SV7-5	3	1310	6/27/19	8:14	8:15	G-0011-03	200	CASEY.1	M100.500	SG	X	X			<2	1	
SV7-5 REP	3	1470	6/27/19	8:24	8:31	G-0011-04	200	CASEY.1	M100.500	SG	X	X			<2	1	
SV7-15	-	-	6/27/19	8:56	9:05	G-0011-05	200	-	118011	SG	X	X			100	1	COLLECTED UNDER NO FLOW CONDITIONS
SV8-5	3	1,310	6/27/19	9:20	9:22	G-0011-06	200	STEVE.1	M100.500	SG	X	X			<2	1	
SV8-15	-	-	6/27/19	9:30	9:39	G-0011-07	200	-	118011	SG	X	X			100	1	COLLECTED UNDER NO FLOW CONDITIONS
SV2-5	3	1310	6/27/19	9:50	9:56	G-0011-08	200	CASEY.1	118007	SG	X	X			30	1	
SV3-5	3	1310	6/27/19	10:05	10:13	G-0011-09	200	STEVE.1	M100.500	SG	X	X			28	1	
SV1-5	3	1310	6/27/19	10:21	10:30	G-0011-10	200	CASEY.1	118011	SG	X	X			44	1	

Representative Signature: Melissa Baernstein	Printed Name: Melissa Baernstein	Laboratory Signature: Casey Ellis	Printed Name: CASEY ELLIS	10	Total Number of Containers
Company: STANTEC	Date: 6/27/2019 Time:	Company: JONES ENVIRONMENTAL, INC.	Date: 6/27/2019 Time:		
Representative Signature:	Printed Name:	Laboratory Signature:	Printed Name:		
Company:	Date: Time:	Company:	Date: Time:		

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

JONES ENVIRONMENTAL, INC.

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Santa Fe Springs, CA 90670
(714) 449-9937
Fax (714) 449-9685
www.jonesenv.com

Soil-Gas Chain-of-Custody Record

Client: Stantec

Project Name:

Project Address: 1343 W. 141st Street, Gardena, CA

Email:

Phone:

Report To:

Sampler: Casey Ellis

Date: 6/27/2019

Client Project #:

Purge Number: ☐ 1P ☒ 3P ☐ 7P ☐ 10P

Shut-In Test: (Y) / N

Report Options: EDD ____ EDF* - 10% Surcharge____ *Global ID _____

LAB USE ONLY

Jones Project #: G-0011

Page 2 of 2

Sample Container: GASTIGHT GLASS SYRINGE

If different than above, see Notes.

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24 Hours
- ☐ Rush 48 Hours
- ☐ Rush 72 Hours
- ☐ Normal
- ☒ Mobile Lab

Tracer:
- ☒ n-pentane
- ☒ n-hexane
- ☒ n-heptane
- ☐ Isopropyl Alchohol
- ☐ 1,1-DFA
- ☐ _____

Reporting Limits: ☒ Standard ☐ Low Level* ☐ MDL* (*surcharge for these limits)

Units: ug/m³

Analysis Requested

Sample ID	Purge Number	Purge Volume (mL)	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample ID	Purge Rate (mL/min)	Pump Used	Magnehelic	Sample Matrix: Soil Gas (SG), Air (A), Material (M)	EPA 8260B (VOCs)	Gasoline Range Organics			Magnehelic Vacuum (In/H_2O)	Number of Containers	Notes & Special Instructions
SV1-15	3	1470	6/27/19	10:44	10:48	G-0011-11	200	STEVE.1	118007	SG	X	X			24	1	
SV4-5	3	1310	6/27/19	11:01	11:05	G-0011-12	200	CASEY.1	118011	SG	X	X			<2	1	
SV4-15	-	-	6/27/19	11:12	11:23	G-0011-13	200	-	M100.500	SG	X	X			100	1	COLLECTED UNDER NO FLOW CONDITIONS
SV5-5	3	1310	6/27/19	11:36	11:40	G-0011-14	200	CASEY.1	118011	SG	X	X			16	1	
SV5-15	3	1,470	6/27/19	11:52	11:57	G-0011-15	200	STEVE.1	M100.500	SG	X	X			<2	1	
SV9-5	3	1,310	6/27/19	12:13	12:15	G-0011-16	200	CASEY.1	118007	SG	X	X			<2	1	

Representative Signature: Melissa Baerstein **Printed Name:** Melissa Baerstein
Company: STANTEC **Date:** 6/27/2019 **Time:**

Laboratory Signature: Casey Ellis **Printed Name:** CASEY ELLIS
Company: JONES ENVIRONMENTAL, INC. **Date:** 6/27/2019 **Time:**

Representative Signature: **Printed Name:**
Company: **Date:** **Time:**

Laboratory Signature: **Printed Name:**
Company: **Date:** **Time:**

6 Total Number of Containers

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

Supplemental Site Investigation Report ("Supplemental Report")

1335, 1337, 1341 and 1343 West 141st Street
Gardena, California

January 29, 2020

Prepared for:

The Olson Company
3010 Old Ranch Parkway, Suite 100

Prepared by:

Stantec Consulting Services Inc.
735 East Carnegie Drive, Suite 280
San Bernardino, California 920408

This document entitled Supplemental Site Investigation Report ("Supplemental Report") was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of The Olson Company (the "Client"). Any reliance on this document by any third party, except for Client's agents, underwriters, or oversight agencies, is strictly prohibited. The material in this Supplemental Report reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by _____
(signature)
Brian Viggiano, PG, Senior Geologist

PROFESSIONAL GEOLOGIST
Brian
Viggiano
No. PG8386
STATE OF CALIFORNIA

Approved by _____
(signature)
Kyle Emerson, CEG, Managing Principal Geologist

PROFESSIONAL GEOLOGIST
KYLE EMERSON
271
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Table of Contents

LIST OF TABLES

LIST OF FIGURES

APPENDICES

Appendix A – Boring Logs
Appendix B – Laboratory Reports
Appendix C – ProUCL Worksheets

1.0 INTRODUCTION

This Report presents the methodology and findings of continued Phase II Environmental Site Assessment ("ESA") activities completed by Stantec Consulting Services Inc. (Stantec) at the property associated with address 1335, 1337, 1341 and 1343 West 141St Street, Gardena, California (collectively the "Site" or "Property").

The ESA was performed based on the scope of work set forth in following approved Stantec proposals:

- *Proposal for Supplemental Soil Vapor Evaluation*, dated November 19, 2019; and,
- *Additional Assessment Change Order* (email), dated January 9, 2020.

1.1 SITE LOCATION AND DESCRIPTION

The Site consists of approximately 2.02 acres of land developed with a nursery and two residential structures. Surrounding properties are a mix of commercial and residential properties. A Property location map is illustrated on **Figure 1**. A Property map illustrating the main features of the Property is provided as **Figure 2**.

2.0 BACKGROUND

According to available historical references, the Site has operated as a nursery since approximately 1950. As part of the nursery operations, a 500-gallon steel-clad unleaded gasoline underground storage tank (UST) was installed at the Site. The UST is reported to have been removed in 1987 under a permit issued by the County of Los Angeles Department of Public Works (LACDPW), but regulatory closure for the tank removal was not obtained. In 1991, a subsurface investigation was conducted by the environmental consultant Tetra Tech, to evaluate Site soils at the former UST location in order to pursue regulatory closure from LACDPW. The investigation consisted of drilling one (1) soil boring to 40 feet below ground surface (bgs) for the purposes of collecting soil samples for laboratory analysis and lithologic description at five-foot intervals. The collected soil samples were composited into a single sample and analyzed for the presence of total petroleum hydrocarbons (TPH) and aromatic volatile organic compounds (AVOCs). The soil sample analyzed reported no presence of target analytes above laboratory reporting limits.

During the 1991 investigation, groundwater was reportedly encountered at a depth of approximately 35 feet bgs and reportedly rose to an elevation of approximately 16 feet bgs, indicating that groundwater is present at the Site under confined conditions. The encountered groundwater was not sampled. In addition, no soil vapor samples appear to have been collected to evaluate soil vapor conditions. The UST case was subsequently transferred to the Los Angeles Regional Water Quality Control Board (LARWQCB) in correspondence dated November 10, 2015. Based on the discussions with LACDPW personnel, the case was apparently transferred due to the absence of groundwater data that would have been required to confirm the absence of any environmental impacts. The case currently appears to be dormant -- no formal file appears to have been created with Regional Board -- and the site is not identified on the State Water Board's online database GeoTracker.

Based on the presence of the open UST case, and the lack of soil vapor data needed to evaluate inhalation risks to future residential receptors, Stantec recommended performing a preliminary Phase II ESA to evaluate soil vapor data in the vicinity of the former UST. Accordingly, as part of the investigation, two soil vapor probes were installed (SB-1 and SB-2) – which were set at 7-feet bgs. Soil vapor samples were collected from the probes and were analyzed for the presence of volatile organic compounds (VOCs) following EPA method 8260B.

The soil vapor sample results reported from May 2019 assessment included generally low concentrations of numerous VOCs including: chloromethane, methylene chloride, carbon disulfide, 2-butanone, chloroform, benzene, 4-methyl-2-pentanone, toluene, tetrachloroethene (PCE), ethylbenzene, xylenes, 4-ethyltoluene, 1,3,5-trimethylbenzene, and 1,2,4-trimethylbenzene. All reported concentrations were reported at concentrations below the DTSC HERO Note 3 and USEPA Regional Screening Levels (RSLs) when compared using an attenuation factor of 0.001 for future residential development. When compared to the attenuation factor of 0.03 concentrations of chloroform, benzene and PCE were found to exceed the residential screening levels northwest portion of the property (**Figure 2a)**. The sample results are provided on **Table 1**.

As a result of these findings, Stantec was retained to perform further assessment of Site soil vapor and groundwater to further evaluate Site conditions, the results of which are reported in Stantec's *Continued Phase II Environmental Site Assessment Report*, dated September 19, 2019. The results of the completed investigations identified the presence of total petroleum hydrocarbons as gasoline (GRO), chloroform, benzene, and tetrachloroethylene (PCE) sporadically in soil vapor samples at concentrations above risk-based screening levels based on a soil vapor to indoor air model attenuation factor of 0.03. The distribution and concentration of sample results are not indicative of a significant onsite release or current groundwater condition. As such, in accordance with DTSC HERO Note 3, which indicates that the 0.03 attenuation factor is recommended for screening sub-slab and "near-source" exterior soil gas, screening levels should be based on an attenuation factor of 0.001 as set forth in the DTSC (2011) Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance).

Concentrations of GRO and benzene, toluene, ethylbenzene, and total xylenes (BTEX compounds) may be associated either the former onsite UST or historical low concentrations of petroleum related constituents in groundwater that may have passed though the Site. The sporadic, mostly very low concentrations of chlorinated volatile organic compounds (VOCs) likely originated from an off-site source, such as BP Chemicals, Hitco Gardena/ HITCO Carbon Composite Facility, located approximately 1500 feet northwest of the Site at 1600 West 135th Street, in Gardena, which is currently undergoing remediation. There is no known prior on-Site use of chlorinated solvents and chlorinated VOCs have not been detected in the soil matrix.

Analysis of groundwater samples at the two sampled locations reported only trace concentrations of total petroleum hydrocarbons in the diesel range (DRO) and oil range (ORO) analytes. The reported DRO and ORO concentrations are below applicable screening levels for both drinking water and vapor intrusion concern. Moreover, no concentration of GRO or VOC was reported above the laboratory reporting limits (*i.e.*, the samples were non-detect for these analytes). Reported analysis of the soil matrix does not indicate significant residual impacts to soil associated with the former UST.

The absence of GRO, benzene, and other VOC concentrations in groundwater, combined with increasing GRO soil gas concentrations with depth, is indicative of a potential historical groundwater plume that is no longer present on-site. The absence of GRO impacted soils detected on-site support this inference. It is also possible that volatilized concentrations of GRO and benzene may be associated with the former onsite UST, although soil matrix analysis makes this possibility unlikely.

Based on these results, Stantec recommended no further investigation of groundwater at this time.

Subsequent to the above completed investigations, Olson voluntarily elected to perform supplementary soil and soil vapor investigations to evaluate temporal soil vapor concentrations and to further evaluate shallow soil concentrations for the potential presence of pesticides, arsenic and lead. The remainder of this Report presents the results of these supplemental soil and soil vapor investigations.

3.0 FIELD INVESTIGATION PROGRAM

Site investigations were conducted in following two phases:

- Phase 1 – subsurface soil and soil gas investigation to supplement previously collected shallow soil data for pesticides, arsenic and lead, and to further evaluate soil gas VOC concentrations. The soil gas investigation consisted of the installation of nine additional single or multi-depth soil vapor probes (SV-10 through SV-18) and sampling and testing for VOCs following EPA method 8260B using an on-Site mobile laboratory. Shallow soil samples were collected at depth of one and three feet bgs during installation of the soil vapor probes for analysis of the potential presence of pesticides, lead and arsenic.
- Phase 2 – step-out soil sampling. The second phase of sampling consisted of placing three additional soil borings in the vicinity of both soil boring SV-12 and SV-18 to evaluate the lateral limits of shallow impacts due to lead and the pesticide dieldrin, respectively, above screening levels at each of these locations.

3.1 SCOPE OF WORK

The scope of work performed by Stantec included the following general elements:

- Preparation and updating of a Site-specific Health and Safety Plan (HASP);
- Notification of Underground Service Alert (USA) to identify public utility locations;
- Conducting a Site assessment of soil, soil gas and groundwater including the following general elements:
    - Drilling nine (9) direct push technology (DPT) soil borings (SV-10 through SV-18) to facilitate the construction of soil vapor probe sampling points. With the exception of soil boring SV-16, the soil vapor probes were constructed with soil vapor probes set at depths of five and 15 feet bgs. Because of access limitations, SV-16 had to be installed using a hand auger and was limited to installation of a single soil vapor probe set at a depth of five feet bgs.
    - Excavating seven (7) step-out borings (SV-12A through SV-12C and SV-18A through SV-18D with a hand auger to collect soil samples at depths of one and three feet bgs for chemical analysis.
    - Chemical analysis of selected soil samples for pesticides following EPA method 8081A and for total arsenic and lead following EPA method 6010B.
    - Collecting soil vapor samples from soil vapor probes from all existing and newly installed soil vapor probes following EPA method 8260B using a State of California certified mobile

laboratory. Soil vapor probe SV-8, could not be located during the assessment. Consequently, soil vapor probe SV-8 was not sampled.

- Collecting fixed gas (*i.e.*, methane, carbon dioxide and oxygen) measurements at all existing and newly installed soil vapor probes.
- Preparing a technical report presenting the methodology, results and conclusions of the Site assessment activities.

4.0 FIELD INVESTIGATION

On-Site field assessment activities were performed in general accordance with the scopes of work set forth in Stantec's proposals for environmental Site assessment. All field sampling activities were performed under a Site-specific health and safety plan (HASP). Prior to drilling, the Site boundaries were marked in white paint and Underground Service Alert (USA) was notified a minimum of 48 hours in advance of planned field investigations.

4.1 SUBSURFACE SOIL VAPOR PROBE INSTALLATION

Nine additional soil vapor borings (SV-10 through SV-18) were drilled at the approximate locations depicted on **Figure 2** on November 25, 2019. The soil borings were drilled using a DPT drilling rig equipped with 2.25-inch diameter stainless steel rods. Prior to drilling, a hand auger was used to excavate soils to a depth of five feet bgs to clear for utility lines. During hand-augering, soil samples were collected at depths of one and three feet bgs into laboratory provided glass jars with equipped with Teflon-lined screw-on lids. The samples were labeled to indicate the sample identification and depth and placed in ice-chilled cooler pending transport to the laboratory under chain-of-custody. Once a depth of five feet bgs was reached, the remainder of the boring was drilled with the DPT rig, if necessary, to depths up to approximately 15.5 feet bgs. Soil sampling commenced at a depth of five feet bgs, and subsequent samples were collected at five-foot intervals for lithologic description and field screening with a PID.

Soil samples were collected using a 24-inch long by one-inch diameter stainless steel sampler lined with a clear acetate sample liner advanced into undisturbed soils using a hydraulic ram on the drilling rig until 24 inches of penetration is achieved. Upon advancement of the sampler to the full 24-inches, the steel sampling rods were extracted from the boring and the sampler was removed. The drilling and sampling procedures were repeated to the total depth of the boring.

Upon extraction of the sampler at each sampling depth interval, the acetate liner was opened, and the soils contained therein were logged in accordance with the unified soil classification system (USCS). A photoionization detector (PID) calibrated to 100 ppmV isobutylene span gas, was used to monitor headspace for VOC vapors in soil samples. Boring logs depicting the encountered lithology and PID measurements are included in **Appendix A**.

The DPT borings were subsequently converted to soil vapor monitoring points to facilitate soil vapor sampling. The monitoring points were constructed by first placing approximately 4 to 6 inches of Monterey No. 3 wash sand, or equivalent, in the bottom of the borehole. A permeable vapor tip connected to 1/4 -inch diameter Nylaflow tubing that was then lowered to the bottom of the borehole and then backfilled with 12 inches of filter sand. A transition seal consisting of approximately 12-inches of dry bentonite was then placed above the filter pack, followed by an annular seal consisting of neat-cementte grout to the ground surface or until the next soil vapor point interval was reached. The sequence was then be repeated, as necessary for multi-depth sampling points, to install the next monitoring point, and completely backfilling the borehole. The Nylafow tubing was capped with a valve in the closed position

and left protruding from the borehole. Each vapor probe was allowed to equilibrate for minimum of 48 hours between construction and sampling.

4.2 SOIL VAPOR SAMPLING PROCEDURES

Soil vapor samples were collected on December 12-13, 2019 in accordance with the methods and procedures outlined by the DTSC and CalEPA Advisory – Active Soil Gas Investigations, dated July 2015.

Prior to sampling, a shut-in test was conducted on the sampling train to ensure all connections and fittings were airtight. The shut-in test was performed on the sampling train by applying a vacuum of 100 inches of water to the sampling train and monitoring magnehelic gauges for a pressure drop for one minute. If loss of vacuum was observed, the fittings were adjusted as needed until no vacuum loss was observed during subsequent shut-in tests.

After the sampling equipment passed the shut-in test, the probes were purged to remove internal air from the sample train (calculated from the internal volume of the tubing, probe tip; the void space of the sand pack around the probe tip; and the void space of the dry bentonite (in the annular space). Three internal volumes were purged from each sampling location at a rate less than 200 milliliters per minute (ml/min).

Immediately following purging the internal volumes, the soil vapor samples were collected by the laboratory technician by connecting a foil-wrapped glass bulb to the sampling port with Teflon® or Nylaflow® tubing and drawing the sample into the bulb at a rate of less than 200ml/min. A tracer compound consisting of Isopropanol was placed above the surface seal and along the sampling train to evaluate the integrity of the seal. No tracer compounds were detected in the soil vapor samples collected during this investigation.

Following collection of the laboratory samples for VOC analysis, fixed gas (*i.e.*, methane, carbon dioxide, and oxygen) measurements were collected from each soil vapor probe using Landtec GEM 5000 landfill gas meter. The meter was calibrated by the supplier prior to use.

4.3 STEP-OUT HAND AUGER BORINGS

Based on the results of the shallow soil sampling that reported a concentration of lead in sample SV-12-1 at 110 milligrams per kilogram (mg/Kg) and a concentration of dieldrin in sample SV-18-1 at 0.170 mg/Kg, three step-out borings were placed at each of the two soil boring locations. An additional soil boring was placed adjacent to soil boring SV-18 (SV-18A) to collect a soil sample at 3 feet bgs to evaluate the vertical limit of impact at this location.

Step-out borings were placed at three locations approximately 20 feet radial to soil borings SV-12 and SV-18. At each location a hand auger was used to excavate soil to approximately 3 feet bgs to facilitate samples collection and depths of one and three feet bgs. Samples were collected by discharging soil directly from the hand auger bucket into pre-cleaned, laboratory provided glass jars equipped with Teflon-lined screw-on lids. The samples were labeled to indicate the sample identification, time and date and

placed in an ice-chilled cooler pending transport the laboratory under chain of custody for chemical analysis.

4.4 DECONTAMINATION AND WASTE DISPOSAL

Prior to drilling and sampling, all drilling rods and instruments that came in contact with sampled media were decontaminated in a non-phosphate scrub solution followed by a deionized water double rinse.

All soil cuttings, purge water and decontamination fluids and other potentially contaminated waste were contained into one DOT 17-gallon drum and appropriately labeled pending waste characterization, profiling and disposal.

5.0 LABORATORY SERVICES

All chemical analysis was performed at a State of California Certified Laboratory. Collected soil samples were analyzed at Advanced Technology Laboratories located in Signal Hill, California. Soil vapor samples were collected and analyzed by Advance Research Laboratories (ARL) using an on-Site mobile laboratory. All samples were managed under strict chain-of-custody. The results are discussed below and presented on **Tables 1-3**. Complete laboratory reports, including QA/QC documentation is included in **Appendix B.**

6.0 INVESTIGATION RESULTS

6.1 FIELD OBSERVATIONS

Subsurface soils encountered during drilling generally consisted of fine-grained silts and clays with variable sand and occasional thin sand interbeds to depths up to 15 feet below ground surface. Groundwater was not encountered in any of the borings. No staining, odors or other obvious signs of contamination were noted during the investigation. Recorded VOC measurements using a PID reported concentrations of 0.0 parts per million by volume (ppmV) in all screened samples. Boring logs depicting encountered lithology and PID readings are included in **Appendix B**.

6.2 VOC SOIL VAPOR ANALYTICAL RESULTS

With the exception of soil vapor probe SV-8, which could not be located, soil vapor samples were collected from soil vapor probes SV-1 through SV-18 and analyzed for the presence of VOCs following EPA method 8260B using an on-Site mobile laboratory. Analytical results are tabulated on **Table 1**. Laboratory reports including QA/QC documentation are included in **Appendix C**. The following paragraphs summarize the current analytical results from the current round of sampling:

- Concentrations of toluene were reported sporadically at low concentrations ranging between 20 ug/m3 up to 50 ug/m3 in samples collected from soil vapor probes SV4, SV5, SV-6, SV-11, SV-12, and SV-13. All reported concentrations are well below the DTSC HERO Note 3 residential screening level (based on an attenuation of 0.03) of 10,333 ug/m3. Toluene was not reported above laboratory method detection limits in any other analyzed samples.
- No other VOC in any analyzed sample was reported above its laboratory method detection limit.
- GRO was not reported above laboratory method detection limits in any analyzed sample.

6.3 FIXED GAS MEASUREMENTS

Fixed gas measurements were collected at all existing and newly installed soil vapor probes using a Landtec GEM 5000 landfill gas meter. The results are tabulated on attached **Table 2.** The following summarizes the fixed gas field measurements:

- Oxygen was reported between 6.2 percent by volume up to 19.8 percent by volume.
- Carbon dioxide was reported between 0.2 percent by volume up to 3.9 percent by volume.
- Methane was not measured in any of the tested sample locations.

6.4 SOIL ANALYTICAL RESULTS

Soil samples were collected between depths of approximately one foot and three feet bgs and variously analyzed for lead, arsenic and pesticides. Sample results are tabulated on **Tables 3-4**. The following paragraphs discuss the soil analytical results.

- Arsenic was reported in analyzed soil samples collected from one-foot bgs at concentrations ranging from non-detect (<1.0 mg/Kg) up to 8.4 mg/Kg. All reported concentrations are consistent with typical southern California background levels.

- With the exception of sample SV-12-1, lead was reported at concentrations between 4.3 mg/Kg up to 54 mg/Kg, which is below the DTSC HERO Note 3 residential screening level of 80 mg/Kg. Lead was reported in sample SV-12-1 at a concentration of 110 mg/Kg but decreased to 6 mg/Kg in the sample collected and analyzed at 3 feet bgs. Furthermore, concentrations of lead reported in three radial step-out borings (SV-12A through SV-12C) reported lead at concentrations ranging between 5 and 20 mg/Kg, indicating that the reported lead concentration reported in sample SV-12-1 is limited in extent vertically and laterally.

  In accordance with DTSC HERO Note 4, Site wide total lead concentrations were evaluated to determine the 95% upper confidence level (UCL) of the mean using US EPA ProUCL software (Version 5.1). The statistical evaluation indicates that the 95% UCL for Site-wide total lead concentrations is 40.81 mg/Kg, which is below the DTSC HERO Note 3 screening level of 80 mg/Kg. Subsequent performance of the Dixon's Outlier test using ProUCL indicated that the lead concentration of 110 mg/Kg reported in sample SV-12-1 is a statistical outlier. The 95% UCL for Site total lead concentrations with sample SV-12-1 omitted from the sample population is 18.39 mg/Kg. Copies of the ProUCL 95% UCL and Dixon's Outlier Test Work Sheets are included in **Appendix C**.

- The pesticide dieldrin was reported at a concentration of 0.170 mg/Kg in sample SV-18-1, in exceedance of the DTSC HERO Note 3 residential screening level of 0.034 mg/Kg. Concentrations of dieldrin were reported as non-detect (<0.002 mg/Kg) in the sample analyzed at three feet at this location (SV-18A-3) and in samples collected and analyzed at one and three feet bgs in three radial step-out borings (SV-18B through SV-18D), indicating that the reported concentration of dieldrin is limited in extent both vertically and laterally.

  Statistical evaluation of Site-wide dieldrin concentrations using EPA ProUCL software (Version 5.1) indicates that the 95% UCL for Site dieldrin concentrations is 0.045 mg/Kg when calculated using one-half the reporting limit for non-detects, which is slightly above the DTSC HERO Note 3 screening level of 0.034 mg/Kg. Performance of the Dixon's Outlier test using ProUCL indicates that the dieldrin concentration of 0.170 mg/Kg reported in sample SV-18-1 is a statistical outlier. The 95% UCL for Site dieldrin concentrations with sample SV-18-1 omitted from the sample population is 0.00611 mg/Kg, which is well below the DTSC HERO Note 3 screening level of 0.045 mg/Kg. Copies of the ProUCL 95% UCL and Dixon's Outlier Test Work Sheets are included in **Appendix C.**

- Trace concentrations of other pesticides including DDD, DDE, DDT, delta-BHC, and chlordane (including alpha and gamma isomers) were reported sporadically at trace concentrations well below DTSC HERO Note 3 residential screening levels, where established.

7.0 SUMMARY OF FINDINGS

Based on the results of the completed investigations, Stantec provides the following summary:

- Subsurface soils encountered during drilling generally consisted of fine-grained silts and clays with variable sand and occasional thin sand interbeds to depths up to 15 feet below ground surface. Groundwater was not encountered in any of the borings.
- No staining, odors or other obvious signs of contamination were noted during the investigation. Recorded VOC measurements using a PID reported concentrations of 0.0 parts per million by volume (ppmV) in all screened samples.
- Concentrations of toluene were reported sporadically at low concentrations ranging between 20 ug/m3 up to 50 ug/m3 in samples collected from soil vapor probes SV4, SV5, SV-6, SV-11, SV-12, and SV-13. All reported concentrations are well below the DTSC HERO Note 3 residential screening level of 10,333 ug/m3. Toluene was not reported above laboratory method detection limits in any other analyzed samples.
- No other VOCs were reported above laboratory method detection limits in any analyzed sample.
- GRO were not reported above laboratory method detection limits in any analyzed sample.
- Oxygen was reported between 6.2 percent by volume and 19.8 percent by volume, indicating bio-attenuation of petroleum hydrocarbons, including benzene, is expected at the Site. The State Water Resource Control Board's *Low Threat Underground Storage Tank Closure Policy* (LTCP) and USEPA's *Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites*, dated June 2015, indicate that active bioattenuation of petroleum hydrocarbons occurs under conditions where oxygen levels exceed 4% by volume, such as the conditions encountered at the Site. The LTCP assumes 1000-fold bioattenuation (or 0.001 attenuation factor) of petroleum vapors in the bioattenuation zone, which should be applied to the Site when considering attenuation of petroleum hydrocarbons including GRO and benzene.
- Arsenic was reported in analyzed soil samples collected from one-foot bgs at concentrations ranging from non-detect (<1.0 mg/Kg) up to 8.4 mg/Kg. All reported concentrations are consistent with typical southern California background levels.
- With the exception of sample SV-12-1, lead was reported at concentrations between 4.3 mg/Kg up to 54 mg/Kg, which are below the DTSC HERO Note 3 residential screening level of 80 mg/Kg. Lead was reported in sample SV-12-1 at a concentration of 110 mg/Kg but decreased to 6 mg/Kg in the sample collected and analyzed at 3 feet bgs. Furthermore, concentrations of lead reported in three radial step-out borings (SV-12A through SV-12B) reported lead at concentrations ranging between 5 and 20 mg/Kg, indicating that the reported lead concentration reported in sample SV-12-1 is limited in extent vertically and laterally.

In accordance with DTSC HERO Note 4, Site wide total lead concentrations were evaluated to determine the 95% UCL using US EPA ProUCL software (Version 5.1). The statistical evaluation indicates that the 95% UCL for Site-wide total lead concentrations is 40.81 mg/Kg, which is below the DTSC HERO Note 3 screening level of 80 mg/Kg. Subsequent performance of the Dixon's Outlier test using ProUCL indicated that the lead concentration of 110 mg/Kg reported in sample SV-12-1 is a statistical outlier. The 95% UCL for Site total lead concentrations with sample SV-12-1 omitted from the sample population is 18.39 mg/Kg. Copies of the ProUCL 95% UCL and Dixon's Outlier Test worksheets are included in **Appendix C**.

- The pesticide dieldrin was reported at a concentration of 0.170 mg/Kg in sample SV-18-1, in exceedance of the DTSC HERO Note 3 residential screening level of 0.034 mg/Kg. Concentrations of dieldrin were reported as non-detect (<0.002 mg/Kg) in the sample analyzed at three feet at this location (SV-18A-3) and in samples collected and analyzed at one and three feet bgs in three radial step-out borings (SV-18B through SV-18D), indicating that the reported concentration of dieldrin is limited in extent both vertically and laterally.

  Statistical evaluation of Site-wide dieldrin concentrations using EPA ProUCL software (Version 5.1) indicates that the 95% UCL for Site dieldrin concentrations is 0.045 mg/Kg when calculated using one-half the reporting limit for non-detects, which is above the DTSC HERO Note 3 screening level of 0.034 mg/Kg. Performance of the Dixon's Outlier test using Pro UCL indicates that the dieldrin concentration of 0.170 mg/Kg reported in sample SV-18-1 is a statistical outlier. The 95% UCL for Site dieldrin concentrations with sample SV-18-1 omitted from the sample population is 0.00611 mg/Kg, which is well below the DTSC HERO Note 3 screening level of 0.045 mg/Kg. Copies of the ProUCL 95% UCL and Dixon's Outlier Test worksheets are included in **Appendix C**

- Trace concentrations of other pesticides including DDD, DDE, DDT, delta-BHC, and chlordane (including alpha and gamma isomers) were reported sporadically at trace concentrations well below DTSC HERO Note 3 residential screening levels, where established.

Discussion

Numerous investigations have been conducted at the Site to evaluate soil, groundwater and soil vapor matrices. The results of these investigations have identified generally low concentration of several VOCs and gasoline range constituents in soil vapor. GRO, benzene, PCE and chloroform have been reported sporadically at concentrations above generic modified indoor air screening levels (MIASLs) based on an attenuation factor of 0.03, but not at concentrations in exceedance of MIASLs based on an attenuation factor of 0.001. Temporal variations reported over subsequent monitoring events conducted in May, June and December 2019, indicate that concentrations decreased in the December 2019 monitoring event when compared to the sampling event conducted in May/June 2019. **Figures 2A** through **2D** summarize relevant soil vapor concentrations. In addition, Site wide soil gas oxygen levels were reported in excess

of 4% (reported between 6.2 and 19.8 percent) indicating that bio-attenuation of gasoline range constituents, including benzene) is likely occurring at the Site[1].

With respect to soil, two localized areas of impact have been identified at the location of soil borings SV-12 and SV-18. At soil boring SV-12, lead was reported at a concentration of 110 mg/Kg in the sample collected and analyzed from one-foot bgs (SV-12-1), which exceeds the DTSC HERO Note 3 residential screening level of 80 mg/Kg. The lead concentrations were reported to decrease to well below screening levels in the sample collected at three feet bgs, and was not reported above screening levels in the samples collected and analyzed at one and three feet bgs in three radial step out borings advanced approximately 20 feet away from the boring SV-12, indicating that the lead impacts reported in sample SV-12-1 are limited to a vertically and laterally small area. Statistical evaluation of Site-wide lead concentrations using USEPA ProUCL (version 5.1) software indicate a 95%UCL of 40.81 mg/Kg, but further indicate that sample SV-12-1 is a statistical outlier. The 95% UCL calculated with sample SV-12-1 omitted is 18.39 mg/Kg. Under both scenarios, the 95%UCL Lead concentrations fall well below the DTSC HERO Note 3 screening level of 80 mg/Kg.

At soil boring SV-18 the organochlorine pesticide dieldrin was reported at a concentration of 0.170 mg/Kg, in exceedance of the DTSC HERO Note 3 residential screening level of 0.034 mg/Kg. The dieldrin concentration decreased to non-detect (<0.002 mg/Kg) levels in the samples collected at three feet bgs, and in samples collected at one and three feet bgs in three radial step-out borings advanced approximately 20 feet away from boring SV-18, indicating that the dieldrin impacts are isolated to a vertically and laterally small area. Statistical evaluation of Site-wide dieldrin concentrations using USEPA ProUCL (version 5.1) software indicate a 95%UCL of 0.0453 mg/Kg, which is slightly above the DTSC HERO Note 3 screening level of 0.034 mg/Kg. However, further analysis indicates that sample SV-18-1 (0.170 mg/Kg) is a statistical outlier. The 95% UCL with sample SV-18-1 omitted is 0.0061 mg/Kg, which is well below the DTSC HERO Note 3 screening level of 0.034 mg/Kg.

Recommendations

Based on the results of historical and recent investigations, Stantec makes the following recommendations:

Soil Vapor

Sporadic concentrations of GRO, chloroform, benzene and PCE were reported above DTSC HERO Note 3 generic screening levels based on an attenuation factor of 0.03 during historical sampling conducted in May-June 2019. No exceedances were observed in soil vapor samples collected and analyzed in December 2019, indicating decreasing concentrations and limited temporal variation. In addition, when compared to screening levels based on an attenuation factor of 0.001, no exceedances above DTSC HERO Note 3 screening levels have been observed historically at the Site. Site conditions indicate that a 0.001 attenuation factor is appropriate for the Site in accordance with the DTSC (2011) Vapor Intrusion

[1] State Water Resource Control Board, Low Threat Underground Storage Tank Closure Policy (LTCP); and, USEPA, Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Site, July 2015.

Guidance Document for future residential construction, given the absence of a known near-by source of chlorinated VOCs and the likelihood of a bioattenuation zone for petroleum hydrocarbons. As a result, Stantec recommends no further assessment of VOC soil vapor concentrations at this time.

Soil

Exceedances of lead in soil sample SV-12-1 and dieldrin in soil sample SV-18-1 were reported in excess of DTSC HERO Note 3 screening levels. Subsequent investigations indicate that the areas of impact are limited to spatially small areas both vertically and laterally. Statistical evaluation indicates that both samples SV-12-1 and SV-18-1 are statistical outliers when compared to Site wide data, and that the 95% UCL for total sample populations are below the DTSC HERO Note 3 when these samples are removed from the data sets. As a result, Stantec recommends remedial excavation and off-Site disposal of shallow soil at these two locations be conducted under the oversight of DTSC. Confirmation sampling should be conducted to verify removal of the impacted soil has been achieved.

8.0 LIMITATIONS

Stantec's investigation has been performed with the degree of skill generally exercised by practicing engineers and geologists in the environmental field. Stantec makes no other warranty, either expressed or implied, concerning the conclusions and professional advice that is contained within the body of this report.

Inherent in most projects performed in a heterogeneous subsurface environment, continuing excavation and assessments may reveal findings that are different than those presented herein. This facet of the environmental profession should be considered when formulating professional opinions on the limited data collected on these projects.

This report has been issued with the clear understanding that it is the responsibility of the owner, or their representative, to make appropriate notifications to regulatory agencies. It is specifically not the responsibility of Stantec to conduct appropriate notifications as specified by current regulations.

The information presented in this report is valid as of the date our exploration was performed. Site conditions may change with time or with further investigation; consequently, the findings presented herein are subject to change.

TABLES

TABLE 1
SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
Gardena (141st and Normandie)

Sample ID	Sample Date	GRO	Chloromethane	Methylene chloride	Carbon Disulfide	2-Butanone (MEK)	Chloroform	Benzene	1,1 - DCE	TCE	4-Methyl-2-pentanone	Styrene	Toluene	PCE	Ethylbenzene	m,p-Xylene	o-Xylene	4-Ethyltoluene	1,3,5-TMB	1,2,4-TMB	Other VOCs
DTSC HERO Note 3 - Residential Ambien		NE	NE	1.0	*NE*	*NE*	*NE*	*0.10*	*7.3*	*NE*	*NE*	*0.09*	*310*	*0.46*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*varies*
0.03 Attenuation Factor		*NE*	*NE*	*33*	*NE*	*NE*	*NE*	*3.2*	*243*	*NE*	*NE*	*3.1*	*10333*	*15.3*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*varies*
US EPA Region 9 - Residential Air SLs		310	94	*100*	730	NE	0.12	*0*	*210*	0	3,100	1,000	5,200	11	1.1	100	100	*NE*	63	63	***varies***
0.03 Attenuation Factor		10333	3133	3333	24333	NE	4	12	7000	15	103333	33333	173333	367	37	3333	3333	NE	2100	2100	***varies***
SFRWQCB Tier 1 Subslab/ Soil Gas ESLs		3300	3,100	34	*NE*	*170,000*	*4.1*	*3.2*	*58*	*16*	*NE*	*31000*	*10000*	*15*	*37*	*3,500*	*3,500*	*NE*	*NE*	*NE*	*varies*
SB-1-7[1]	**5/10/2019**	NA	**2.9**	<2.8	**3.3**	**23**	**9.5**	**9.8**	<3.2	<4.4	**20**	**<3.5**	**42**	<5.5	**7.3**	**33**	**9.3**	<4.0	**5.1**	**12**	<varies
SB-2-7[1]	**5/10/2019**	NA	**4.2**	**4.3**	**5.2**	**28**	**15**	**18**	<3.2	<4.4	**40**	**<3.5**	**79**	**37**	**15**	**66**	**19**	**6.0**	**11**	**29**	<varies
SV1-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**14**	**31**	<8	<8	**26**	**14**	NA	<8	**11**	<varies
SV1-5	**12/12/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV1-15	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**14**	**57**	<8	**10**	**34**	**16**	NA	<8	**10**	<varies
SV1-15	**12/12/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV2-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	<8	<8	**10**	<8	<16	<8	NA	<8	**<8**	<varies
SV2-5	**12/12/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV3-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	<8	<8	<8	<8	<16	<8	NA	<8	**<8**	<varies
SV3-5	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV4-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**10**	**67**	<8	**8**	**33**	**13**	NA	<8	**12**	<varies
SV4-5	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	**20**	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV4-15	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	**11**	**15**	NA	<8	**15**	**9**	<8	<16	<8	NA	<8	<8	<varies
SV4-15	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV5-5	**6/27/2019**	**3,980**	NA	<8	NA	NA	**19**	**45**	**9**	<8	NA	**31**	**201**	**8**	<8	**162**	**54**	NA	<8	**35**	***Isopropylbenzene: 10 n-Propylbenzene: 11***
SV5-5	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	**20**	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV5-15	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**15**	**57**	<8	**10**	**52**	**15**	NA	<8	**17**	<varies
SV5-15	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	**20**	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV6-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**9**	<8	<8	**10**	**23**	**10**	NA	<8	**13**	<varies
SV6-5	**12/12/2019**	<5000	<7.5	<7.5	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	**30**	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV6-15	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	<8	<8	<8	<8	<16	<8	NA	<8	**8**	<varies
SV6-15	**12/12/2019**	<5000	<7.5	<7.5	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	**50**	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV7-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**11**	<8	<8	**9**	**23**	**12**	NA	<8	**15**	<varies

TABLE 1
SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS
Gardena (141st and Normandie)

Sample ID	Sample Date	GRO	Chloromethane	Methylene chloride	Carbon Disulfide	2-Butanone (MEK)	Chloroform	Benzene	1,1 - DCE	TCE	4-Methyl-2-pentanone	Styrene	Toluene	PCE	Ethylbenzene	m,p-Xylene	o-Xylene	4-Ethyltoluene	1,3,5-TMB	1,2,4-TMB	Other VOCs
SV7-5REP	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**11**	<8	<8	**8**	**23**	**12**	NA	<8	**14**	<varies
SV7-5	**12/12/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV7-15	**6/27/2019**	**3,950**	NA	<8	NA	NA	<8	<8	**11**	<8	NA	**8**	**45**	<8	**8**	**83**	**38**	NA	<8	**9**	<varies
SV7-15	**12/12/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV8-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	**13**	<8	NA	**10**	<8	<8	**13**	**21**	**17**	NA	<8	**10**	<varies
SV8-15	**6/27/2019**	**4,680**	NA	<8	NA	NA	<8	<8	<8	<8	NA	**9**	**34**	<8	<8	**21**	**23**	NA	<8	**8**	<varies
SV9-5	**6/27/2019**	<2,000	NA	<8	NA	NA	<8	<8	<8	<8	NA	**8**	**12**	<8	<8	<16	<8	NA	<8	**10**	<varies
SV9-5	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV9-5 DUP	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV10-5	**12/12/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV10-15	**12/12/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV10-15 DUP	**12/12/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV11-5	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV11-15	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	**30**	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV12-5	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	**20**	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV12-15	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	**30**	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV13-5	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV13-15	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	**30**	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV14-5	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV-14-15	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV-15-5	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV15-15	**12/13/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV16-5	**12/12/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV17-5	**12/12/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV17-15	**12/12/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV18-5	**12/12/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies
SV18-15	**12/12/2019**	<5000	<7.5	<75	<75	<75	<7.5	<5.4	<7.5	<7.5	<75	<7.5	<7.5	<7.5	<7.5	<15	<7.5	NA	<7.5	<7.5	<varies

(1) Sample collected via 1L summa canister.
(2) Residential Screening Level (SL) USEPA Region 9 Regional Screening Levels (RSL - April 2019)
(3) Residential DTSC HERO HHRA Note #3 (April 2019)
(4) SFRWQCB ESLs - Sub slab/ Soil Gas (ua/m3) Januarv 2019
<8: Results reported below Laboratory Reporting Limit.
CalEPA - California Environmental Protection Agency
DTSC - Department of Toxic Substance Control
HERO - Human and Ecological Risk Office Human Health Risk Assessment

Yellow shading indicates value above the RSLs or HERO Note 3 (0.03 attenuation factor) residential screening level.

Trichloroethene
Tetrachloroethene
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene

Table 2
Summary of Fixed Gas Field Measurements
Gardena (141st and Normandie)

Soil Vapor Probe ID	Individual Probe Depth (feet bgs)	Test Date	Field Readings [1]			
			Methane % Volume	CO2 % Volume	O2 % Volume	Balance % Volume
SV-1-5	5	12/13/2019	0	0.2	16	83.8
SV-1-15	15	12/13/2019	0	0.3	16.1	83.6
SV-2-5	5	12/13/2019	0	1.3	14.9	83.8
SV-3-5	5	12/13/2019	0	1.4	16.4	82.2
SV-4-5	5	12/13/2019	0	0.7	6.2	93.1
SV-4-15	15	12/13/2019	0	0.3	6.4	93.3
SV-5-5	5	12/13/2019	0	1.5	18.2	80.3
SV-5-15	15	12/13/2019	0	2	12.7	85.3
SV-6-5	5	12/13/2019	0	1.4	17.7	80.9
SV-6-15	15	12/13/2019	0	1.9	14	84.1
SV-7-5	5	12/13/2019	0	0.3	16.4	83.3
SV-7-15	15	12/13/2019	0	0.8	11.8	87.4
SV-9-5	5	12/13/2019	0	3.2	12.6	89.2
SV-10-5	5	12/13/2019	0	3.9	14.3	81.2
SV-10-15	15	12/13/2019	0	1.5	13.8	84.7
SV-11-5	5	12/13/2019	0	2.8	16.1	80.1
SV-11-15	15	12/13/2019	0	0.9	16.7	82.4
SV-12-5	5	12/13/2019	0	2	17.7	80.3
SV-12-15	15	12/13/2019	0	0.7	15.8	83.5
SV-13-5	5	12/13/2019	0	0.5	15.5	86
SV-13-15	15	12/13/2019	0	0.2	19.8	80
SV-14-5	5	12/13/2019	0	0.3	16.2	83.5
SV-14-15	15	12/13/2019	0	0.4	15.5	84.1
SV-15-5	5	12/13/2019	0	0.2	17.8	82
SV-15-15	15	12/13/2019	0	1.2	16.8	82
SV-16-5	5	12/13/2019	0	2.9	16.9	80.2
SV-17-5	5	12/13/2019	0	1.5	17	81.5
SV-17-15	15	12/13/2019	0	2.4	17.3	80.3
SV-18-5	5	12/13/2019	0	0.9	18.1	81
SV-18-15	15	12/13/2019	0	0.6	16.7	82.7

Notes: (1) Samples reported using a Landtec GEM 5000 Landfill Gas Meter
CO2 - Carbon Dioxide
O2 - Oxygen

Table 3
Summary of Soil Analytical Results - Pesticides
Gardena (141st and Normandie)

Sample ID	Depth [1]	Date	Pesticides (EPA Test Method 8081A)				
			4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Other OCPs
Screening Levels for residential soil (mg/Kg) [2]			*2.3*	*2.0*	*1.9*	*0.034*	*varies*
Hazardous Waste Levels (mg/Kg)			*1.0*	*1.0*	*1.0*	*8.0*	*varies*
HA-1-1	1.0	5/10/2019	<0.0020	<0.0020	<0.0020	<0.0020	<varies
HA-2-1	1.0	5/10/2019	<0.0040	**0.053**	**0.019**	**0.0074**	<varies
HA-3-1	1.0	5/10/2019	<0.0040	**0.130**	**0.086**	**0.0057**	**alpha-Chlordane: 0.019 delta-BHC: 0.023 Chlordane: 0.150 gamma-Chlordane: 0.012 Endrin: 0.0094**
HA-4-1	1.0	5/10/2019	<0.0020	**0.018**	**0.0088**	<0.0020	**alpha-Chlordane: 0.0033 delta-BHC: 0.0066 Chlordane: 0.023 gamma-Chlordane: 0.0019**
SB-1-1	1.0	5/10/2019	**0.0021**	**0.040**	**0.041**	<0.0020	**alpha-Chlordane: 0.0012 Chlordane: 0.010 delta-BHC [2C]: 0.0051**
SV-10-1	1.0	11/25/2019	<0.0020	**0.041**	**0.033**	<0.0020	**chlordane: 0.140 alpha-chlordane: 0.001 gamma-chlordane: 0.013**
SV-11-1	1.0	11/25/2019	<0.0020	**0.011**	**0.016**	<0.0020	**alpha-chlordane: 0.0015 chlordane: 0.012 gamma-chlordane: 0.0016**
SV-12-1	1.0	11/25/2019	<0.0020	**0.0062**	**0.0081**	<0.0020	**alpha-chlordane: 0.0018 chlordane: 0.022 gamma-chlordane: 0.002**
SV-13-1	1.0	11/25/2019	<0.0020	**0.039**	**0.0093**	<0.0020	**alpha-chlordane: 0.0086 chlordane: 0.120 delta-BHC: 0.015 gamma-chlordane: 0.0064**
SV-14-1	1.0	11/25/2019	**0.0044**	**0.026**	**0.048**	**0.017**	**alpha-chlordane: 0.0086 chlordane: 0.120 delta-BHC: 0.0043 gamma-chlordane: 0.0075**
SV-15-1	1.0	11/25/2019	<0.0020	**0.034**	**0.0082**	<0.0020	**delta-BHC: 0.0087**
SV-16-1	1.0	11/25/2019	**0.0028**	**0.078**	**0.0032**	<0.0020	**delta-BHC: 0.0082**
SV-17-1	1.0	11/25/2019	<0.0020	**0.018**	ND	<0.0020	**alpha-chlordane: 0.0012 chlordane: 0.018 gamma-chlordane: 0.0016**
SV-18-1	1.0	11/25/2019	**0.0048**	**0.41**	**0.04**	**0.170**	**alpha-chlordane: 0.0044 chlordane: 0.060 delta-BHC: 0.0033 gamma-chlordane: 0.0051**
SV-18A-3'	3.0	1/10/2020	<0.0020	<0.0020	<0.0020	<0.0020	<varies
SV-18B-1'	1.0	1/10/2020	<0.0020	<0.0020	<0.0020	<0.0020	<varies
SV-18B-3'	3.0	1/10/2020	<0.0020	<0.0020	<0.0020	<0.0020	<varies

Table 3
Summary of Soil Analytical Results - Pesticides
Gardena (141st and Normandie)

Sample ID	Depth [1]	Date	Pesticides (EPA Test Method 8081A)				
			4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Other OCPs
Screening Levels for residential soil (mg/Kg) [2]			***2.3***	***2.0***	***1.9***	***0.034***	***varies***
Hazardous Waste Levels (mg/Kg)			***1.0***	***1.0***	***1.0***	***8.0***	***varies***
SV-18C-1'	1.0	1/10/2020	<0.0020	<0.0020	<0.0020	<0.0020	<varies
SV-18C-3'	3.0	1/10/2020	<0.0020	<0.0020	<0.0020	<0.0020	<varies
SV-18D-1'	1.0	1/10/2020	<0.0020	<0.0020	<0.0020	<0.0020	<varies
SV-18D-3'	3.0	1/10/2020	<0.0020	<0.0020	<0.0020	<0.0020	<varies

NOTES:

(1) Sample depth is reported as feet below ground surface

(2) Screening level value is determined by the more conservative value from the California DTSC HERO Note 3 or USEPA RSLs.

All concentrations reported in milligrams of metal per kilogram of soil (mg/kg)

< - Indicates the concentration was not detected above the laboratory method reporting limit

BOLD - Indicates the concentration is above the laboratory reporting level

exceeds residential screening level

ABBREVIATIONS:

DTSC - Department of Toxic Substances Control

HERO - Human and Ecological Risk Office

NA - Not analyzed

ND - Not detected

NE - Not established

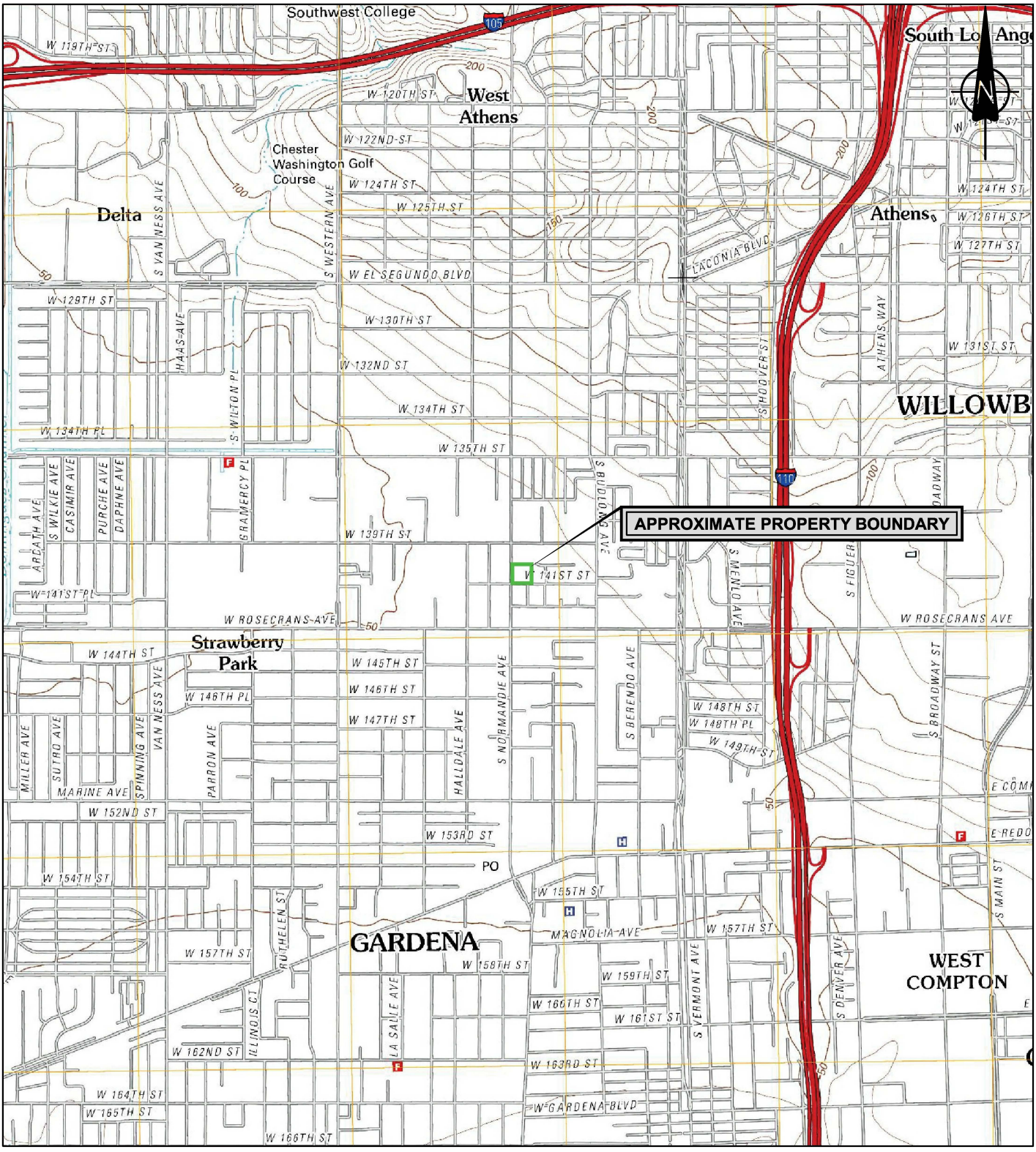
USEPA RSL - United States Environmental Protection Agency Regional Screening Levels, residential use

Table 4
Summary of Soil Analytical Results - Lead & Arsenic
Gardena (141st and Normandie)

Sample ID (1)	Sampling Date	Sampling Depth (ft)	Metals (mg/kg) EPA 6010B (2)		STLC (mg/L)
			Arsenic	Lead	Lead
USEPA RSLs (mg/kg)			*0.68*	*80*	--
California Background Levels (mg/kg)			*0.6-12*	*12.4 - 97.1*	--
HA-1-1	5/10/2019	1.0	**2.2**	**4.3**	---
HA-2-1	5/10/2019	1.0	**4.5**	**9.2**	---
HA-3-1	5/10/2019	1.0	**2.1**	**10**	---
HA-4-1	5/10/2019	1.0	**1.6**	**8.2**	---
SB-1-1	5/10/2019	1.0	<1.0	**17**	---
SV-10-1	11/26/2019	1.0	**2**	**54**	---
SV-11-1	11/26/2019	1.0	**1.7**	**10**	---
SV-12-1	11/26/2019	1.0	**3.6**	**110**	**3.7**
SV-12-3	11/26/2019	3.0	---	**6**	---
SV-12A-1'	1/10/2020	1.0	---	**20**	---
SV-12A-3'	1/10/2020	3.0	---	**5**	---
SV-12B-1'	1/10/2020	1.0	---	**9**	---
SV-12B-3'	1/10/2020	3.0	---	**5**	---
SV-12C-1'	1/10/2020	1.0	---	**5**	---
SV-12C-3'	1/10/2020	3.0	---	**9**	---
SV-13-1	11/26/2019	1.0	**3.9**	**19**	---
SV-14-1	11/26/2019	1.0	**2.1**	**9.4**	---
SV-15-1	11/26/2019	1.0	**2.3**	**7.3**	---
SV-16-1	11/26/2019	1.0	**3.8**	**25**	---
SV-17-1	11/26/2019	1.0	**3.2**	**16**	---
SV-18-1	11/26/2019	1.0	**8.4**	**23**	---

NOTES:
(1) Refer to Figure 2 for sampling locations
(2) Concentrations reported in milligrams per kilogram (mg/kg), EPA Test Method 6010B
indicates concentrations exceeds residential screening level
ABBREVIATIONS:
USEPA R United States Environmental Protection Agency Regional Screening Levels for Residential Soils (May 2016)

FIGURES



NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC SERVICES INC. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

PROPERTY LOCATION MAP

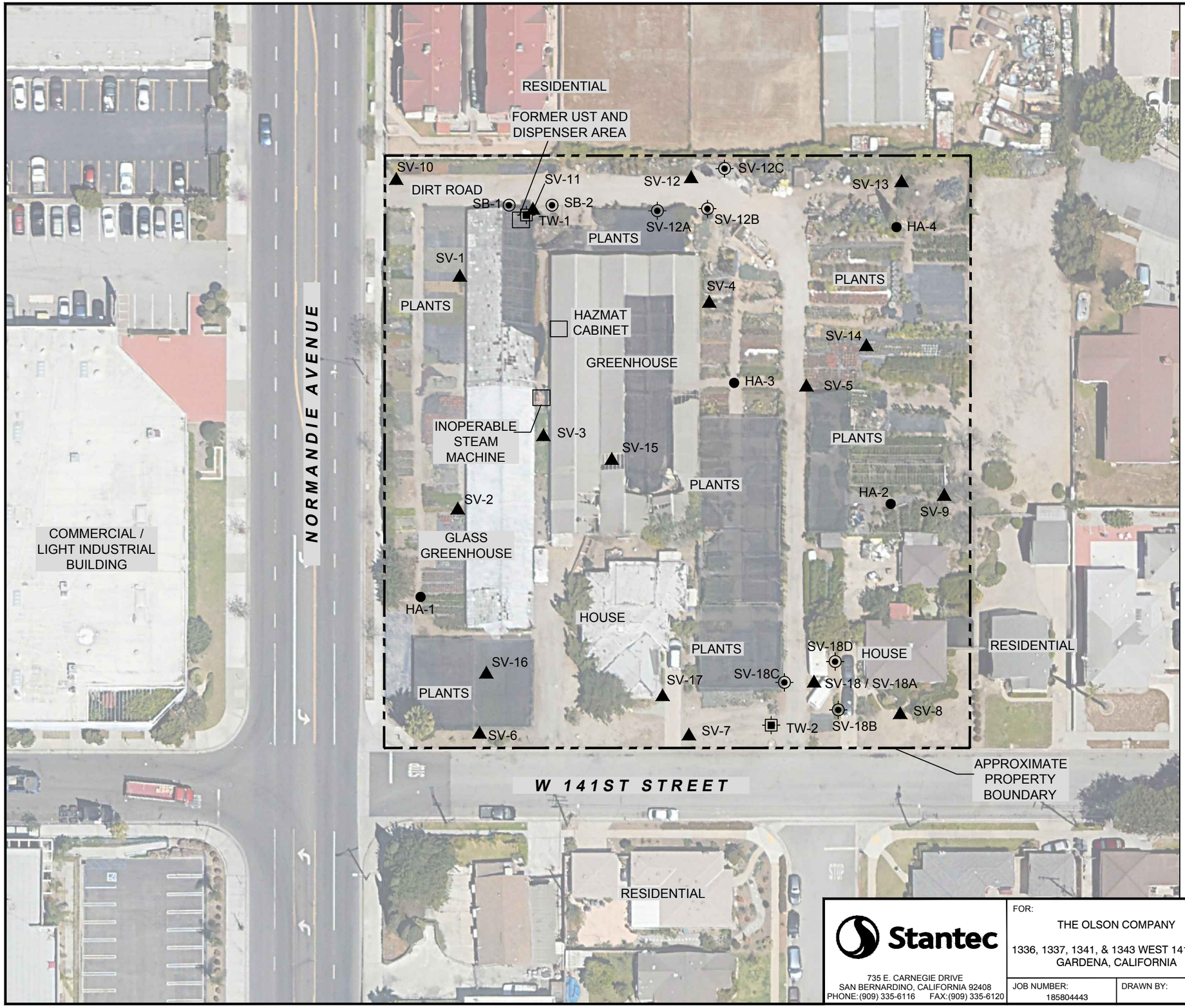
1335, 1337, 1341, & 1343 WEST 141ST STREET, GARDENA, CA

Project No.:	185804443
Scale:	AS SHOWN
Date:	19/05/02
Dwn. By:	CD DM SC2019050003
App'd By:	KE

Fig. No.: 1

Client: THE OLSON COMPANY

Stantec



LEGEND:

- PROPERTY LINE
- SB-2 — SOIL SAMPLE/ SOIL VAPOR PROBE LOCATION
- HA-2 — SHALLOW SOIL SAMPLE LOCATION
- SV-18 — SOIL / SOIL VAPOR SAMPLE LOCATION
- TW-2 — GROUNDWATER SAMPLE LOCATION
- SV-12B — SOIL STEP-OUT BORING LOCATION

N

0 50 100

APPROXIMATE SCALE (FEET)

Stantec

735 E. CARNEGIE DRIVE
SAN BERNARDINO, CALIFORNIA 92408
PHONE:(909) 335-6116 FAX:(909) 335-6120

FOR:
THE OLSON COMPANY
1336, 1337, 1341, & 1343 WEST 141ST ST.
GARDENA, CALIFORNIA

SITE PLAN, BORING LOCATIONS

FIGURE: **2**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185804443	KM	MB	BV	11/18/19

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SB-1				
5/10/2019				
Depth	GRO	Benzene	Chloroform	PCE
7	NA	**9.8**	**9.5**	<5.5

SB-2				
5/10/2019				
Depth	GRO	Benzene	Chloroform	PCE
7	NA	**18**	**15**	**37**

SV-10
SV-11
SV-12
SV-12C
SV-13
SB-1
SB-2
TW-1
SV-12A
SV-12B
HA-4
SV-1
SV-4
SV-14
HA-3
SV-5
SV-3
SV-15
SV-2
HA-2
SV-9
HA-1
SV-16
SV-18D
SV-17
SV-18C
SV-18 / SV-18A
SV-8
SV-6
SV-7
TW-2
SV-18B

NORMANDIE AVENUE

W 141ST STREET

STOP

LEGEND:

- PROPERTY LINE
- SB-2 — SOIL SAMPLE/ SOIL VAPOR PROBE LOCATION
- HA-2 — SHALLOW SOIL SAMPLE LOCATION
- SV-18 — SOIL / SOIL VAPOR SAMPLE LOCATION
- TW-2 — GROUNDWATER SAMPLE LOCATION
- SV-12B — SOIL STEP-OUT BORING LOCATION

SB-1				
5/10/2019				
Depth	GRO	Benzene	Chloroform	PCE
7	NA	**9.8**	**9.5**	<5.5

ALL CONCENTRATIONS REPORTED IN MICROGRAM PER CUBIC METER (µg/m^3)
SAMPLE DATE
BORING LOCATION
GRO - GASOLINE RANGE ORGANICS
PCE - TETRACHLOROETHYLENE
□ - ANALYTE DETECTED BELOW LABORATORY REPORTING LIMIT
BOLD - ANALYTE DETECTED ABOVE LABORATORY REPORTING LIMIT
▭ CONCENTRATION EXCEEDS RESIDENTIAL SCREENING LEVEL USING 0.03 ATTENUATION FACTOR

N

0 50 100

APPROXIMATE SCALE (FEET)

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FOR:
THE OLSON COMPANY
1336, 1337, 1341, & 1343 WEST 141ST ST.
GARDENA, CALIFORNIA

SOIL VAPOR DATA MAY 2019

FIGURE: **2A**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185804443	KM	MB	BV	11/18/19

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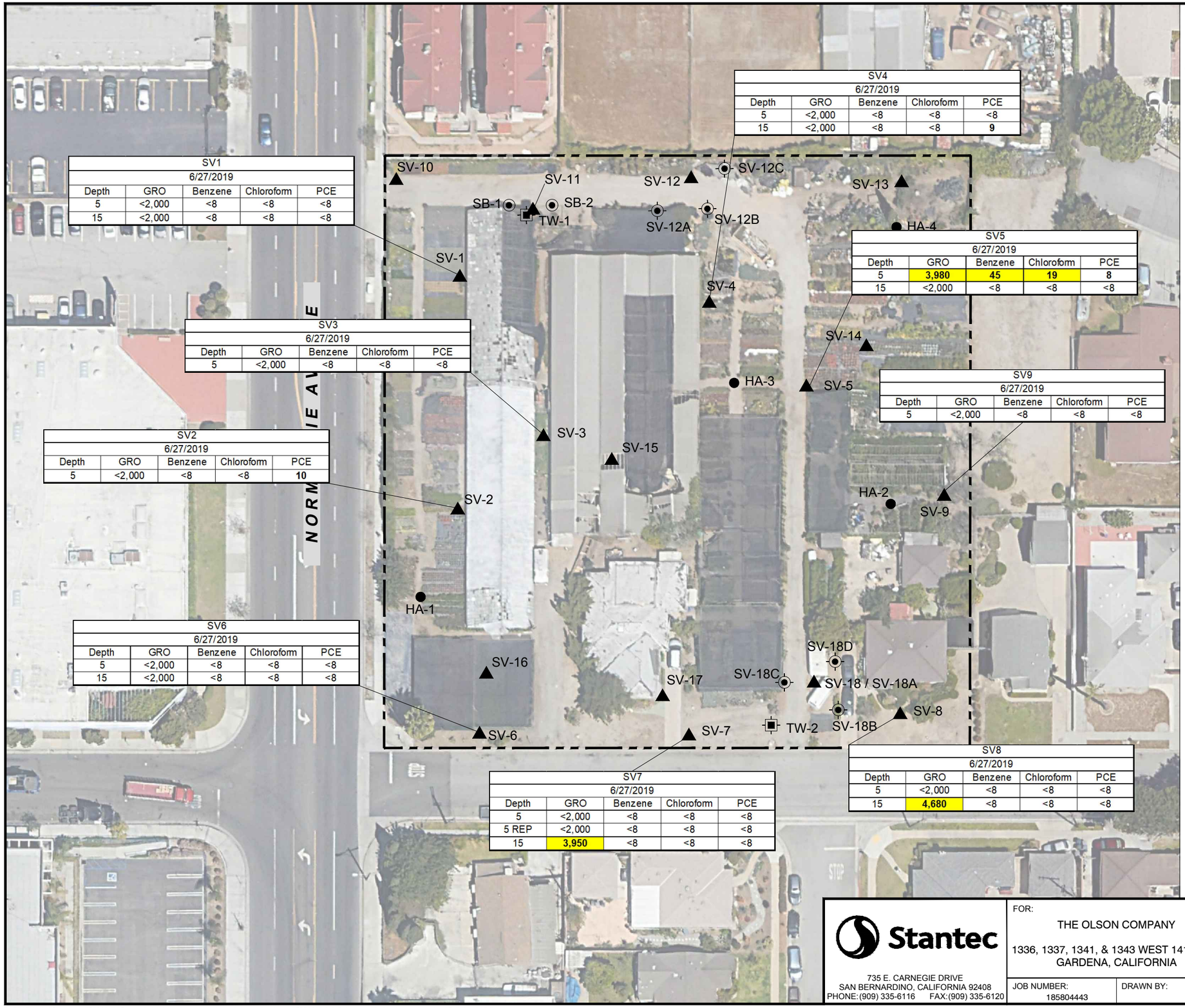

SV1				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	<8
15	<2,000	<8	<8	<8

SV2				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	**10**

SV3				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	<8

SV4				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	<8
15	<2,000	<8	<8	**9**

SV5				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	**3,980**	**45**	**19**	**8**
15	<2,000	<8	<8	<8

SV6				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	<8
15	<2,000	<8	<8	<8

SV7				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	<8
5 REP	<2,000	<8	<8	<8
15	**3,950**	<8	<8	<8

SV8				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	<8
15	**4,680**	<8	<8	<8

SV9				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	<8

LEGEND:

- PROPERTY LINE
- SB-2 — SOIL SAMPLE/ SOIL VAPOR PROBE LOCATION
- HA-2 — SHALLOW SOIL SAMPLE LOCATION
- SV-18 — SOIL / SOIL VAPOR SAMPLE LOCATION
- TW-2 — GROUNDWATER SAMPLE LOCATION
- SV-12B — SOIL STEP-OUT BORING LOCATION

SV1				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	<8
15	<2,000	<8	<8	<8

ALL CONCENTRATIONS REPORTED IN MICROGRAM PER CUBIC METER (µg/m^3)
SAMPLE DATE
BORING LOCATION
GRO - GASOLINE RANGE ORGANICS
PCE - TETRACHLOROETHYLENE
□ - ANALYTE DETECTED BELOW LABORATORY REPORTING LIMIT
BOLD - ANALYTE DETECTED ABOVE LABORATORY REPORTING LIMIT
▭ CONCENTRATION EXCEEDS RESIDENTIAL SCREENING LEVEL USING 0.03 ATTENUATION FACTOR

N

0 50 100

APPROXIMATE SCALE (FEET)

Stantec
735 E. CARNEGIE DRIVE
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PHONE:(909) 335-6116 FAX:(909) 335-6120

FOR:
THE OLSON COMPANY
1336, 1337, 1341, & 1343 WEST 141ST ST.
GARDENA, CALIFORNIA

SOIL VAPOR DATA JUNE 2019

FIGURE: **2B**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185804443	KM	MB	BV	11/18/19

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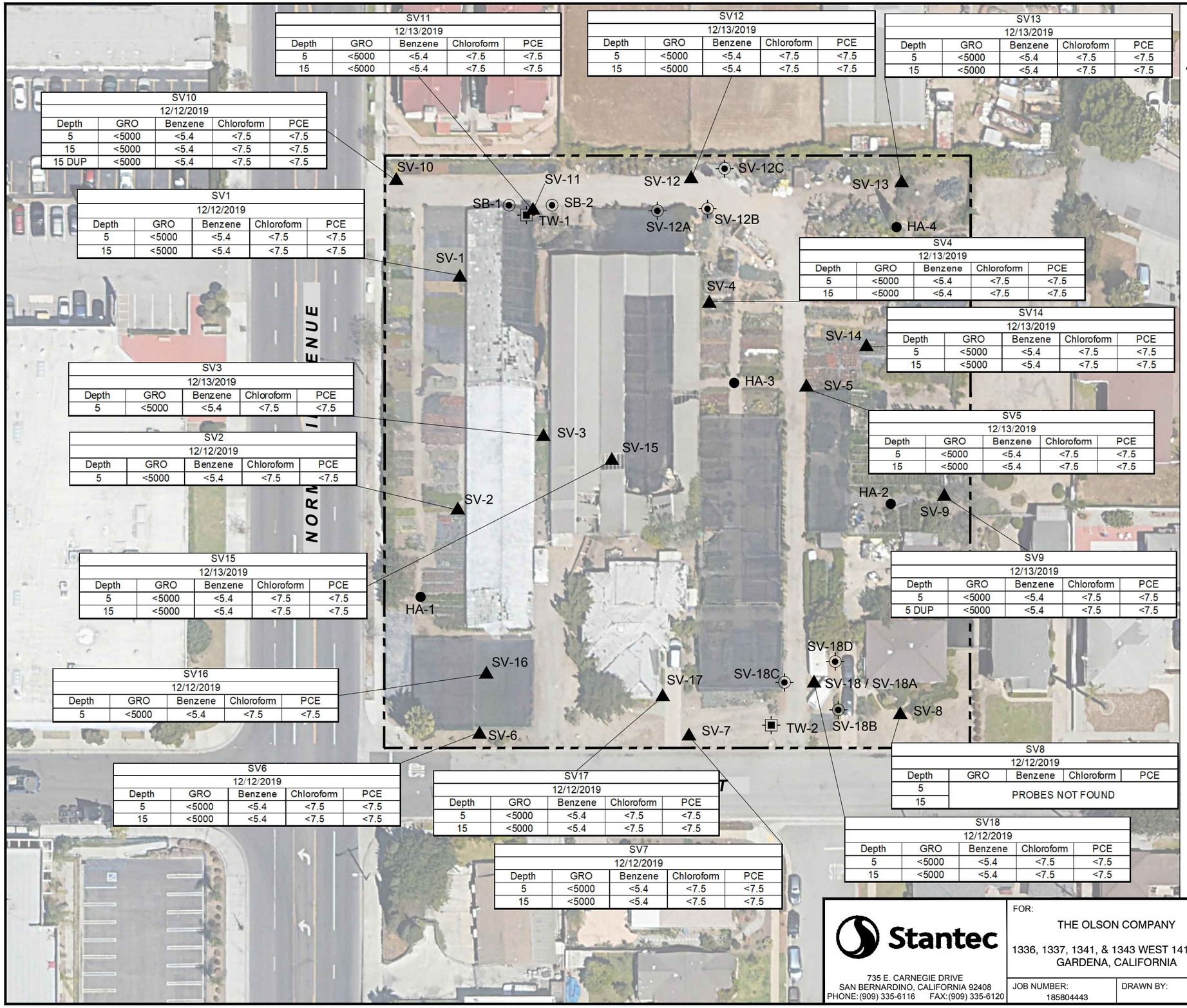

SV11				
12/13/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV12				
12/13/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV13				
12/13/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV10				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5
15 DUP	<5000	<5.4	<7.5	<7.5

SV1				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV4				
12/13/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV14				
12/13/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV3				
12/13/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5

SV5				
12/13/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV2				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5

SV15				
12/13/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV9				
12/13/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
5 DUP	<5000	<5.4	<7.5	<7.5

SV16				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5

SV8				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	PROBES NOT FOUND			
15				

SV6				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV17				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV18				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV7				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

LEGEND:

- PROPERTY LINE
- SB-2 — SOIL SAMPLE/ SOIL VAPOR PROBE LOCATION
- HA-2 — SHALLOW SOIL SAMPLE LOCATION
- SV-18 — SOIL / SOIL VAPOR SAMPLE LOCATION
- TW-2 — GROUNDWATER SAMPLE LOCATION
- SV-12B — SOIL STEP-OUT BORING LOCATION

SV18				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

ALL CONCENTRATIONS REPORTED IN MICROGRAM PER CUBIC METER (µg/m^3)
SAMPLE DATE
BORING LOCATION
GRO - GASOLINE RANGE ORGANICS
PCE - TETRACHLOROETHYLENE
□ - ANALYTE DETECTED BELOW LABORATORY REPORTING LIMIT
BOLD - ANALYTE DETECTED ABOVE LABORATORY REPORTING LIMIT
▭ CONCENTRATION EXCEEDS RESIDENTIAL SCREENING LEVEL USING 0.03 ATTENUATION FACTOR

N

0 50 100

APPROXIMATE SCALE (FEET)

Stantec
735 E. CARNEGIE DRIVE
SAN BERNARDINO, CALIFORNIA 92408
PHONE:(909) 335-6116 FAX:(909) 335-6120

FOR:
THE OLSON COMPANY
1336, 1337, 1341, & 1343 WEST 141ST ST.
GARDENA, CALIFORNIA

SOIL VAPOR DATA DECEMBER 2019

FIGURE: **2C**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185804443	KM	MB	BV	11/18/19

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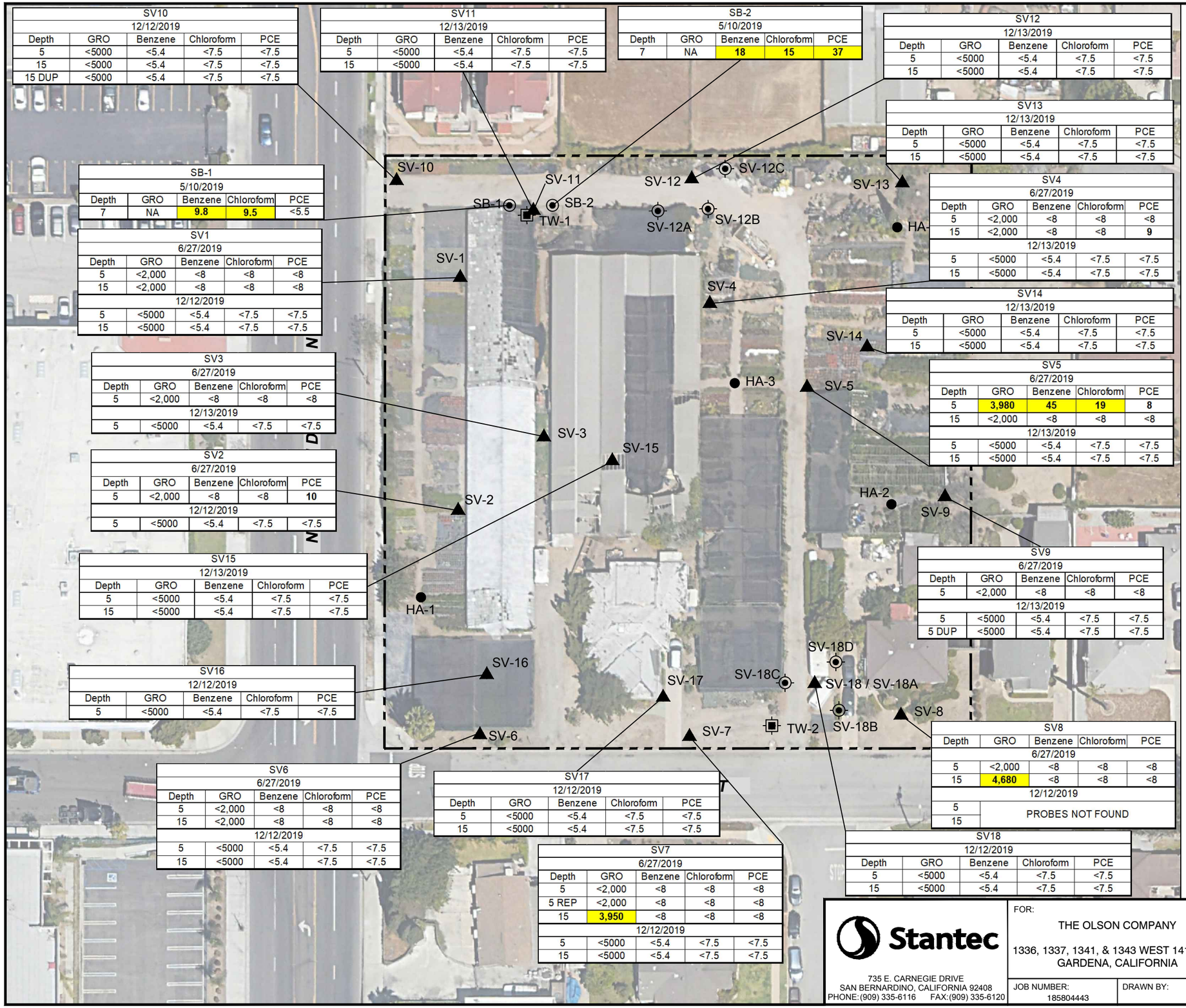


SV10				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5
15 DUP	<5000	<5.4	<7.5	<7.5

SV11				
12/13/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SB-2				
5/10/2019				
Depth	GRO	Benzene	Chloroform	PCE
7	NA	**18**	**15**	**37**

SV12				
12/13/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV13				
12/13/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SB-1				
5/10/2019				
Depth	GRO	Benzene	Chloroform	PCE
7	NA	**9.8**	**9.5**	<5.5

SV4				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	<8
15	<2,000	<8	<8	**9**
12/13/2019				
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV1				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	<8
15	<2,000	<8	<8	<8
12/12/2019				
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV14				
12/13/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV3				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	<8
12/13/2019				
5	<5000	<5.4	<7.5	<7.5

SV5				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	**3,980**	**45**	**19**	**8**
15	<2,000	<8	<8	<8
12/13/2019				
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV2				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	**10**
12/12/2019				
5	<5000	<5.4	<7.5	<7.5

SV15				
12/13/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV9				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	<8
12/13/2019				
5	<5000	<5.4	<7.5	<7.5
5 DUP	<5000	<5.4	<7.5	<7.5

SV16				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5

SV8				
Depth	GRO	Benzene	Chloroform	PCE
6/27/2019				
5	<2,000	<8	<8	<8
15	**4,680**	<8	<8	<8
12/12/2019				
5	PROBES NOT FOUND			
15				

SV6				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	<8
15	<2,000	<8	<8	<8
12/12/2019				
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV17				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV18				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

SV7				
6/27/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<2,000	<8	<8	<8
5 REP	<2,000	<8	<8	<8
15	**3,950**	<8	<8	<8
12/12/2019				
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

LEGEND:

- PROPERTY LINE
- SB-2 — SOIL SAMPLE/ SOIL VAPOR PROBE LOCATION
- HA-2 — SHALLOW SOIL SAMPLE LOCATION
- SV-18 — SOIL / SOIL VAPOR SAMPLE LOCATION
- TW-2 — GROUNDWATER SAMPLE LOCATION
- SV-12B — SOIL STEP-OUT BORING LOCATION

SV18				
12/12/2019				
Depth	GRO	Benzene	Chloroform	PCE
5	<5000	<5.4	<7.5	<7.5
15	<5000	<5.4	<7.5	<7.5

ALL CONCENTRATIONS REPORTED IN MICROGRAM PER CUBIC METER ($\mu g/m^3$)
SAMPLE DATE
BORING LOCATION
GRO - GASOLINE RANGE ORGANICS
PCE - TETRACHLOROETHYLENE
□ - ANALYTE DETECTED BELOW LABORATORY REPORTING LIMIT
BOLD - ANALYTE DETECTED ABOVE LABORATORY REPORTING LIMIT
▭ CONCENTRATION EXCEEDS RESIDENTIAL SCREENING LEVEL USING 0.03 ATTENUATION FACTOR

N

0 50 100

APPROXIMATE SCALE (FEET)

Stantec
735 E. CARNEGIE DRIVE
SAN BERNARDINO, CALIFORNIA 92408
PHONE:(909) 335-6116 FAX:(909) 335-6120

FOR:
THE OLSON COMPANY

1336, 1337, 1341, & 1343 WEST 141ST ST.
GARDENA, CALIFORNIA

SOIL VAPOR DATA 2019 SUMMARY

FIGURE: **2D**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185804443	KM	MB	BV	11/18/19

FILEPATH:V:\1858\active\185804443\05_report_deliv\drawings_design\cad_fig\new_drawings\185804443-SM19.dwg modified by jsargent on Jan 27, 2020 at 16:01

APPENDIX A-
BORING LOGS

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

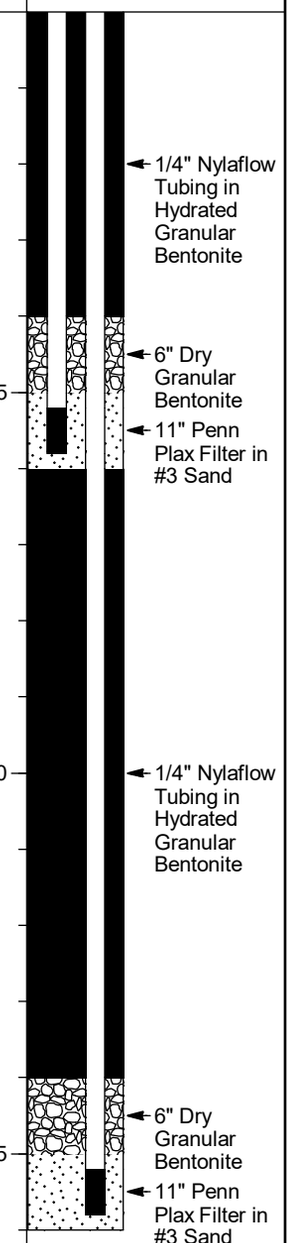
WELL / PROBEHOLE / BOREHOLE NO: **SV-10** PAGE 1 OF 1

Stantec

DRILLING / INSTALLATION:
STARTED **11/25/19** COMPLETED: **11/25/19**
DRILLING COMPANY: **Interphase Environmental**
DRILLING EQUIPMENT: **Geoprobe 6600**
DRILLING METHOD: **HA/DPT**
SAMPLING EQUIPMENT: **Grab/Acetate**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft):
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **16.0**
WELL CASING DIA. (in): **---**
BOREHOLE DIA. (in): **2.25**
LOGGED BY: **J. Sargent**
CHECKED BY: **B. Viggiano**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)
		SM	**SILTY SAND** ; SM; 10YR 4/3 brown; very fine to medium grained sand; some fines; moist; no staining, no odor.	☒	0820 SV-10-1			0.0
				☒	0825 SV-10-3			0.0
5								0.0
		SC	**CLAYEY SAND** ; SC; 10YR 3/3 dark brown; very fine to fine grained sand; some medium plasticity fines; moist; no staining; no odor.					
10								0.0
		CL	**SANDY CLAY** ; CL; 10YR 3/3 dark brown; some very fine to coarse grained sand; high plasticity fines; moist; no stainig; no odor; very stiff.					
15								0.0
			Borehole terminated at 16 feet.					



GEO FORM 304 SV_LOGS.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 1/21/20

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

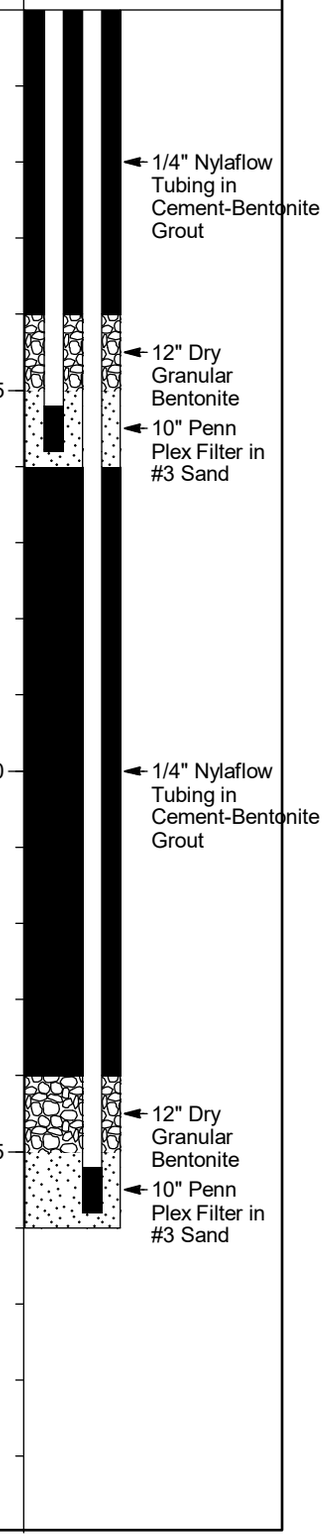
WELL / PROBEHOLE / BOREHOLE NO: **SV-11** PAGE 1 OF 1

Stantec

DRILLING / INSTALLATION:
STARTED **11/25/19** COMPLETED: **11/25/19**
DRILLING COMPANY: **Interphase Environmental**
DRILLING EQUIPMENT: **Geoprobe 6600**
DRILLING METHOD: **HA/DPT**
SAMPLING EQUIPMENT: **Grab/Acetate**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft):
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **16.0**
WELL CASING DIA. (in): **---**
BOREHOLE DIA. (in): **2.25**
LOGGED BY: **J. Sargent**
CHECKED BY: **B. Viggiano**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)
		SM	**SILTY SAND** ; SM; 10YR 4/3 brown; very fine to medium grained sand; some fines; moist; no staining, no odor.	☒	0950 SV-11-1			0.0
				☒	0955 SV-11-3			0.0
5								0.0
		CL	**CLAY WITH SAND** ; CL; 10YR 3/3 dark brown; little very fine to fine grained sand; high plasticity fines; moist; no staining; no odor.					
10		SM	**SILTY SAND** ; SM; 10YR 4/4 brown; very fine to fine grained sand; some non-plastic fines; moist; no staining; no odor.					0.0
		CL	**CLAY WITH SAND** ; CL; 10YR 3/3 dark brown; little very fine to fine grained sand; high plasticity fines; moist; no staining; no odor; very stiff.					
15								0.0
			Borehole terminated at 16 feet.					



GEO FORM 304 SV_LOGS.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 1/21/20

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **SV-12** PAGE 1 OF 1

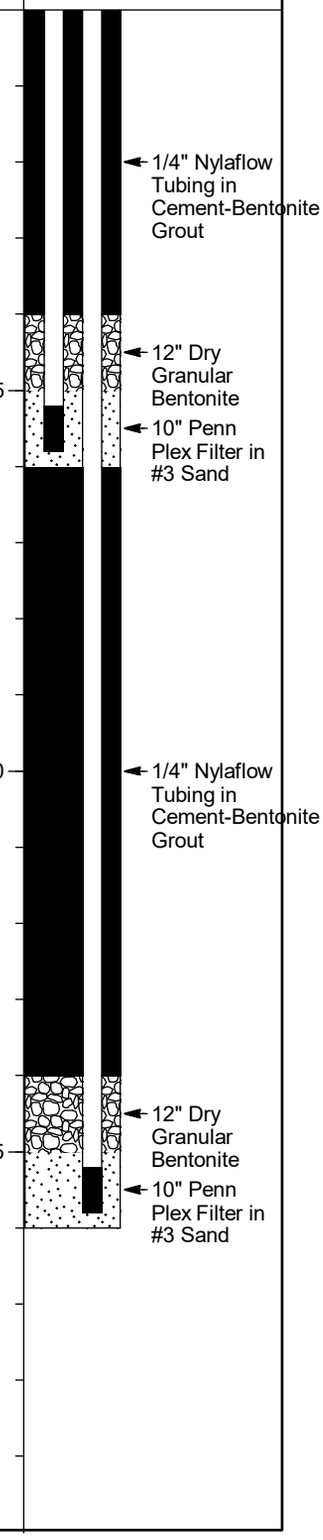
Stantec

DRILLING / INSTALLATION:
STARTED **11/25/19** COMPLETED: **11/25/19**
DRILLING COMPANY: **Interphase Environmental**
DRILLING EQUIPMENT: **Geoprobe 6600**
DRILLING METHOD: **HA/DPT**
SAMPLING EQUIPMENT: **Grab/Acetate**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
STATIC DTW (ft): **Not Encountered**
WELL CASING DIA. (in): **---**
LOGGED BY: **J. Sargent**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft):
BOREHOLE DEPTH (ft): **16.0**
BOREHOLE DIA. (in): **2.25**
CHECKED BY: **B. Viggiano**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)
		SM	**SILTY SAND** ; SM; 10YR 5/4 yellowish brown; very fine to medium grained sand; some fines; moist; no staining, no odor.		1050 SV-12-1			0.0
					1055 SV-12-3			0.0
5		SC	**CLAYEY SAND** ; SC; 10YR 3/3 dark brown; very fine to fine grained sand; high plasticity fines; moist; no staining; no odor.					0.0
10		SM	**SILTY SAND** ; SM; 10YR 5/4 yellowish brown; very fine to medium grained sand; some fines; moist; no staining, no odor.					0.0
15		CL	**CLAY WITH SAND** ; CL; 10YR 3/3 dark brown; little very fine to fine grained sand; high plasticity fines; moist; no staining; no odor; very stiff; expanding clay.					0.0
			Borehole terminated at 16 feet.					



GEO FORM 304 SV_LOGS.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 1/21/20

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **SV-13** PAGE 1 OF 1

Stantec

DRILLING / INSTALLATION:
STARTED **11/25/19** COMPLETED: **11/25/19**
DRILLING COMPANY: **Interphase Environmental**
DRILLING EQUIPMENT: **Geoprobe 6600**
DRILLING METHOD: **HA/DPT**
SAMPLING EQUIPMENT: **Grab/Acetate**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft):
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **16.0**
WELL CASING DIA. (in): **---**
BOREHOLE DIA. (in): **2.25**
LOGGED BY: **J. Sargent**
CHECKED BY: **B. Viggiano**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)
		SM	**SILTY SAND** ; SM; 10YR 4/3 brown; very fine to medium grained sand; some fines; moist; no staining, no odor.		1205 SV-13-1			0.0
					1210 SV-13-3			0.0
5		CL	**SANDY CLAY** ; CL; 10YR 4/3 brown; very fine to medium grained sand; some medium to high plasticity fines; moist; no staining; no odor.					0.0
		SC	**CLAYEY SAND** ; SC; 10YR 3/3 dark brown; very fine to fine grained sand; some high plasticity fines; moist; no staining; no odor.					
10								0.0
		CL	**SANDY CLAY** ; CL; 10YR 3/3 dark brown; some very fine to coarse grained sand; high plasticity fines; moist; no staining; no odor; expanding; very stiff.					
15		SC	**CLAYEY SAND** ; SC; 10YR 3/3 dark brown; very fine to fine grained sand; some high plasticity fines; moist; no staining; no odor.					0.0
			Borehole terminated at 16 feet.					

Depth (feet)	Borehole Backfill
	1/4" Nylaflow Tubing in Cement-Bentonite Grout
5	12" Dry Granular Bentonite
	10" Penn Plex Filter in #3 Sand
10	1/4" Nylaflow Tubing in Cement-Bentonite Grout
15	12" Dry Granular Bentonite
	10" Penn Plex Filter in #3 Sand

GEO FORM 304 SV_LOGS.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 1/21/20

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **SV-14** PAGE 1 OF 1

Stantec

DRILLING / INSTALLATION:
STARTED **11/25/19** COMPLETED: **11/25/19**
DRILLING COMPANY: **Interphase Environmental**
DRILLING EQUIPMENT: **Geoprobe 6600**
DRILLING METHOD: **HA/DPT**
SAMPLING EQUIPMENT: **Grab/Acetate**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft):
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **16.0**
WELL CASING DIA. (in): **---**
BOREHOLE DIA. (in): **2.25**
LOGGED BY: **J. Sargent**
CHECKED BY: **B. Viggiano**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		SC	**CLAYEY SAND** ; SC; 10YR 3/3 dark brown; very fine to medium grained sand some medium to high plasticity fines; moist; no staining; no odor.		1350 SV-14-1			0.0		
					1355 SV-14-3			0.0		1/4" Nylaflow Tubing in Cement-Bentonite Grout
5								0.0	5	12" Dry Granular Bentonite; 10" Penn Plex Filter in #3 Sand
10								0.0	10	1/4" Nylaflow Tubing in Cement-Bentonite Grout
15								0.0	15	12" Dry Granular Bentonite; 10" Penn Plex Filter in #3 Sand
			Borehole terminated at 16 feet.							

GEO FORM 304 SV_LOGS.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 1/21/20

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

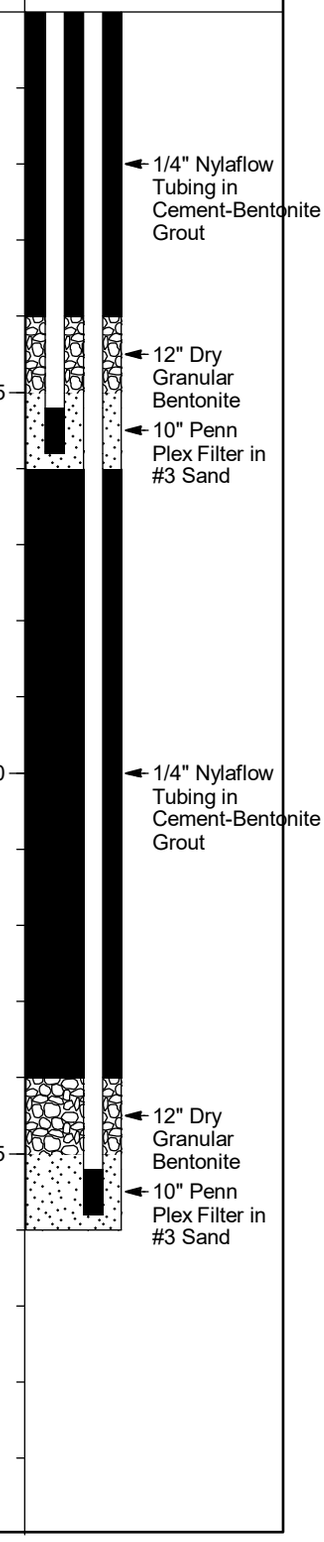
WELL / PROBEHOLE / BOREHOLE NO: **SV-15** PAGE 1 OF 1

Stantec

DRILLING / INSTALLATION:
STARTED **11/25/19** COMPLETED: **11/25/19**
DRILLING COMPANY: **Interphase Environmental**
DRILLING EQUIPMENT: **Hand Auger**
DRILLING METHOD: **HA**
SAMPLING EQUIPMENT: **Grab**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft):
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **16.0**
WELL CASING DIA. (in): **---**
BOREHOLE DIA. (in): **3**
LOGGED BY: **J. Sargent**
CHECKED BY: **B. Viggiano**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)
		SC	**CLAYEY SAND** ; SC; 10YR 4/3 brown; very fine to medium grained sand; some medium plasticity fines; moist; no staining, no odor.		1455 SV-15-1			0.0
					1500 SV-15-3			0.0
5								0.0
10		SM	**SILTY SAND** ; SM; 10YR 4/3 brown; very fine to medium grained sand; some non-plastic fines; moist; no staining; no odor.					0.0
		CL	**SANDY CLAY** ; CL; 10YR 3/3 dark brown; some very fine to medium grained sand; high plasticity fines; moistl no staining; no odor.					
15								0.0
			Borehole terminated at 16 feet.					



GEO FORM 304 SV_LOGS.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 1/21/20

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **SV-16** PAGE 1 OF 1

Stantec

DRILLING / INSTALLATION:
STARTED **11/25/19** COMPLETED: **11/25/19**
DRILLING COMPANY: **Interphase Environmental**
DRILLING EQUIPMENT: **Hand Auger**
DRILLING METHOD: **HA**
SAMPLING EQUIPMENT: **Grab**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft):
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **6.0**
WELL CASING DIA. (in): **---**
BOREHOLE DIA. (in): **3**
LOGGED BY: **J. Sargent**
CHECKED BY: **B. Viggiano**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		SM	**SILTY SAND** ; SM; 10YR 4/3 brown; very fine to fine grained sand;		0724 SV-16-1			0.0		
			SANDY CLAY		0732 SV-16-3			0.0		1/4" Nylaflow Tubing in Cement-Bentonite Grout
5								0.0	5	12" Dry Granular Bentonite
			Borehole terminated at 6 feet.							10" Penn Plax Filter in #3 Sand
10									10	
15									15	

GEO FORM 304 SV_LOGS.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 1/21/20

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

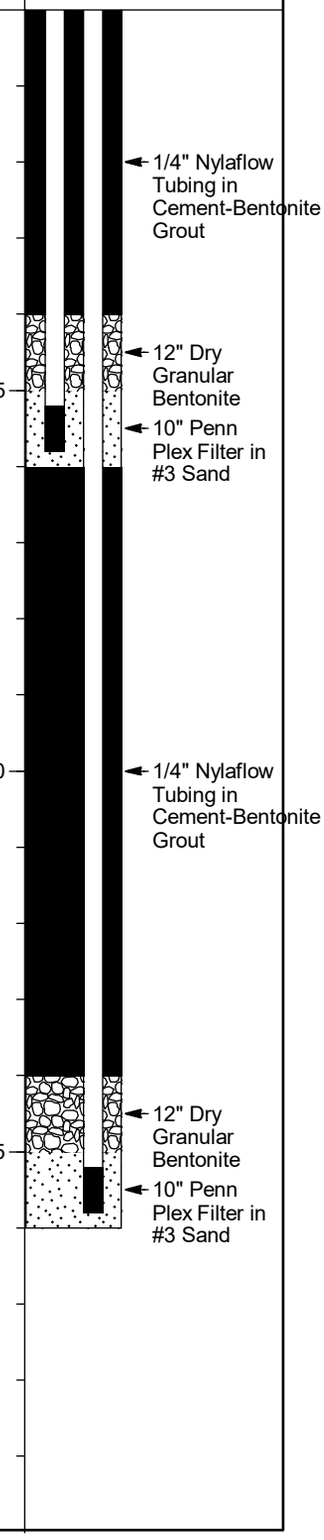
WELL / PROBEHOLE / BOREHOLE NO: **SV-17** PAGE 1 OF 1

Stantec

DRILLING / INSTALLATION:
STARTED **11/25/19** COMPLETED: **11/25/19**
DRILLING COMPANY: **Interphase Environmental**
DRILLING EQUIPMENT: **Geoprobe 6600**
DRILLING METHOD: **HA/DPT**
SAMPLING EQUIPMENT: **Grab/Acetate**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft):
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **16.0**
WELL CASING DIA. (in): **---**
BOREHOLE DIA. (in): **2.25**
LOGGED BY: **J. Sargent**
CHECKED BY: **B. Viggiano**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)
		SM	**SILTY SAND** ; SM; 10YR 4/3 brown; very fine to medium grained sand; some fines; moist; no staining, no odor.	☒	1600 SV-17-1			0.0
				☒	1605 SV-17-3			0.0
5		SC	**CLAYEY SAND** ; SC; 10YR 4/3 brown; very fine to fine grained sand; high plasticity fines; moist; no staining; no odor.					0.0
		CL	**SANDY CLAY** ; CL; 10YR 3/3 dark brown; some very fine to fine grained sand; trace coarse graiend sand; high plasticity fines; moist; no staining; no odor.					
10		SM	**SILTY SAND** ; SM; 10YR 4/3 brown; very fine to medium grained sand; some fines; moist; no staining, no odor.					0.0
		CL	**SANDY CLAY** ; CL; 10YR 3/3 dark brown; some very fine to fine grained sand; trace coarse graiend sand; high plasticity fines; moist; no staining; no odor.					
15								0.0
			Borehole terminated at 16 feet.					



GEO FORM 304 SV_LOGS.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 1/21/20

PROJECT: **Olson - Gardena**
LOCATION: **1337-1343 W. 141st. St. Gardena CA**
PROJECT NUMBER: **185804443**

WELL / PROBEHOLE / BOREHOLE NO: **SV-18** PAGE 1 OF 1

Stantec

DRILLING / INSTALLATION:
STARTED **11/25/19** COMPLETED: **11/25/19**
DRILLING COMPANY: **Interphase Environmental**
DRILLING EQUIPMENT: **Geoprobe 6600**
DRILLING METHOD: **HA/DPT**
SAMPLING EQUIPMENT: **Grab/Acetate**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft):
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **16.0**
WELL CASING DIA. (in): **---**
BOREHOLE DIA. (in): **2.25**
LOGGED BY: **J. Sargent**
CHECKED BY: **B. Viggiano**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)
					1625 SV-18-1			0.0
					1630 SV-18-3			0.0
5		SC	**CLAYEY SAND** ; SC; 10YR 3/3 brown; very fine to fine grained snad; some medium plasticity fines; moist; no staining; no odor.					0.0
10								0.0
15								0.0
			Borehole terminated at 16 feet.					

Depth (feet): 5, 10, 15

Borehole Backfill:
- 1/4" Nylaflow Tubing in Cement-Bentonite Grout
- 12" Dry Granular Bentonite
- 10" Penn Plex Filter in #3 Sand
- 1/4" Nylaflow Tubing in Cement-Bentonite Grout
- 12" Dry Granular Bentonite
- 10" Penn Plex Filter in #3 Sand

GEO FORM 304 SV_LOGS.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 1/21/20

APPENDIX B-
LABORATORY REPORTS

A & R Laboratories, Inc.

1650 S. GROVE AVE., SUITE C
ONTARIO, CA 91761
951-779-0310 FAX 951-779-0344
www.arlaboratories.com office@arlaboratories.com

FDA#	2030513
LA City#	10261
ELAP#'s	2789
	2790
	2122

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CASE NARRATIVE

Authorized Signature Name / Title (print)	Ken Zheng, President
Signature / Date	Ken Zheng, President 12/17/2019 16:40:48
Laboratory Job No. (Certificate of Analysis No.)	1912-00142
Project Name / No.	1337 W. 141st St., Gardena, CA 90247
Dates Sampled (from/to)	12/13/19 To 12/13/19
Dates Received (from/to)	12/13/19 To 12/13/19
Dates Reported (from/to)	12/17/19 To 12/17/2019
Chains of Custody Received	Yes

Comments:

Subcontracting

Organic Analyses

No analyses sub-contracted

Sample Condition(s)

All samples intact

A & R Laboratories, Inc.

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 001 **SV-11-5** Date & Time Sampled: 12/13/19 @ 7:30
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 001 **SV-11-5** Date & Time Sampled: 12/13/19 @ 7:30
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 001 **SV-11-5** Date & Time Sampled: 12/13/19 @ 7:30
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	144		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	125		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	101		70-130	%REC							EPA 8260B	12/13/19	KZ

Sample: 002 **SV-11-15** Date & Time Sampled: 12/13/19 @ 8:00
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 002 **SV-11-15** Date & Time Sampled: 12/13/19 @ 8:00
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 002 **SV-11-15** Date & Time Sampled: 12/13/19 @ 8:00
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	**0.030**	0.0075	0.015	µg/L	**30**	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 002 **SV-11-15** Date & Time Sampled: 12/13/19 @ 8:00
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	108		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	98		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	100		70-130	%REC							EPA 8260B	12/13/19	KZ

Sample: 003 **SV-12-5** Date & Time Sampled: 12/13/19 @ 8:22
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 003 **SV-12-5** Date & Time Sampled: 12/13/19 @ 8:22
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 003 **SV-12-5** Date & Time Sampled: 12/13/19 @ 8:22
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	**0.020**	0.0075	0.015	µg/L	**20**	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 003 **SV-12-5**									Date & Time Sampled:		12/13/19 @ 8:22		
Sample Matrix: **Soil Vapor**													
Purge Volume Sampled: **3**													
.....continued													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	109		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	100		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	101		70-130	%REC							EPA 8260B	12/13/19	KZ
Sample: 004 **SV-12-15**									Date & Time Sampled:		12/13/19 @ 8:45		
Sample Matrix: **Soil Vapor**													
Purge Volume Sampled: **3**													
[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 004 **SV-12-15** Date & Time Sampled: 12/13/19 @ 8:45
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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FDA#	2030513
LA City#	10261
ELAP#'s	2789
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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 004 **SV-12-15** Date & Time Sampled: 12/13/19 @ 8:45
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	**0.030**	0.0075	0.015	µg/L	**30**	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	107		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	100		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	102		70-130	%REC							EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 005 **SV-13-5** Date & Time Sampled: 12/13/19 @ 9:08
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 005 **SV-13-5** Date & Time Sampled: 12/13/19 @ 9:08
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 005 **SV-13-5** Date & Time Sampled: 12/13/19 @ 9:08
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	107		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	99		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	99		70-130	%REC							EPA 8260B	12/13/19	KZ

Sample: 006 **SV-13-15** Date & Time Sampled: 12/13/19 @ 9:50
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L		5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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FDA#	2030513
LA City#	10261
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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 006 **SV-13-15** Date & Time Sampled: 12/13/19 @ 9:50
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 006 **SV-13-15** Date & Time Sampled: 12/13/19 @ 9:50
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	**0.030**	0.0075	0.015	µg/L	**30**	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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Date Reported	12/17/19
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Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 006 **SV-13-15**									Date & Time Sampled:		12/13/19 @ 9:50		
Sample Matrix: **Soil Vapor**													
Purge Volume Sampled: **3**													
.....continued													
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	109		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	100		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	101		70-130	%REC							EPA 8260B	12/13/19	KZ
Sample: 007 **SV-5-5**									Date & Time Sampled:		12/13/19 @ 10:20		
Sample Matrix: **Soil Vapor**													
Purge Volume Sampled: **3**													
[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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Invoice No.	87618
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Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 007 **SV-5-5** Date & Time Sampled: 12/13/19 @ 10:20
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 007 **SV-5-5** Date & Time Sampled: 12/13/19 @ 10:20
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	**0.020**	0.0075	0.015	µg/L	**20**	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 007 **SV-5-5**									Date & Time Sampled:		12/13/19 @ 10:20		
Sample Matrix: **Soil Vapor**													
Purge Volume Sampled: **3**													
.....continued													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	107		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	99		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	103		70-130	%REC							EPA 8260B	12/13/19	KZ
Sample: 008 **SV-5-15**									Date & Time Sampled:		12/13/19 @ 11:18		
Sample Matrix: **Soil Vapor**													
Purge Volume Sampled: **3**													
[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 008 **SV-5-15** Date & Time Sampled: 12/13/19 @ 11:18
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 008 **SV-5-15** Date & Time Sampled: 12/13/19 @ 11:18
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	**0.020**	0.0075	0.015	µg/L	**20**	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	106		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	99		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	102		70-130	%REC							EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 009 **SV-15-5** Date & Time Sampled: 12/13/19 @ 11:48
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 009 **SV-15-5** Date & Time Sampled: 12/13/19 @ 11:48
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 009 **SV-15-5** Date & Time Sampled: 12/13/19 @ 11:48
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	105		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	98		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	101		70-130	%REC							EPA 8260B	12/13/19	KZ

Sample: 010 **SV-15-15** Date & Time Sampled: 12/13/19 @ 12:15
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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BRIAN VIGGIANO
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Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 010 **SV-15-15** Date & Time Sampled: 12/13/19 @ 12:15
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 010 **SV-15-15** Date & Time Sampled: 12/13/19 @ 12:15
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 010 **SV-15-15** Date & Time Sampled: 12/13/19 @ 12:15
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	104		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	100		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	102		70-130	%REC							EPA 8260B	12/13/19	KZ

Sample: 011 **SV-14-5** Date & Time Sampled: 12/13/19 @ 12:40
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 011 **SV-14-5** Date & Time Sampled: 12/13/19 @ 12:40
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 011 **SV-14-5** Date & Time Sampled: 12/13/19 @ 12:40
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 011 **SV-14-5** Date & Time Sampled: 12/13/19 @ 12:40													
Sample Matrix: **Soil Vapor**													
Purge Volume Sampled: **3**													
.....continued													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	106		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	99		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	103		70-130	%REC							EPA 8260B	12/13/19	KZ
Sample: 012 **SV-14-15** Date & Time Sampled: 12/13/19 @ 13:10													
Sample Matrix: **Soil Vapor**													
Purge Volume Sampled: **3**													
[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 012 **SV-14-15** Date & Time Sampled: 12/13/19 @ 13:10
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 012 **SV-14-15** Date & Time Sampled: 12/13/19 @ 13:10
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	103		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	100		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	103		70-130	%REC							EPA 8260B	12/13/19	KZ

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1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 013 **SV-3-5** Date & Time Sampled: 12/13/19 @ 13:55
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 013 **SV-3-5** Date & Time Sampled: 12/13/19 @ 13:55
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 013 **SV-3-5**									Date & Time Sampled:		12/13/19 @ 13:55		
Sample Matrix: **Soil Vapor**													
Purge Volume Sampled: **3**													
.....continued													
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	100		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	99		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	101		70-130	%REC							EPA 8260B	12/13/19	KZ
Sample: 014 **SV-4-5**									Date & Time Sampled:		12/13/19 @ 14:30		
Sample Matrix: **Soil Vapor**													
Purge Volume Sampled: **3**													
[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 014 **SV-4-5** Date & Time Sampled: 12/13/19 @ 14:30
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 014 **SV-4-5** Date & Time Sampled: 12/13/19 @ 14:30
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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FDA#	2030513
LA City#	10261
ELAP#'s	2789
	2790
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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 014 **SV-4-5** Date & Time Sampled: 12/13/19 @ 14:30
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	106		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	99		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	101		70-130	%REC							EPA 8260B	12/13/19	KZ

Sample: 015 **SV-4-15** Date & Time Sampled: 12/13/19 @ 14:50
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 015 **SV-4-15** Date & Time Sampled: 12/13/19 @ 14:50
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 015 **SV-4-15** Date & Time Sampled: 12/13/19 @ 14:50
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													

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LA City#	10261
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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 015 **SV-4-15**									Date & Time Sampled:		12/13/19 @ 14:50		
Sample Matrix: **Soil Vapor**													
Purge Volume Sampled: **3**													
.....continued													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	104		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	100		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	102		70-130	%REC							EPA 8260B	12/13/19	KZ
Sample: 016 **SV-9-5**									Date & Time Sampled:		12/13/19 @ 15:10		
Sample Matrix: **Soil Vapor**													
Purge Volume Sampled: **3**													
[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 016 **SV-9-5** Date & Time Sampled: 12/13/19 @ 15:10
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 016 **SV-9-5** Date & Time Sampled: 12/13/19 @ 15:10
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	103		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	100		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	100		70-130	%REC							EPA 8260B	12/13/19	KZ

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1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 017 **SV-9-5 DUP** Date & Time Sampled: 12/13/19 @ 15:10

Sample Matrix: **Soil Vapor**

Purge Volume Sampled: **3**

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
[TPH Gasoline by GCMS]													
C4-C12	<5	5	10	µg/L	<5,000.0	5,000.0	10,000	µg/m3		1.0	LUFT GCMS	12/13/19	KZ
[VOCs by GCMS]													
Acetone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Amyl Methyl Ether (TAME)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Benzene	<0.0054	0.0054	0.0075	µg/L	<5.4	5.4	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromodichloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromoform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Bromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
t-Butanol (TBA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Butanone (MEK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
sec-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
tert-Butylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Disulfide	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Carbon Tetrachloride	<0.0038	0.00375	0.0075	µg/L	<3.8	3.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloroform	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Chloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Chlorotoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromochloromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromoethane (EDB)	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dibromo-3-Chloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dibromomethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

A & R Laboratories, Inc.

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LA City#	10261
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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 017 **SV-9-5 DUP** Date & Time Sampled: 12/13/19 @ 15:10
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
1,4-Dichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Dichlorodifluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,2-Dichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2,2-Dichloropropane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
cis-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
trans-1,3-Dichloropropene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Diisopropyl Ether (DiPE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Hexachlorobutadiene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
2-Hexanone	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Isopropylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Isopropyltoluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methylene Chloride	<0.0075	0.0075	0.02	µg/L	<7.5	7.5	20	µg/m3		0.15	EPA 8260B	12/13/19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Methyl-t-butyl Ether (MtBE)	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Naphthalene	<0.0048	0.0048	0.0075	µg/L	<4.8	4.8	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
n-Propylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Styrene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2,2-Tetrachloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Tetrachloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Toluene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ

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CERTIFICATE OF ANALYSIS

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	12/17/19
Date Received	12/13/19
Invoice No.	87618
Cust #	1003
Permit Number	
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Sample: 017 **SV-9-5 DUP** Date & Time Sampled: 12/13/19 @ 15:10
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
1,2,3-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trichlorobenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,1-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,1,2-Trichloroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichloroethene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,3-Trichloropropane	<0.0030	0.003	0.015	µg/L	<3.0	3.0	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorofluoromethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Trichlorotrifluoroethane	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,2,4-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
1,3,5-Trimethylbenzene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
Vinyl Chloride	<0.0012	0.0012	0.0075	µg/L	<1.2	1.2	8	µg/m3		0.15	EPA 8260B	12/13/19	KZ
m,p-Xylenes	<0.0150	0.015	0.030	µg/L	<15.0	15.0	30	µg/m3		0.15	EPA 8260B	12/13/19	KZ
o-Xylene	<0.0075	0.0075	0.015	µg/L	<7.5	7.5	15	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<0.0750	0.075	0.15	µg/L	<75.0	75.0	150	µg/m3		0.15	EPA 8260B	12/13/19	KZ
[VOC Surrogates]													
Dibromofluoromethane	102		70-130	%REC							EPA 8260B	12/13/19	KZ
Toluene-D8	94		70-130	%REC							EPA 8260B	12/13/19	KZ
Bromofluorobenzene	102		70-130	%REC							EPA 8260B	12/13/19	KZ

Respectfully Submitted: Ken Zheng

Ken Zheng - President

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QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL
B1= BOD blank is over specifications . The reported result may be biased high.
D = Surrogate recoveries are not calculated due to sample dilution
E = Estimated value
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference
J = Analyte concentration detected between RL and MDL

ABBREVIATIONS

DF = Dilution Factor
RL = Reporting Limit
MDL = Method Detection Limit
Qual = Qualifier
Tech = Technician

As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.

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QUALITY CONTROL DATA REPORT

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO
735 E. CARNEGIE DR., STE. 280
SAN BERNARDINO, CA 92408

Date Reported	**12/17/2019**
Date Received	**12/13/2019**
Date Sampled	**12/13/2019**
Invoice No.	**87618**
Customer #	**1003**
Customer P.O.	

Project: 1337 W. 141st St., Gardena, CA 90247

Method # EPA 8260B
QC Reference # 86566 **Date Analyzed:** 12/13/2019 **Technician:** KZ
Samples 001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017

Results

	LCS %REC	LCS %DUP	LCS %RPD	BLKSRR% REC
1,1-Dichloroethene	87	72	18.9	
Benzene	94	84	12.0	
Bromofluorobenzene				97
Chlorobenzene	110	111	1.0	
Dibromofluoromethan				102
Toluene	105	102	3.6	
Toluene-D8				97
Trichloroethene	100	97	3.2	

Control Ranges

LCS %REC	LCS %RPD	BLKSRR%REC
70 - 130	0 - 25	
70 - 130	0 - 25	
		50 - 150
70 - 130	0 - 25	
		50 - 150
70 - 130	0 - 25	
		50 - 150
70 - 130	0 - 25	

Method # LUFT GCMS
QC Reference # 86567 **Date Analyzed:** 12/13/2019 **Technician:** KZ
Samples 001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017

Results

	LCS %REC	LCS %DUP	LCS %RPD
C4-C12	92	93	1.5

Control Ranges

LCS %REC	LCS %RPD
70 - 130	0 - 25

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QUALITY CONTROL DATA REPORT

1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO

Date Reported 12/17/2019
Date Received 12/13/2019
Date Sampled 12/13/2019

Project: 1337 W. 141st St., Gardena, CA 90247

Method blank results

Ref	Test Name	Result	Qualif	Units	MDL
86566	Acetone	<0.0750		µg/L	0.0750
	t-Amyl Methyl Ether (TAME)	<0.0075		µg/L	0.0075
	Benzene	<0.0054		µg/L	0.0054
	Bromobenzene	<0.0075		µg/L	0.0075
	Bromochloromethane	<0.0075		µg/L	0.0075
	Bromodichloromethane	<0.0075		µg/L	0.0075
	Bromoform	<0.0075		µg/L	0.0075
	Bromomethane	<0.0075		µg/L	0.0075
	t-Butanol (TBA)	<0.0750		µg/L	0.0750
	2-Butanone (MEK)	<0.0750		µg/L	0.0750
	n-Butylbenzene	<0.0075		µg/L	0.0075
	sec-Butylbenzene	<0.0075		µg/L	0.0075
	tert-Butylbenzene	<0.0075		µg/L	0.0075
	Carbon Disulfide	<0.0750		µg/L	0.0750
	Carbon Tetrachloride	<0.0038		µg/L	0.0038
	Chlorobenzene	<0.0075		µg/L	0.0075
	Chloroethane	<0.0075		µg/L	0.0075
	Chloroform	<0.0075		µg/L	0.0075
	Chloromethane	<0.0075		µg/L	0.0075
	2-Chlorotoluene	<0.0075		µg/L	0.0075
	4-Chlorotoluene	<0.0075		µg/L	0.0075
	Dibromochloromethane	<0.0075		µg/L	0.0075
	1,2-Dibromoethane (EDB)	<0.0030		µg/L	0.0030
	1,2-Dibromo-3-Chloropropane	<0.0030		µg/L	0.0030
	Dibromomethane	<0.0075		µg/L	0.0075
	1,2-Dichlorobenzene	<0.0075		µg/L	0.0075
	1,3-Dichlorobenzene	<0.0075		µg/L	0.0075
	1,4-Dichlorobenzene	<0.0075		µg/L	0.0075
	Dichlorodifluoromethane	<0.0075		µg/L	0.0075
	1,1-Dichloroethane	<0.0075		µg/L	0.0075
	1,2-Dichloroethane	<0.0075		µg/L	0.0075
	1,1-Dichloroethene	<0.0075		µg/L	0.0075
	cis-1,2-Dichloroethene	<0.0075		µg/L	0.0075
	trans-1,2-Dichloroethene	<0.0075		µg/L	0.0075
	1,2-Dichloropropane	<0.0075		µg/L	0.0075
	1,3-Dichloropropane	<0.0075		µg/L	0.0075
	2,2-Dichloropropane	<0.0075		µg/L	0.0075
	1,1-Dichloropropene	<0.0075		µg/L	0.0075
	cis-1,3-Dichloropropene	<0.0075		µg/L	0.0075
	trans-1,3-Dichloropropene	<0.0075		µg/L	0.0075
	Diisopropyl Ether (DiPE)	<0.0075		µg/L	0.0075
	Ethylbenzene	<0.0075		µg/L	0.0075
	Ethyl-t-Butyl Ether (EtBE)	<0.0075		µg/L	0.0075
	Hexachlorobutadiene	<0.0075		µg/L	0.0075
	2-Hexanone	<0.0750		µg/L	0.0750
	Isopropylbenzene	<0.0075		µg/L	0.0075
	4-Isopropyltoluene	<0.0075		µg/L	0.0075
	Methylene Chloride	<0.0075		µg/L	0.0075
	4-Methyl-2-Pentanone (MIBK)	<0.0750		µg/L	0.0750
	Methyl-t-butyl Ether (MtBE)	<0.0075		µg/L	0.0075
	Naphthalene	<0.0048		µg/L	0.0048
	n-Propylbenzene	<0.0075		µg/L	0.0075
	Styrene	<0.0075		µg/L	0.0075
	1,1,1,2-Tetrachloroethane	<0.0075		µg/L	0.0075
	1,1,2,2-Tetrachloroethane	<0.0075		µg/L	0.0075
	Tetrachloroethene	<0.0075		µg/L	0.0075
	Toluene	<0.0075		µg/L	0.0075
	1,2,3-Trichlorobenzene	<0.0075		µg/L	0.0075
	1,2,4-Trichlorobenzene	<0.0075		µg/L	0.0075
	1,1,1-Trichloroethane	<0.0075		µg/L	0.0075
	1,1,2-Trichloroethane	<0.0075		µg/L	0.0075
	Trichloroethene	<0.0075		µg/L	0.0075
	1,2,3-Trichloropropane	<0.0030		µg/L	0.0030
	Trichlorofluoromethane	<0.0075		µg/L	0.0075
	Trichlorotrifluoroethane	<0.0075		µg/L	0.0075
	1,2,4-Trimethylbenzene	<0.0075		µg/L	0.0075
	1,3,5-Trimethylbenzene	<0.0075		µg/L	0.0075
	Vinyl Chloride	<0.0012		µg/L	0.0012
	m,p-Xylenes	<0.0150		µg/L	0.0150
	o-Xylene	<0.0075		µg/L	0.0075
	Isopropanol (IPA)	<0.0750		µg/L	0.0750
86567	C4-C12	<0.7500		µg/L	0.7500

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1912-00142

STANTEC CONSULTING SVCS., INC.
BRIAN VIGGIANO

Date Reported	**12/17/2019**
Date Received	**12/13/2019**
Date Sampled	**12/13/2019**

Project: 1337 W. 141st St., Gardena, CA 90247

Respectfully Submitted: Ken Zheng

Ken Zheng - President

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.

ARL

A & R Laboratories
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Tel: 951-779-0310 / 909-781-6335 Fax: 951-779-0344
E-mail: office@arlaboratories.com

CHAIN OF CUSTODY

A & R Work Order #: 1912-142

Client Name: stantec

E-mail: BRIAN.VIGGIANO@STANTEC.COM

Address: 735 E. CARNEGIE DR., STE. 200, SN BDNO, ~~92408~~ 92410

Report Attention: BRIAN V.

Phone # / Fax #: 909.255.8204

Sampled By: KZ

Project No./ Name:

Project Site: 1337 W 141st Gardena, CA 90247

☐ Chilled ☒ Intact ☐ Seal

Turn Around Time Requested: ☐ Rush 8 12 24 48 Hours ☐ Normal Report in ug/M3

Lab # (Lab use)	Client Sample ID	Sample Collection Date	Sample Collection Time	Matrix Type	Sample Preserve	No., type* & size of container	EPA8260B (VOCs & Oxygenates)	EPA8260B(BTEX & Oxygenates)	LUFT / 8015 (Gasoline)	LUFT / 8015 (Diesel)	EPA8081A (Organochlorine Pesticides)	EPA 8082 (PCBs)	EPA 8015M (Carbon Chain C4-C40)	EPA 6010B/7000 (CAM 17 Metals)	Micro: Plate Cnt., Coliform, E-Coli	Remarks
-1	SV-11-5	12/13/19	7:30	Air		250mL G	X		X							3 PL
-2	SV-11-15		8:00													
-3	SV-12-5		8:22													
-4	SV-12-15		8:45													
-5	SV-13-5		9:08													
-6	SV-13-15		9:50													
-7	SV-5-5		10:20													
-8	SV-5-15		11:18													
-9	SV-15-5		11:48													
-10	SV-15-15		12:15													
-11	SV-14-5		12:40													
-12	SV-14-15		13:10													
-13	SV-3-5		13:55													
-14	SV-4-5		14:30													
-15	SV-4-15		14:50													

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	Stantec	12-13-19	16:20		ARL	12/13/19	16:20
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.

Matrix Code: DW=Drinking Water; GW=Ground Water; WW=Waste Water; SD=Solid Waste; SL=Sludge; SS=Soil/Sediment; AR=Air; PP=Pure Product

Preservative Code: IC=Ice; HC=HCl; HN=HNO_3; SH=NaOH; ST=$Na_2S_2O_3$; HS=H_2SO_4

* Sample Container Types: T=Tedlar Air Bag; G=Glass Container; ST= Steel Tube; B= Brass Tube; P=Plastic Bottle; V=VOA Vial; E= EnCore

ARL

A & R Laboratories
1650 S. Grove Ave., Ste C, Ontario, CA 91761
Tel: 951-779-0310 / 909-781-6335 Fax: 951-779-0344
E-mail: office@arlaboratories.com

CHAIN OF CUSTODY

A & R Work Order #: 1912-142

Client Name: stantec

E-mail: BRIAN.VIGGIANO@STANTEC.COM

Address: 735 E. CARNEGIE DR., STE. 200, SN BDNO, 92408

Report Attention: BRIAN V.

Phone #: 909-255-8204

Fax: #

Sampled By: KZ

☐ Chilled ☒ Intact ☐ Seal

Project No./ Name:

Project Site: 1337 W 141st Gardena, CA 90247

Turn Around Time Requested: ☐ Rush 8 12 24 48 Hours ☐ Normal

Report in ug/m3

Lab # (Lab use)	Client Sample ID	Sample Collection Date	Sample Collection Time	Matrix Type	Sample Preserve	No., type* & size of container	EPA8260B (VOCs & Oxygenates)	EPA8260B(BTEX & Oxygenates)	LUFT / 8015 (Gasoline)	LUFT / 8015 (Diesel)	EPA8081A (Organochlorine Pesticides)	EPA 8082 (PCBs)	EPA 8015M (Carbon Chain C4-C40)	EPA 6010B/7000 (CAM 17 Metals)	Micro: Plate Cnt., Coliform, E-Coli	Remarks
-16	SV-9-5	12/13/19	15:10	Air		250mL G	X		X							3PV
-17	SV-9-5 DUP	↓	15:10	↓		↓	X		X							↓

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	Stantec	12-13-19	16:20		RK	12/13/19	16:20
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.

Matrix Code: DW=Drinking Water; GW=Ground Water; WW=Waste Water; SD=Solid Waste; SL=Sludge; SS=Soil/Sediment; AR=Air; PP=Pure Product

Preservative Code: IC=Ice; HC=HCl; HN=HNO_3; SH=NaOH; ST=$Na_2S_2O_3$; HS=H_2SO_4

* Sample Container Types: T=Tedlar Air Bag; G=Glass Container; ST= Steel Tube; B= Brass Tube; P=Plastic Bottle; V=VOA Vial; E= EnCore

ADVANCED TECHNOLOGY LABORATORIES

December 04, 2019

Brian Viggiano
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
Tel: (909) 255-8204
Fax:(909) 335-6120

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1904258
Client Reference : 185804443

Enclosed are the results for sample(s) received on November 26, 2019 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Edgar Caballero
President & Laboratory Director

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SV-16-1	1904258-01	Soil	11/25/19 7:24	11/26/19 13:03
SV-10-1	1904258-03	Soil	11/25/19 8:20	11/26/19 13:03
SV-11-1	1904258-05	Soil	11/25/19 9:50	11/26/19 13:03
SV-12-1	1904258-07	Soil	11/25/19 10:50	11/26/19 13:03
SV-13-1	1904258-09	Soil	11/25/19 12:05	11/26/19 13:03
SV-14-1	1904258-11	Soil	11/25/19 13:50	11/26/19 13:03
SV-15-1	1904258-13	Soil	11/25/19 14:55	11/26/19 13:03
SV-17-1	1904258-15	Soil	11/25/19 16:00	11/26/19 13:03
SV-18-1	1904258-17	Soil	11/25/19 16:25	11/26/19 13:03

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

Client Sample ID: SV-16-1

Lab ID: 1904258-01

Total Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**3.8**	1.0	1	B9L0025	12/03/2019	12/03/19 18:17	
Lead	**25**	1.0	1	B9L0025	12/03/2019	12/03/19 18:17	

Organochlorine Pesticides by EPA 8081A

Analyst: KD

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	**2.8**	2.0	1	B9L0022	12/02/2019	12/02/19 16:12	
4,4´-DDE	**78**	10	5	B9L0022	12/02/2019	12/02/19 19:21	
4,4´-DDT	**3.2**	2.0	1	B9L0022	12/02/2019	12/02/19 16:12	
Aldrin	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:12	
alpha-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:12	
alpha-Chlordane	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:12	
beta-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:12	
Chlordane	ND	8.5	1	B9L0022	12/02/2019	12/02/19 16:12	
delta-BHC	**8.2**	1.0	1	B9L0022	12/02/2019	12/02/19 16:12	
Dieldrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:12	
Endosulfan I	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:12	
Endosulfan II	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:12	
Endosulfan sulfate	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:12	
Endrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:12	
Endrin aldehyde	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:12	
Endrin ketone	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:12	
gamma-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:12	
gamma-Chlordane	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:12	
Heptachlor	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:12	
Heptachlor epoxide	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:12	
Methoxychlor	ND	5.0	1	B9L0022	12/02/2019	12/02/19 16:12	
Toxaphene	ND	50	1	B9L0022	12/02/2019	12/02/19 16:12	
Surrogate: Decachlorobiphenyl	*47.9 %*	*32 - 91*		B9L0022	12/02/2019	*12/02/19 19:21*	
Surrogate: Decachlorobiphenyl	*49.0 %*	*32 - 91*		B9L0022	12/02/2019	*12/02/19 16:12*	
Surrogate: Tetrachloro-m-xylene	*67.2 %*	*38 - 93*		B9L0022	12/02/2019	*12/02/19 19:21*	
Surrogate: Tetrachloro-m-xylene	*63.2 %*	*38 - 93*		B9L0022	12/02/2019	*12/02/19 16:12*	

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

Client Sample ID: SV-10-1

Lab ID: 1904258-03

Total Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**2.0**	1.0	1	B9L0025	12/03/2019	12/03/19 18:21	
Lead	**54**	1.0	1	B9L0025	12/03/2019	12/03/19 18:21	

Organochlorine Pesticides by EPA 8081A

Analyst: KD

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:23	
4,4´-DDE [2C]	**41**	2.0	1	B9L0022	12/02/2019	12/02/19 16:23	
4,4´-DDT [2C]	**33**	2.0	1	B9L0022	12/02/2019	12/02/19 16:23	
Aldrin	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:23	
alpha-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:23	
alpha-Chlordane	**10**	1.0	1	B9L0022	12/02/2019	12/02/19 16:23	
beta-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:23	
Chlordane [2C]	**140**	8.5	1	B9L0022	12/02/2019	12/02/19 16:23	
delta-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:23	
Dieldrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:23	
Endosulfan I	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:23	
Endosulfan II	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:23	
Endosulfan sulfate	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:23	
Endrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:23	
Endrin aldehyde	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:23	
Endrin ketone	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:23	
gamma-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:23	
gamma-Chlordane [2C]	**13**	1.0	1	B9L0022	12/02/2019	12/02/19 16:23	
Heptachlor	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:23	
Heptachlor epoxide	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:23	
Methoxychlor	ND	5.0	1	B9L0022	12/02/2019	12/02/19 16:23	
Toxaphene	ND	50	1	B9L0022	12/02/2019	12/02/19 16:23	
Surrogate: Decachlorobiphenyl	*51.5 %*	*32 - 91*		B9L0022	12/02/2019	*12/02/19 16:23*	
Surrogate: Tetrachloro-m-xylene	*65.7 %*	*38 - 93*		B9L0022	12/02/2019	*12/02/19 16:23*	

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

Client Sample ID: SV-11-1

Lab ID: 1904258-05

Total Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**1.7**	1.0	1	B9L0025	12/03/2019	12/03/19 18:23	
Lead	**10**	1.0	1	B9L0025	12/03/2019	12/03/19 18:23	

Organochlorine Pesticides by EPA 8081A

Analyst: KD

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:34	
4,4´-DDE	**11**	2.0	1	B9L0022	12/02/2019	12/02/19 16:34	
4,4´-DDT [2C]	**16**	2.0	1	B9L0022	12/02/2019	12/02/19 16:34	
Aldrin	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:34	
alpha-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:34	
alpha-Chlordane [2C]	**1.5**	1.0	1	B9L0022	12/02/2019	12/02/19 16:34	
beta-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:34	
Chlordane [2C]	**12**	8.5	1	B9L0022	12/02/2019	12/02/19 16:34	
delta-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:34	
Dieldrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:34	
Endosulfan I	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:34	
Endosulfan II	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:34	
Endosulfan sulfate	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:34	
Endrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:34	
Endrin aldehyde	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:34	
Endrin ketone	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:34	
gamma-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:34	
gamma-Chlordane	**1.6**	1.0	1	B9L0022	12/02/2019	12/02/19 16:34	
Heptachlor	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:34	
Heptachlor epoxide	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:34	
Methoxychlor	ND	5.0	1	B9L0022	12/02/2019	12/02/19 16:34	
Toxaphene	ND	50	1	B9L0022	12/02/2019	12/02/19 16:34	
Surrogate: Decachlorobiphenyl	*42.9 %*	*32 - 91*		B9L0022	12/02/2019	*12/02/19 16:34*	
Surrogate: Tetrachloro-m-xylene	*57.2 %*	*38 - 93*		B9L0022	12/02/2019	*12/02/19 16:34*	

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

Client Sample ID: SV-12-1

Lab ID: 1904258-07

Total Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**3.6**	1.0	1	B9L0025	12/03/2019	12/03/19 18:29	
Lead	**110**	1.0	1	B9L0025	12/03/2019	12/03/19 18:29	

Organochlorine Pesticides by EPA 8081A

Analyst: KD

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:45	
4,4´-DDE	**6.2**	2.0	1	B9L0022	12/02/2019	12/02/19 16:45	
4,4´-DDT [2C]	**8.1**	2.0	1	B9L0022	12/02/2019	12/02/19 16:45	
Aldrin	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:45	
alpha-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:45	
alpha-Chlordane	**1.8**	1.0	1	B9L0022	12/02/2019	12/02/19 16:45	
beta-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:45	
Chlordane [2C]	**22**	8.5	1	B9L0022	12/02/2019	12/02/19 16:45	
delta-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:45	
Dieldrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:45	
Endosulfan I	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:45	
Endosulfan II	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:45	
Endosulfan sulfate	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:45	
Endrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:45	
Endrin aldehyde	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:45	
Endrin ketone	ND	2.0	1	B9L0022	12/02/2019	12/02/19 16:45	
gamma-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:45	
gamma-Chlordane	**2.0**	1.0	1	B9L0022	12/02/2019	12/02/19 16:45	
Heptachlor	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:45	
Heptachlor epoxide	ND	1.0	1	B9L0022	12/02/2019	12/02/19 16:45	
Methoxychlor	ND	5.0	1	B9L0022	12/02/2019	12/02/19 16:45	
Toxaphene	ND	50	1	B9L0022	12/02/2019	12/02/19 16:45	
Surrogate: Decachlorobiphenyl	*56.9 %*	*32 - 91*		B9L0022	12/02/2019	*12/02/19 16:45*	
Surrogate: Tetrachloro-m-xylene	*58.1 %*	*38 - 93*		B9L0022	12/02/2019	*12/02/19 16:45*	

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

Client Sample ID: SV-13-1

Lab ID: 1904258-09

Total Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**3.9**	1.0	1	B9L0025	12/03/2019	12/03/19 18:31	
Lead	**19**	1.0	1	B9L0025	12/03/2019	12/03/19 18:31	

Organochlorine Pesticides by EPA 8081A

Analyst: KD

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:25	
4,4´-DDE	**39**	2.0	1	B9L0022	12/02/2019	12/02/19 17:25	
4,4´-DDT	**9.3**	2.0	1	B9L0022	12/02/2019	12/02/19 17:25	
Aldrin	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:25	
alpha-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:25	
alpha-Chlordane	**8.6**	1.0	1	B9L0022	12/02/2019	12/02/19 17:25	
beta-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:25	
Chlordane	**120**	8.5	1	B9L0022	12/02/2019	12/02/19 17:25	
delta-BHC	**15**	1.0	1	B9L0022	12/02/2019	12/02/19 17:25	
Dieldrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:25	
Endosulfan I	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:25	
Endosulfan II	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:25	
Endosulfan sulfate	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:25	
Endrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:25	
Endrin aldehyde	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:25	
Endrin ketone	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:25	
gamma-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:25	
gamma-Chlordane	**6.4**	1.0	1	B9L0022	12/02/2019	12/02/19 17:25	
Heptachlor	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:25	
Heptachlor epoxide	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:25	
Methoxychlor	ND	5.0	1	B9L0022	12/02/2019	12/02/19 17:25	
Toxaphene	ND	50	1	B9L0022	12/02/2019	12/02/19 17:25	
Surrogate: Decachlorobiphenyl	*61.7 %*	*32 - 91*		B9L0022	12/02/2019	*12/02/19 17:25*	
Surrogate: Tetrachloro-m-xylene	*66.4 %*	*38 - 93*		B9L0022	12/02/2019	*12/02/19 17:25*	

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

Client Sample ID: SV-14-1

Lab ID: 1904258-11

Total Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**2.1**	1.0	1	B9L0025	12/03/2019	12/03/19 18:32	
Lead	**9.4**	1.0	1	B9L0025	12/03/2019	12/03/19 18:32	

Organochlorine Pesticides by EPA 8081A

Analyst: KD

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD [2C]	**4.4**	2.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
4,4´-DDE	**26**	2.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
4,4´-DDT [2C]	**48**	2.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
Aldrin	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
alpha-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
alpha-Chlordane	**6.7**	1.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
beta-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
Chlordane [2C]	**83**	8.5	1	B9L0022	12/02/2019	12/02/19 17:36	E3
delta-BHC	**4.3**	1.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
Dieldrin [2C]	**17**	2.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
Endosulfan I	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
Endosulfan II	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
Endosulfan sulfate	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
Endrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
Endrin aldehyde	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
Endrin ketone	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
gamma-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
gamma-Chlordane [2C]	**7.5**	1.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
Heptachlor	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
Heptachlor epoxide	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
Methoxychlor	ND	5.0	1	B9L0022	12/02/2019	12/02/19 17:36	E3
Toxaphene	ND	50	1	B9L0022	12/02/2019	12/02/19 17:36	E3
Surrogate: Decachlorobiphenyl	*28.6 %*	*32 - 91*		B9L0022	12/02/2019	*12/02/19 17:36*	S10, S13
Surrogate: Tetrachloro-m-xylene	*42.9 %*	*38 - 93*		B9L0022	12/02/2019	*12/02/19 17:36*	

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

Client Sample ID: SV-15-1

Lab ID: 1904258-13

Total Metals by ICP-AES EPA 6010B — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**2.3**	1.0	1	B9L0025	12/03/2019	12/03/19 18:34	
Lead	**7.3**	1.0	1	B9L0025	12/03/2019	12/03/19 18:34	

Organochlorine Pesticides by EPA 8081A — **Analyst: KD**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:47	
4,4´-DDE	**34**	2.0	1	B9L0022	12/02/2019	12/02/19 17:47	
4,4´-DDT [2C]	**8.2**	2.0	1	B9L0022	12/02/2019	12/02/19 17:47	
Aldrin	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:47	
alpha-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:47	
alpha-Chlordane	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:47	
beta-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:47	
Chlordane	ND	8.5	1	B9L0022	12/02/2019	12/02/19 17:47	
delta-BHC	**8.7**	1.0	1	B9L0022	12/02/2019	12/02/19 17:47	
Dieldrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:47	
Endosulfan I	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:47	
Endosulfan II	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:47	
Endosulfan sulfate	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:47	
Endrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:47	
Endrin aldehyde	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:47	
Endrin ketone	ND	2.0	1	B9L0022	12/02/2019	12/02/19 17:47	
gamma-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:47	
gamma-Chlordane	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:47	
Heptachlor	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:47	
Heptachlor epoxide	ND	1.0	1	B9L0022	12/02/2019	12/02/19 17:47	
Methoxychlor	ND	5.0	1	B9L0022	12/02/2019	12/02/19 17:47	
Toxaphene	ND	50	1	B9L0022	12/02/2019	12/02/19 17:47	
Surrogate: Decachlorobiphenyl	*51.1 %*	*32 - 91*		B9L0022	12/02/2019	*12/02/19 17:47*	
Surrogate: Tetrachloro-m-xylene	*70.1 %*	*38 - 93*		B9L0022	12/02/2019	*12/02/19 17:47*	

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

Client Sample ID: SV-17-1

Lab ID: 1904258-15

Total Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**3.2**	1.0	1	B9L0025	12/03/2019	12/03/19 18:35	
Lead	**16**	1.0	1	B9L0025	12/03/2019	12/03/19 18:35	

Organochlorine Pesticides by EPA 8081A

Analyst: KD

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4′-DDD	ND	2.0	1	B9L0022	12/02/2019	12/02/19 18:09	
4,4′-DDE	**18**	2.0	1	B9L0022	12/02/2019	12/02/19 18:09	
4,4′-DDT [2C]	ND	2.0	1	B9L0022	12/02/2019	12/02/19 18:09	
Aldrin	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:09	
alpha-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:09	
alpha-Chlordane	**1.2**	1.0	1	B9L0022	12/02/2019	12/02/19 18:09	
beta-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:09	
Chlordane	**18**	8.5	1	B9L0022	12/02/2019	12/02/19 18:09	
delta-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:09	
Dieldrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 18:09	
Endosulfan I	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:09	
Endosulfan II	ND	2.0	1	B9L0022	12/02/2019	12/02/19 18:09	
Endosulfan sulfate	ND	2.0	1	B9L0022	12/02/2019	12/02/19 18:09	
Endrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 18:09	
Endrin aldehyde	ND	2.0	1	B9L0022	12/02/2019	12/02/19 18:09	
Endrin ketone	ND	2.0	1	B9L0022	12/02/2019	12/02/19 18:09	
gamma-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:09	
gamma-Chlordane	**1.6**	1.0	1	B9L0022	12/02/2019	12/02/19 18:09	
Heptachlor	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:09	
Heptachlor epoxide	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:09	
Methoxychlor	ND	5.0	1	B9L0022	12/02/2019	12/02/19 18:09	
Toxaphene	ND	50	1	B9L0022	12/02/2019	12/02/19 18:09	
Surrogate: Decachlorobiphenyl	*35.9 %*	*32 - 91*		B9L0022	12/02/2019	*12/02/19 18:09*	
Surrogate: Tetrachloro-m-xylene	*62.1 %*	*38 - 93*		B9L0022	12/02/2019	*12/02/19 18:09*	

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

Client Sample ID: SV-18-1

Lab ID: 1904258-17

Total Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	**8.4**	1.0	1	B9L0025	12/03/2019	12/03/19 18:37	
Lead	**23**	1.0	1	B9L0025	12/03/2019	12/03/19 18:37	

Organochlorine Pesticides by EPA 8081A

Analyst: KD

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	**4.8**	2.0	1	B9L0022	12/02/2019	12/02/19 18:19	
4,4´-DDE	**410**	20	10	B9L0022	12/02/2019	12/03/19 10:03	
4,4´-DDT [2C]	**40**	2.0	1	B9L0022	12/02/2019	12/02/19 18:19	
Aldrin	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:19	
alpha-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:19	
alpha-Chlordane	**4.4**	1.0	1	B9L0022	12/02/2019	12/02/19 18:19	
beta-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:19	
Chlordane [2C]	**60**	8.5	1	B9L0022	12/02/2019	12/02/19 18:19	
delta-BHC	**3.3**	1.0	1	B9L0022	12/02/2019	12/02/19 18:19	
Dieldrin	**170**	20	10	B9L0022	12/02/2019	12/03/19 10:03	
Endosulfan I	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:19	
Endosulfan II	ND	2.0	1	B9L0022	12/02/2019	12/02/19 18:19	
Endosulfan sulfate	ND	2.0	1	B9L0022	12/02/2019	12/02/19 18:19	
Endrin	ND	2.0	1	B9L0022	12/02/2019	12/02/19 18:19	
Endrin aldehyde	ND	2.0	1	B9L0022	12/02/2019	12/02/19 18:19	
Endrin ketone	ND	2.0	1	B9L0022	12/02/2019	12/02/19 18:19	
gamma-BHC	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:19	
gamma-Chlordane	**5.1**	1.0	1	B9L0022	12/02/2019	12/02/19 18:19	
Heptachlor	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:19	
Heptachlor epoxide	ND	1.0	1	B9L0022	12/02/2019	12/02/19 18:19	
Methoxychlor	ND	5.0	1	B9L0022	12/02/2019	12/02/19 18:19	
Toxaphene	ND	50	1	B9L0022	12/02/2019	12/02/19 18:19	
Surrogate: Decachlorobiphenyl	*77.7 %*	*32 - 91*		B9L0022	12/02/2019	*12/03/19 10:03*	
Surrogate: Decachlorobiphenyl	*56.5 %*	*32 - 91*		B9L0022	12/02/2019	*12/02/19 18:19*	
Surrogate: Tetrachloro-m-xylene	*65.3 %*	*38 - 93*		B9L0022	12/02/2019	*12/02/19 18:19*	
Surrogate: Tetrachloro-m-xylene	*87.3 %*	*38 - 93*		B9L0022	12/02/2019	*12/03/19 10:03*	

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

QUALITY CONTROL SECTION

Total Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9L0025 - EPA 3050B_S										
Blank (B9L0025-BLK1)					Prepared: 12/3/2019 Analyzed: 12/3/2019					
Arsenic	ND	1.0	0.12							
Lead	ND	1.0	0.18							
LCS (B9L0025-BS1)					Prepared: 12/3/2019 Analyzed: 12/3/2019					
Arsenic	23.2372	1.0	0.12	25.0000		92.9	80 - 120			
Lead	24.0346	1.0	0.18	25.0000		96.1	80 - 120			
Matrix Spike (B9L0025-MS1)			**Source: 1904258-01**		Prepared: 12/3/2019 Analyzed: 12/3/2019					
Arsenic	28.9662	1.0	0.12	25.0000	3.82489	101	46 - 97			M1
Lead	34.2830	1.0	0.18	25.0000	25.2964	35.9	33 - 121			
Matrix Spike Dup (B9L0025-MSD1)			**Source: 1904258-01**		Prepared: 12/3/2019 Analyzed: 12/3/2019					
Arsenic	27.6478	1.0	0.12	25.0000	3.82489	95.3	46 - 97	4.66	20	
Lead	32.3985	1.0	0.18	25.0000	25.2964	28.4	33 - 121	5.65	20	M1

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

Organochlorine Pesticides by EPA 8081A - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9L0022 - GCSEMI_PCB/PEST_S										
Blank (B9L0022-BLK1)							Prepared: 12/2/2019 Analyzed: 12/2/2019			
4,4′-DDD	ND	2.0	0.14							
4,4′-DDD [2C]	ND	2.0	0.14							
4,4′-DDE	ND	2.0	0.20							
4,4′-DDE [2C]	ND	2.0	0.20							
4,4′-DDT	ND	2.0	0.04							
4,4′-DDT [2C]	ND	2.0	0.04							
Aldrin	ND	1.0	0.05							
Aldrin [2C]	ND	1.0	0.05							
alpha-BHC	ND	1.0	0.12							
alpha-BHC [2C]	ND	1.0	0.12							
alpha-Chlordane	ND	1.0	0.06							
alpha-Chlordane [2C]	ND	1.0	0.06							
beta-BHC	ND	1.0	0.08							
beta-BHC [2C]	ND	1.0	0.08							
Chlordane	ND	8.5	0.78							
Chlordane [2C]	ND	8.5	0.78							
delta-BHC	ND	1.0	0.07							
delta-BHC [2C]	ND	1.0	0.07							
Dieldrin	ND	2.0	0.04							
Dieldrin [2C]	ND	2.0	0.04							
Endosulfan I	ND	1.0	0.05							
Endosulfan I [2C]	ND	1.0	0.05							
Endosulfan II	ND	2.0	0.06							
Endosulfan II [2C]	ND	2.0	0.06							
Endosulfan sulfate	ND	2.0	0.15							
Endosulfan Sulfate [2C]	ND	2.0	0.15							
Endrin	ND	2.0	0.08							
Endrin [2C]	ND	2.0	0.08							
Endrin aldehyde	ND	2.0	0.09							
Endrin aldehyde [2C]	ND	2.0	0.09							
Endrin ketone	ND	2.0	0.09							
Endrin ketone [2C]	ND	2.0	0.09							
gamma-BHC	ND	1.0	0.12							
gamma-BHC [2C]	ND	1.0	0.12							
gamma-Chlordane	ND	1.0	0.28							
gamma-Chlordane [2C]	ND	1.0	0.28							
Heptachlor	ND	1.0	0.06							
Heptachlor [2C]	ND	1.0	0.06							
Heptachlor epoxide	ND	1.0	0.06							
Heptachlor epoxide [2C]	ND	1.0	0.06							
Methoxychlor	ND	5.0	0.16							

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

Organochlorine Pesticides by EPA 8081A - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9L0022 - GCSEMI_PCB/PEST_S (continued)										
Blank (B9L0022-BLK1) - Continued					Prepared: 12/2/2019 Analyzed: 12/2/2019					
Methoxychlor [2C]	ND	5.0	0.16							
Toxaphene	ND	50	4.7							
Toxaphene [2C]	ND	50	4.7							
Surrogate: Decachlorobiphenyl	*10.46*			*16.6667*		*62.7*	*32 - 91*			
Surrogate: Decachlorobiphenyl [	*9.873*			*16.6667*		*59.2*	*32 - 91*			
Surrogate: Tetrachloro-m-xylene	*11.87*			*16.6667*		*71.2*	*38 - 93*			
Surrogate: Tetrachloro-m-xylene	*10.24*			*16.6667*		*61.5*	*38 - 93*			
LCS (B9L0022-BS1)					Prepared: 12/2/2019 Analyzed: 12/2/2019					
4,4′-DDD	12.0360	2.0	0.14	16.6667		72.2	66 - 112			
4,4′-DDD [2C]	11.2808	2.0	0.14	16.6667		67.7	66 - 112			
4,4′-DDE	12.3138	2.0	0.20	16.6667		73.9	62 - 112			
4,4′-DDE [2C]	11.0447	2.0	0.20	16.6667		66.3	62 - 112			
4,4′-DDT	11.7287	2.0	0.04	16.6667		70.4	48 - 90			
4,4′-DDT [2C]	10.5918	2.0	0.04	16.6667		63.6	48 - 90			
Aldrin	11.8878	1.0	0.05	16.6667		71.3	58 - 104			
Aldrin [2C]	11.4840	1.0	0.05	16.6667		68.9	58 - 104			
alpha-BHC	11.5988	1.0	0.12	16.6667		69.6	57 - 105			
alpha-BHC [2C]	11.3365	1.0	0.12	16.6667		68.0	57 - 105			
alpha-Chlordane	11.9617	1.0	0.06	16.6667		71.8	62 - 108			
alpha-Chlordane [2C]	11.3923	1.0	0.06	16.6667		68.4	62 - 108			
beta-BHC	12.1403	1.0	0.08	16.6667		72.8	59 - 106			
beta-BHC [2C]	11.6347	1.0	0.08	16.6667		69.8	59 - 106			
delta-BHC	11.9675	1.0	0.07	16.6667		71.8	63 - 115			
delta-BHC [2C]	11.8567	1.0	0.07	16.6667		71.1	63 - 115			
Dieldrin	11.6965	2.0	0.04	16.6667		70.2	59 - 102			
Dieldrin [2C]	10.8240	2.0	0.04	16.6667		64.9	59 - 102			
Endosulfan I	11.0707	1.0	0.05	16.6667		66.4	61 - 99			
Endosulfan I [2C]	10.6330	1.0	0.05	16.6667		63.8	61 - 99			
Endosulfan II	12.1128	2.0	0.06	16.6667		72.7	65 - 105			
Endosulfan II [2C]	11.2172	2.0	0.06	16.6667		67.3	65 - 105			
Endosulfan sulfate	11.4475	2.0	0.15	16.6667		68.7	59 - 107			
Endosulfan Sulfate [2C]	10.0828	2.0	0.15	16.6667		60.5	59 - 107			
Endrin	12.3325	2.0	0.08	16.6667		74.0	65 - 113			
Endrin [2C]	11.5805	2.0	0.08	16.6667		69.5	65 - 113			
Endrin aldehyde	12.4293	2.0	0.09	16.6667		74.6	61 - 109			
Endrin aldehyde [2C]	11.2970	2.0	0.09	16.6667		67.8	61 - 109			
Endrin ketone	10.9242	2.0	0.09	16.6667		65.5	56 - 97			
Endrin ketone [2C]	10.3992	2.0	0.09	16.6667		62.4	56 - 97			
gamma-BHC	11.8230	1.0	0.12	16.6667		70.9	57 - 101			
gamma-BHC [2C]	11.8087	1.0	0.12	16.6667		70.9	57 - 101			

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Project Number : 185804443
Report To : Brian Viggiano
Reported : 12/04/2019

Organochlorine Pesticides by EPA 8081A - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9L0022 - GCSEMI_PCB/PEST_S (continued)										
LCS (B9L0022-BS1) - Continued					Prepared: 12/2/2019 Analyzed: 12/2/2019					
gamma-Chlordane	11.7973	1.0	0.28	16.6667		70.8	56 - 125			
gamma-Chlordane [2C]	11.5222	1.0	0.28	16.6667		69.1	56 - 125			
Heptachlor	12.2253	1.0	0.06	16.6667		73.4	61 - 105			
Heptachlor [2C]	11.5155	1.0	0.06	16.6667		69.1	61 - 105			
Heptachlor epoxide	11.3882	1.0	0.06	16.6667		68.3	59 - 97			
Heptachlor epoxide [2C]	10.9887	1.0	0.06	16.6667		65.9	59 - 97			
Methoxychlor	12.3233	5.0	0.16	16.6667		73.9	68 - 118			
Methoxychlor [2C]	11.5852	5.0	0.16	16.6667		69.5	68 - 118			
Surrogate: Decachlorobiphenyl	*11.32*			*16.6667*		*67.9*	*32 - 91*			
Surrogate: Decachlorobiphenyl [	*9.769*			*16.6667*		*58.6*	*32 - 91*			
Surrogate: Tetrachloro-m-xylene	*12.76*			*16.6667*		*76.6*	*38 - 93*			
Surrogate: Tetrachloro-m-xylene	*10.72*			*16.6667*		*64.3*	*38 - 93*			
Matrix Spike (B9L0022-MS1)			**Source: 1904258-01**		Prepared: 12/2/2019 Analyzed: 12/2/2019					
4,4′-DDD	14.0292	10	0.70	16.6667	2.75583	67.6	33 - 116			
4,4′-DDD [2C]	12.7183	10	0.70	16.6667	2.53867	61.1	33 - 116			
4,4′-DDE	74.8808	10	0.98	16.6667	77.6550	-16.6	29 - 128			M2
4,4′-DDE [2C]	65.0233	10	0.98	16.6667	68.4400	-20.5	29 - 128			M2
4,4′-DDT	9.59667	10	0.18	16.6667	3.21917	38.3	27 - 109			
4,4′-DDT [2C]	8.04167	10	0.18	16.6667	2.87250	31.0	27 - 109			
Aldrin	11.0408	5.0	0.27	16.6667	ND	66.2	34 - 110			
Aldrin [2C]	9.57833	5.0	0.27	16.6667	ND	57.5	34 - 110			
alpha-BHC	10.5092	5.0	0.58	16.6667	ND	63.1	39 - 107			
alpha-BHC [2C]	8.90250	5.0	0.58	16.6667	ND	53.4	39 - 107			
alpha-Chlordane	11.3742	5.0	0.32	16.6667	ND	68.2	37 - 111			
alpha-Chlordane [2C]	9.85417	5.0	0.32	16.6667	ND	59.1	37 - 111			
beta-BHC	12.4042	5.0	0.39	16.6667	ND	74.4	33 - 111			
beta-BHC [2C]	10.7633	5.0	0.39	16.6667	ND	64.6	33 - 111			
delta-BHC	18.1350	5.0	0.36	16.6667	8.22483	59.5	25 - 122			
delta-BHC [2C]	16.1325	5.0	0.36	16.6667	7.80933	49.9	25 - 122			
Dieldrin	11.4042	10	0.20	16.6667	ND	68.4	28 - 114			
Dieldrin [2C]	8.96500	10	0.20	16.6667	ND	53.8	28 - 114			
Endosulfan I	10.4292	5.0	0.27	16.6667	ND	62.6	35 - 107			
Endosulfan I [2C]	8.42500	5.0	0.27	16.6667	ND	50.5	35 - 107			
Endosulfan II	10.3817	10	0.28	16.6667	ND	62.3	13 - 122			
Endosulfan II [2C]	8.29917	10	0.28	16.6667	ND	49.8	13 - 122			
Endosulfan sulfate	10.1300	10	0.77	16.6667	ND	60.8	13 - 120			
Endosulfan Sulfate [2C]	7.93250	10	0.77	16.6667	ND	47.6	13 - 120			
Endrin	11.6142	10	0.38	16.6667	ND	69.7	31 - 121			
Endrin [2C]	10.4200	10	0.38	16.6667	ND	62.5	31 - 121			
Endrin aldehyde	11.8867	10	0.43	16.6667	ND	71.3	18 - 129			

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

Organochlorine Pesticides by EPA 8081A - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9L0022 - GCSEMI_PCB/PEST_S (continued)										
Matrix Spike (B9L0022-MS1) - Continued			**Source: 1904258-01**		Prepared: 12/2/2019 Analyzed: 12/2/2019					
Endrin aldehyde [2C]	9.33750	10	0.43	16.6667	ND	56.0	18 - 129			
Endrin ketone	9.62833	10	0.46	16.6667	ND	57.8	14 - 113			
Endrin ketone [2C]	9.07333	10	0.46	16.6667	ND	54.4	14 - 113			
gamma-BHC	11.3008	5.0	0.59	16.6667	ND	67.8	34 - 104			
gamma-BHC [2C]	10.5617	5.0	0.59	16.6667	ND	63.4	34 - 104			
gamma-Chlordane	12.7442	5.0	1.4	16.6667	ND	76.5	35 - 121			
gamma-Chlordane [2C]	9.75917	5.0	1.4	16.6667	ND	58.6	35 - 121			
Heptachlor	10.8092	5.0	0.30	16.6667	ND	64.9	35 - 110			
Heptachlor [2C]	10.0700	5.0	0.30	16.6667	ND	60.4	35 - 110			
Heptachlor epoxide	10.9692	5.0	0.31	16.6667	ND	65.8	31 - 106			
Heptachlor epoxide [2C]	9.85500	5.0	0.31	16.6667	ND	59.1	31 - 106			
Methoxychlor	9.59667	25	0.80	16.6667	ND	57.6	21 - 128			
Methoxychlor [2C]	8.00000	25	0.80	16.6667	ND	48.0	21 - 128			
Surrogate: Decachlorobiphenyl	*9.445*			*16.6667*		*56.7*	*32 - 91*			
Surrogate: Decachlorobiphenyl [	*7.461*			*16.6667*		*44.8*	*32 - 91*			
Surrogate: Tetrachloro-m-xylene	*11.71*			*16.6667*		*70.3*	*38 - 93*			
Surrogate: Tetrachloro-m-xylene	*8.775*			*16.6667*		*52.6*	*38 - 93*			
Matrix Spike Dup (B9L0022-MSD1)			**Source: 1904258-01**		Prepared: 12/2/2019 Analyzed: 12/2/2019					
4,4′-DDD	14.1467	10	0.70	16.6667	2.75583	68.3	33 - 116	0.834	20	
4,4′-DDD [2C]	12.2100	10	0.70	16.6667	2.53867	58.0	33 - 116	4.08	20	
4,4′-DDE	71.0767	10	0.98	16.6667	77.6550	-39.5	29 - 128	5.21	20	M2
4,4′-DDE [2C]	62.2575	10	0.98	16.6667	68.4400	-37.1	29 - 128	4.35	20	M2
4,4′-DDT	8.62750	10	0.18	16.6667	3.21917	32.4	27 - 109	10.6	20	
4,4′-DDT [2C]	7.24750	10	0.18	16.6667	2.87250	26.2	27 - 109	10.4	20	M2
Aldrin	10.5692	5.0	0.27	16.6667	ND	63.4	34 - 110	4.37	20	
Aldrin [2C]	8.57250	5.0	0.27	16.6667	ND	51.4	34 - 110	11.1	20	
alpha-BHC	10.1433	5.0	0.58	16.6667	ND	60.9	39 - 107	3.54	20	
alpha-BHC [2C]	8.63250	5.0	0.58	16.6667	ND	51.8	39 - 107	3.08	20	
alpha-Chlordane	10.7508	5.0	0.32	16.6667	ND	64.5	37 - 111	5.63	20	
alpha-Chlordane [2C]	9.42333	5.0	0.32	16.6667	ND	56.5	37 - 111	4.47	20	
beta-BHC	11.1942	5.0	0.39	16.6667	ND	67.2	33 - 111	10.3	20	
beta-BHC [2C]	10.2742	5.0	0.39	16.6667	ND	61.6	33 - 111	4.65	20	
delta-BHC	17.3017	5.0	0.36	16.6667	8.22483	54.5	25 - 122	4.70	20	
delta-BHC [2C]	14.7417	5.0	0.36	16.6667	7.80933	41.6	25 - 122	9.01	20	
Dieldrin	11.3033	10	0.20	16.6667	ND	67.8	28 - 114	0.888	20	
Dieldrin [2C]	8.65417	10	0.20	16.6667	ND	51.9	28 - 114	3.53	20	
Endosulfan I	9.84667	5.0	0.27	16.6667	ND	59.1	35 - 107	5.75	20	
Endosulfan I [2C]	8.09000	5.0	0.27	16.6667	ND	48.5	35 - 107	4.06	20	
Endosulfan II	9.69000	10	0.28	16.6667	ND	58.1	13 - 122	6.89	20	
Endosulfan II [2C]	7.96667	10	0.28	16.6667	ND	47.8	13 - 122	4.09	20	

Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino , CA 92408

Project Number : 185804443
Report To : Brian Viggiano
Reported : 12/04/2019

Organochlorine Pesticides by EPA 8081A - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9L0022 - GCSEMI_PCB/PEST_S (continued)										
Matrix Spike Dup (B9L0022-MSD1) - Continued			**Source: 1904258-01**		Prepared: 12/2/2019 Analyzed: 12/2/2019					
Endosulfan sulfate	9.34750	10	0.77	16.6667	ND	56.1	13 - 120	8.03	20	
Endosulfan Sulfate [2C]	7.43500	10	0.77	16.6667	ND	44.6	13 - 120	6.47	20	
Endrin	10.8875	10	0.38	16.6667	ND	65.3	31 - 121	6.46	20	
Endrin [2C]	9.92833	10	0.38	16.6667	ND	59.6	31 - 121	4.83	20	
Endrin aldehyde	11.1067	10	0.43	16.6667	ND	66.6	18 - 129	6.78	20	
Endrin aldehyde [2C]	8.87083	10	0.43	16.6667	ND	53.2	18 - 129	5.13	20	
Endrin ketone	8.82167	10	0.46	16.6667	ND	52.9	14 - 113	8.74	20	
Endrin ketone [2C]	8.49417	10	0.46	16.6667	ND	51.0	14 - 113	6.59	20	
gamma-BHC	10.6308	5.0	0.59	16.6667	ND	63.8	34 - 104	6.11	20	
gamma-BHC [2C]	10.2042	5.0	0.59	16.6667	ND	61.2	34 - 104	3.44	20	
gamma-Chlordane	12.0908	5.0	1.4	16.6667	ND	72.5	35 - 121	5.26	20	
gamma-Chlordane [2C]	9.30250	5.0	1.4	16.6667	ND	55.8	35 - 121	4.79	20	
Heptachlor	10.3283	5.0	0.30	16.6667	ND	62.0	35 - 110	4.55	20	
Heptachlor [2C]	9.05250	5.0	0.30	16.6667	ND	54.3	35 - 110	10.6	20	
Heptachlor epoxide	10.4192	5.0	0.31	16.6667	ND	62.5	31 - 106	5.14	20	
Heptachlor epoxide [2C]	9.41917	5.0	0.31	16.6667	ND	56.5	31 - 106	4.52	20	
Methoxychlor	8.68000	25	0.80	16.6667	ND	52.1	21 - 128	10.0	20	
Methoxychlor [2C]	7.02333	25	0.80	16.6667	ND	42.1	21 - 128	13.0	20	
Surrogate: Decachlorobiphenyl	*9.128*			*16.6667*		*54.8*	*32 - 91*			
Surrogate: Decachlorobiphenyl [	*7.019*			*16.6667*		*42.1*	*32 - 91*			
Surrogate: Tetrachloro-m-xylene	*11.37*			*16.6667*		*68.2*	*38 - 93*			
Surrogate: Tetrachloro-m-xylene	*8.395*			*16.6667*		*50.4*	*38 - 93*			

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 12/04/2019

Notes and Definitions

S13	Surrogate recovery was below laboratory acceptance limit. Sample reanalysis showed the same low recovery.
S10	Surrogate recovery was outside of laboratory acceptance limit due to possible matrix interference.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
E3	Internal standard recoveries did not meet method acceptance due to matrix interference. Result value is estimated.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

1904258

Stantec

CHAIN OF CUSTODY FORM

735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
(909)335-6116, Fax (909) 335-6120

Client Name/Address:
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408

Project/PO Number:
185804443

Laboratory: ATL

Project Manager: Brian Viggiano
Email Address: Brian.Viggiano@stantec.com

Phone Number:909-335-6116

Fax Number:909-335-6120

Sampler: J. Sargent Joshua.Sargent@Stantec.com

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Analysis Required: Pesticides 8081A	Arsenic, Lead 6010B	HOLD	Special Instructions
1- SV-16-1	Soil	80Z	1	11-25-19	0724	ICE	X	X		
2- SV-16-3					0732				X	
3- SV-10-1					0820		X	X		
4- SV-10-3					0825				X	
05- SV-11-1					0950		X	X		
06- SV-11-3					0955				X	
07- ~~SV-12~~ SV-12-1					1050		X	X		
08- SV-12-3					1055				X	
09- SV-13-1					1205		X	X		
10- SV-13-3					1210				X	
11- SV-14-1					1350		X	X		
12- SV-14-3					1355				X	

Relinquished By:	Date/Time: 11/26/19 13:03	Received By:	Date/Time: 11/26/19 15:13
Relinquished By:	Date/Time: 11/26/19 13:03	Received By:	Date/Time: 11/26/19 13:03
Relinquished By:	Date/Time: 11/26/19 1511	Received in Lab By:	Date/Time: 11-26-19 1511

Turn-Around Time: Same day 72 hours; 24 hour 5 days; 48 hour (normal)

Sample Integrity: (Check)
intact _____ on ice ___

Note: By relinquishing samples, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

Stantec

CHAIN OF CUSTODY FORM

735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
(909)335-6116, Fax (909) 335-6120

Client Name/Address:
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408

Project/PO Number: 185804443

Laboratory: ATL

Project Manager: Brian Viggiano
Email Address: Brian.Viggiano@stantec.com

Phone Number:909-335-6116
Fax Number:909-335-6120

Sampler: J. Sargent Joshua.Sargent@Stantec.com

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Analysis Required: Pesticides 8081A	Arsenic, Lead 6010B	HOLD	Special Instructions
13- SV-15-1	Soil	Acetate	1	11-25-19	1455	ICE	X	X		
14- SV-15-3					1500				X	
15- ~~SV-16-1~~ SV-17-1					1600		X	X		
16- ~~SV-16-3~~ SV-17-3					1605				X	
17- SV-18-1					1625		X	X		
18- SV-18-3					1630				X	

Relinquished By:	Date/Time:	Received By:	Date/Time:
	11/26/19 13:03		11/26/19 13:03
Relinquished By:	Date/Time:	Received By:	Date/Time:
	11/26/19 13:03		11/26/19 13:03
Relinquished By:	Date/Time:	Received in Lab By:	Date/Time:
	11/26/19 1511		11-26-19 1511

Turn-Around Time: Same day 72 hours; 24 hour 5 days; 48 hour (normal)

Sample Integrity: (Check)
intact _____ on ice ___

Note: By relinquishing samples, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

ADVANCED TECHNOLOGY LABORATORIES

January 14, 2020

Brian Viggiano
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
Tel: (909) 255-8204
Fax:(909) 335-6120

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1904258
Client Reference : 185804443

Enclosed are the results for sample(s) received on November 26, 2019 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Edgar Caballero
President & Laboratory Director

Certificate of Analysis

Stantec		Project Number :	185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/14/2020

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SV-12-1	1904258-07	Soil	11/25/19 10:50	11/26/19 13:03
SV-12-3	1904258-08	Soil	11/25/19 10:55	11/26/19 13:03

CASE NARRATIVE

Documentation pertaining to additional analyses/change order available upon request.

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 01/14/2020

Client Sample ID: SV-12-1

Lab ID: 1904258-07

STLC Metals by ICP-AES by EPA 6010B **Analyst: KEK**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**3.7**	1.0	20	B0A0218	01/11/2020	01/13/20 12:37	D1

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 01/14/2020

Client Sample ID: SV-12-3

Lab ID: 1904258-08

Total Metals by ICP-AES EPA 6010B **Analyst: VV**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**6.0**	1.0	1	B0A0185	01/09/2020	01/10/20 12:37	

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 01/14/2020

QUALITY CONTROL SECTION

Total Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B0A0185 - EPA 3050B_S										
Blank (B0A0185-BLK1)					Prepared: 1/9/2020 Analyzed: 1/10/2020					
Arsenic	ND	1.0	0.12							
Lead	ND	1.0	0.18							
LCS (B0A0185-BS1)					Prepared: 1/9/2020 Analyzed: 1/10/2020					
Arsenic	47.0117	1.0	0.12	50.0000		94.0	80 - 120			
Lead	50.9034	1.0	0.18	50.0000		102	80 - 120			
Duplicate (B0A0185-DUP1)			**Source: 2000013-02**		Prepared: 1/9/2020 Analyzed: 1/10/2020					
Arsenic	1.19717	5.7	0.68		1.66356			32.6	20	
Lead	4.92581	5.7	1.0		2.05099			82.4	20	R
Matrix Spike (B0A0185-MS1)			**Source: 1904258-08**		Prepared: 1/9/2020 Analyzed: 1/10/2020					
Arsenic	24.8190	1.0	0.12	25.0000	1.84524	91.9	46 - 97			
Lead	29.6050	1.0	0.18	25.0000	5.96189	94.6	33 - 121			
Matrix Spike Dup (B0A0185-MSD1)			**Source: 1904258-08**		Prepared: 1/9/2020 Analyzed: 1/10/2020					
Arsenic	25.8752	1.0	0.12	25.0000	1.84524	96.1	46 - 97	4.17	20	
Lead	30.9455	1.0	0.18	25.0000	5.96189	99.9	33 - 121	4.43	20	

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 01/14/2020

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B0A0218 - STLC_S Extraction										
Blank (B0A0218-BLK1)					Prepared: 1/11/2020 Analyzed: 1/13/2020					
Lead	ND	1.0	0.094							
LCS (B0A0218-BS1)					Prepared: 1/11/2020 Analyzed: 1/13/2020					
Lead	0.553424			0.500000		111	80 - 120			
Duplicate (B0A0218-DUP1)			**Source: 1904733-08**		Prepared: 1/11/2020 Analyzed: 1/13/2020					
Lead	7.59572	1.0	0.094		7.56185			0.447	20	
Matrix Spike (B0A0218-MS1)			**Source: 1904733-08**		Prepared: 1/11/2020 Analyzed: 1/13/2020					
Lead	7.74393			0.500000	7.56185	36.4	70 - 130			M1
Matrix Spike Dup (B0A0218-MSD1)			**Source: 1904733-08**		Prepared: 1/11/2020 Analyzed: 1/13/2020					
Lead	7.83021			0.500000	7.56185	53.7	70 - 130	1.11	20	M1

Certificate of Analysis

Stantec	Project Number : 185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 01/14/2020

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
D1	Sample required dilution due to possible matrix interference.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

1904258

Stantec

CHAIN OF CUSTODY FORM

735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
(909)335-6116, Fax (909) 335-6120

Client Name/Address:
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408

Project/PO Number:
185804443

Laboratory: ATL

Project Manager: Brian Viggiano
Email Address: Brian.Viggiano@stantec.com

Phone Number:909-335-6116

Fax Number:909-335-6120

Sampler: J. Sargent Joshua.Sargent@Stantec.com

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Analysis Required: Pesticides 8081A	Arsenic, Lead 6010B	HOLD	Special Instructions
1- SV-16-1	Soil	80Z	1	11-25-19	0724	ICE	X	X		
2- SV-16-3					0732				X	
3- SV-10-1					0820		X	X		
4- SV-10-3					0825				X	
05- SV-11-1					0950		X	X		
06- SV-11-3					0955				X	
07- ~~SV-12~~ SV-12-1					1050		X	X		
08- SV-12-3					1055				X	
09- SV-13-1					1205		X	X		
10- SV-13-3					1210				X	
11- SV-14-1					1350		X	X		
12- SV-14-3					1355				X	

Relinquished By:	Date/Time: 11/26/19 13:03	Received By:	Date/Time: 11/26/19 15:13
Relinquished By:	Date/Time: 11/26/19 13:03	Received By:	Date/Time: 11/26/19 13:03
Relinquished By:	Date/Time: 11/26/19 1511	Received in Lab By:	Date/Time: 11-26-19 1511

Turn-Around Time: Same day 72 hours; 24 hour 5 days; 48 hour (normal)

Sample Integrity: (Check)
intact _____ on ice ___

Note: By relinquishing samples, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

Stantec

CHAIN OF CUSTODY FORM

735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
(909)335-6116, Fax (909) 335-6120

Client Name/Address:
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408

Project/PO Number: 185804443

Laboratory: ATL

Project Manager: Brian Viggiano
Email Address: Brian.Viggiano@stantec.com

Phone Number:909-335-6116
Fax Number:909-335-6120

Sampler: J. Sargent Joshua.Sargent@Stantec.com

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Analysis Required: Pesticides 8081A	Arsenic, Lead 6010B	HOLD	Special Instructions
13- SV-15-1	Soil	Acetate	1	11-25-19	1455	ICE	X	X		
14- SV-15-3					1500				X	
15- ~~SV-16-1~~ SV-17-1					1600		X	X		
16- ~~SV-16-3~~ SV-17-3					1605				X	
17- SV-18-1					1625		X	X		
18- SV-18-3					1630				X	

Relinquished By:	Date/Time:	Received By:	Date/Time:
	11/26/19 13:03		11/26/19 13:03
Relinquished By:	Date/Time:	Received By:	Date/Time:
	11/26/19 13:03		11/26/19 13:03
Relinquished By:	Date/Time:	Received in Lab By:	Date/Time:
	11/26/19 1511		11-26-19 1511

Turn-Around Time: Same day 72 hours; 24 hour 5 days; 48 hour (normal)

Sample Integrity: (Check)
intact _____ on ice ___

Note: By relinquishing samples, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

ADVANCED TECHNOLOGY LABORATORIES

January 13, 2020

Brian Viggiano
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
Tel: (909) 255-8204
Fax:(909) 335-6120

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 2000076
Client Reference : Olson/Gardena-185804443

Enclosed are the results for sample(s) received on January 10, 2020 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Edgar Caballero
President & Laboratory Director

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SV-18A-3'	2000076-01	Soil	1/10/20 9:05	1/10/20 14:16
SV-18B-1'	2000076-02	Soil	1/10/20 9:30	1/10/20 14:16
SV-18B-3'	2000076-03	Soil	1/10/20 9:40	1/10/20 14:16
SV-18C-1'	2000076-04	Soil	1/10/20 9:58	1/10/20 14:16
SV-18C-3'	2000076-05	Soil	1/10/20 10:11	1/10/20 14:16
SV-18D-1'	2000076-06	Soil	1/10/20 10:27	1/10/20 14:16
SV-18D-3'	2000076-07	Soil	1/10/20 10:36	1/10/20 14:16
SV-12A-1'	2000076-08	Soil	1/10/20 11:20	1/10/20 14:16
SV-12A-3'	2000076-09	Soil	1/10/20 11:28	1/10/20 14:16
SV-12B-1'	2000076-10	Soil	1/10/20 11:40	1/10/20 14:16
SV-12B-3'	2000076-11	Soil	1/10/20 11:52	1/10/20 14:16
SV-12C-1'	2000076-12	Soil	1/10/20 12:15	1/10/20 14:16
SV-12C-3'	2000076-13	Soil	1/10/20 12:27	1/10/20 14:16

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

Client Sample ID: SV-18A-3'

Lab ID: 2000076-01

Organochlorine Pesticides by EPA 8081A **Analyst: KD**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4′-DDD	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:04	
4,4′-DDE	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:04	
4,4′-DDT	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:04	
Aldrin	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:04	
alpha-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:04	
alpha-Chlordane	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:04	
beta-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:04	
Chlordane	ND	8.5	1	B0A0217	01/10/2020	01/10/20 19:04	
delta-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:04	
Dieldrin	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:04	
Endosulfan I	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:04	
Endosulfan II	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:04	
Endosulfan sulfate	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:04	
Endrin	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:04	
Endrin aldehyde	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:04	
Endrin ketone	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:04	
gamma-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:04	
gamma-Chlordane	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:04	
Heptachlor	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:04	
Heptachlor epoxide	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:04	
Methoxychlor	ND	5.0	1	B0A0217	01/10/2020	01/10/20 19:04	
Toxaphene	ND	50	1	B0A0217	01/10/2020	01/10/20 19:04	
Surrogate: Decachlorobiphenyl	*69.3 %*	*32 - 91*		B0A0217	01/10/2020	*01/10/20 19:04*	
Surrogate: Tetrachloro-m-xylene	*71.3 %*	*38 - 93*		B0A0217	01/10/2020	*01/10/20 19:04*	

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

Client Sample ID: SV-18B-1'

Lab ID: 2000076-02

Organochlorine Pesticides by EPA 8081A **Analyst: KD**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4′-DDD	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:15	
4,4′-DDE	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:15	
4,4′-DDT	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:15	
Aldrin	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:15	
alpha-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:15	
alpha-Chlordane	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:15	
beta-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:15	
Chlordane	ND	8.5	1	B0A0217	01/10/2020	01/10/20 19:15	
delta-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:15	
Dieldrin	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:15	
Endosulfan I	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:15	
Endosulfan II	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:15	
Endosulfan sulfate	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:15	
Endrin	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:15	
Endrin aldehyde	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:15	
Endrin ketone	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:15	
gamma-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:15	
gamma-Chlordane	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:15	
Heptachlor	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:15	
Heptachlor epoxide	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:15	
Methoxychlor	ND	5.0	1	B0A0217	01/10/2020	01/10/20 19:15	
Toxaphene	ND	50	1	B0A0217	01/10/2020	01/10/20 19:15	
Surrogate: Decachlorobiphenyl	*59.2 %*	*32 - 91*		B0A0217	01/10/2020	*01/10/20 19:15*	
Surrogate: Tetrachloro-m-xylene	*70.4 %*	*38 - 93*		B0A0217	01/10/2020	*01/10/20 19:15*	

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

Client Sample ID: SV-18B-3'

Lab ID: 2000076-03

Organochlorine Pesticides by EPA 8081A **Analyst: KD**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4′-DDD	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:26	
4,4′-DDE	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:26	
4,4′-DDT	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:26	
Aldrin	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:26	
alpha-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:26	
alpha-Chlordane	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:26	
beta-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:26	
Chlordane	ND	8.5	1	B0A0217	01/10/2020	01/10/20 19:26	
delta-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:26	
Dieldrin	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:26	
Endosulfan I	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:26	
Endosulfan II	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:26	
Endosulfan sulfate	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:26	
Endrin	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:26	
Endrin aldehyde	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:26	
Endrin ketone	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:26	
gamma-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:26	
gamma-Chlordane	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:26	
Heptachlor	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:26	
Heptachlor epoxide	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:26	
Methoxychlor	ND	5.0	1	B0A0217	01/10/2020	01/10/20 19:26	
Toxaphene	ND	50	1	B0A0217	01/10/2020	01/10/20 19:26	
Surrogate: Decachlorobiphenyl	*66.5 %*	*32 - 91*		B0A0217	01/10/2020	*01/10/20 19:26*	
Surrogate: Tetrachloro-m-xylene	*68.0 %*	*38 - 93*		B0A0217	01/10/2020	*01/10/20 19:26*	

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

Client Sample ID: SV-18C-1'

Lab ID: 2000076-04

Organochlorine Pesticides by EPA 8081A **Analyst: KD**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4′-DDD	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:47	
4,4′-DDE	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:47	
4,4′-DDT	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:47	
Aldrin	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:47	
alpha-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:47	
alpha-Chlordane	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:47	
beta-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:47	
Chlordane	ND	8.5	1	B0A0217	01/10/2020	01/10/20 19:47	
delta-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:47	
Dieldrin	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:47	
Endosulfan I	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:47	
Endosulfan II	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:47	
Endosulfan sulfate	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:47	
Endrin	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:47	
Endrin aldehyde	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:47	
Endrin ketone	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:47	
gamma-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:47	
gamma-Chlordane	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:47	
Heptachlor	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:47	
Heptachlor epoxide	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:47	
Methoxychlor	ND	5.0	1	B0A0217	01/10/2020	01/10/20 19:47	
Toxaphene	ND	50	1	B0A0217	01/10/2020	01/10/20 19:47	
Surrogate: Decachlorobiphenyl	*61.6 %*	*32 - 91*		B0A0217	01/10/2020	*01/10/20 19:47*	
Surrogate: Tetrachloro-m-xylene	*64.1 %*	*38 - 93*		B0A0217	01/10/2020	*01/10/20 19:47*	

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

Client Sample ID: SV-18C-3'

Lab ID: 2000076-05

Organochlorine Pesticides by EPA 8081A **Analyst: KD**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4′-DDD	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:58	
4,4′-DDE	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:58	
4,4′-DDT	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:58	
Aldrin	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:58	
alpha-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:58	
alpha-Chlordane	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:58	
beta-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:58	
Chlordane	ND	8.5	1	B0A0217	01/10/2020	01/10/20 19:58	
delta-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:58	
Dieldrin	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:58	
Endosulfan I	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:58	
Endosulfan II	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:58	
Endosulfan sulfate	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:58	
Endrin	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:58	
Endrin aldehyde	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:58	
Endrin ketone	ND	2.0	1	B0A0217	01/10/2020	01/10/20 19:58	
gamma-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:58	
gamma-Chlordane	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:58	
Heptachlor	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:58	
Heptachlor epoxide	ND	1.0	1	B0A0217	01/10/2020	01/10/20 19:58	
Methoxychlor	ND	5.0	1	B0A0217	01/10/2020	01/10/20 19:58	
Toxaphene	ND	50	1	B0A0217	01/10/2020	01/10/20 19:58	
Surrogate: Decachlorobiphenyl	*69.1 %*	*32 - 91*		B0A0217	01/10/2020	*01/10/20 19:58*	
Surrogate: Tetrachloro-m-xylene	*69.3 %*	*38 - 93*		B0A0217	01/10/2020	*01/10/20 19:58*	

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

Client Sample ID: SV-18D-1'

Lab ID: 2000076-06

Organochlorine Pesticides by EPA 8081A **Analyst: KD**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4′-DDD	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:09	
4,4′-DDE	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:09	
4,4′-DDT	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:09	
Aldrin	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:09	
alpha-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:09	
alpha-Chlordane	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:09	
beta-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:09	
Chlordane	ND	8.5	1	B0A0217	01/10/2020	01/10/20 20:09	
delta-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:09	
Dieldrin [2C]	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:09	
Endosulfan I	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:09	
Endosulfan II	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:09	
Endosulfan sulfate	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:09	
Endrin	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:09	
Endrin aldehyde	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:09	
Endrin ketone	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:09	
gamma-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:09	
gamma-Chlordane	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:09	
Heptachlor	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:09	
Heptachlor epoxide	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:09	
Methoxychlor	ND	5.0	1	B0A0217	01/10/2020	01/10/20 20:09	
Toxaphene	ND	50	1	B0A0217	01/10/2020	01/10/20 20:09	
Surrogate: Decachlorobiphenyl	*61.5 %*	*32 - 91*		B0A0217	01/10/2020	*01/10/20 20:09*	
Surrogate: Tetrachloro-m-xylene	*68.9 %*	*38 - 93*		B0A0217	01/10/2020	*01/10/20 20:09*	

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

Client Sample ID: SV-18D-3'

Lab ID: 2000076-07

Organochlorine Pesticides by EPA 8081A **Analyst: KD**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4′-DDD	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:20	
4,4′-DDE	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:20	
4,4′-DDT	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:20	
Aldrin	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:20	
alpha-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:20	
alpha-Chlordane	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:20	
beta-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:20	
Chlordane	ND	8.5	1	B0A0217	01/10/2020	01/10/20 20:20	
delta-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:20	
Dieldrin	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:20	
Endosulfan I	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:20	
Endosulfan II	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:20	
Endosulfan sulfate	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:20	
Endrin	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:20	
Endrin aldehyde	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:20	
Endrin ketone	ND	2.0	1	B0A0217	01/10/2020	01/10/20 20:20	
gamma-BHC	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:20	
gamma-Chlordane	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:20	
Heptachlor	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:20	
Heptachlor epoxide	ND	1.0	1	B0A0217	01/10/2020	01/10/20 20:20	
Methoxychlor	ND	5.0	1	B0A0217	01/10/2020	01/10/20 20:20	
Toxaphene	ND	50	1	B0A0217	01/10/2020	01/10/20 20:20	
Surrogate: Decachlorobiphenyl	*64.3 %*	*32 - 91*		B0A0217	01/10/2020	*01/10/20 20:20*	
Surrogate: Tetrachloro-m-xylene	*69.5 %*	*38 - 93*		B0A0217	01/10/2020	*01/10/20 20:20*	

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

Client Sample ID: SV-12A-1'

Lab ID: 2000076-08

Total Metals by ICP-AES EPA 6010B **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**20**	1.0	1	B0A0225	01/13/2020	01/13/20 14:13	

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

Client Sample ID: SV-12A-3'

Lab ID: 2000076-09

Total Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**5.1**	1.0	1	B0A0225	01/13/2020	01/13/20 14:21	

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

Client Sample ID: SV-12B-1'

Lab ID: 2000076-10

Total Metals by ICP-AES EPA 6010B **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**9.3**	1.0	1	B0A0225	01/13/2020	01/13/20 14:23	

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

Client Sample ID: SV-12B-3'

Lab ID: 2000076-11

Total Metals by ICP-AES EPA 6010B **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**4.8**	1.0	1	B0A0225	01/13/2020	01/13/20 14:25	

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

Client Sample ID: SV-12C-1'

Lab ID: 2000076-12

Total Metals by ICP-AES EPA 6010B **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**5.4**	1.0	1	B0A0225	01/13/2020	01/13/20 14:26	

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

Client Sample ID: SV-12C-3'

Lab ID: 2000076-13

Total Metals by ICP-AES EPA 6010B **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**8.6**	1.0	1	B0A0225	01/13/2020	01/13/20 14:28	

Certificate of Analysis

Stantec	Project Number : Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 01/13/2020

QUALITY CONTROL SECTION

Total Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B0A0225 - EPA 3050B_S										
Blank (B0A0225-BLK1)					Prepared: 1/13/2020 Analyzed: 1/13/2020					
Lead	ND	1.0	0.18							
LCS (B0A0225-BS1)					Prepared: 1/13/2020 Analyzed: 1/13/2020					
Lead	27.2002	1.0	0.18	25.0000		109	80 - 120			
Matrix Spike (B0A0225-MS1)			**Source: 2000076-08**		Prepared: 1/13/2020 Analyzed: 1/13/2020					
Lead	48.5333	1.0	0.18	25.1256	20.2874	112	33 - 121			
Matrix Spike Dup (B0A0225-MSD1)			**Source: 2000076-08**		Prepared: 1/13/2020 Analyzed: 1/13/2020					
Lead	46.6173	1.0	0.18	25.0000	20.2874	105	33 - 121	4.03	20	

Certificate of Analysis

Stantec	Project Number : Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 01/13/2020

Organochlorine Pesticides by EPA 8081A - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B0A0217 - GCSEMI_PCB/PEST_S										
Blank (B0A0217-BLK1)					Prepared: 1/10/2020 Analyzed: 1/10/2020					
4,4′-DDD	ND	2.0	0.14							
4,4′-DDD [2C]	ND	2.0	0.14							
4,4′-DDE	ND	2.0	0.20							
4,4′-DDE [2C]	ND	2.0	0.20							
4,4′-DDT	ND	2.0	0.04							
4,4′-DDT [2C]	ND	2.0	0.04							
Aldrin	ND	1.0	0.05							
Aldrin [2C]	ND	1.0	0.05							
alpha-BHC	ND	1.0	0.12							
alpha-BHC [2C]	ND	1.0	0.12							
alpha-Chlordane	ND	1.0	0.06							
alpha-Chlordane [2C]	ND	1.0	0.06							
beta-BHC	ND	1.0	0.08							
beta-BHC [2C]	ND	1.0	0.08							
Chlordane	ND	8.5	0.78							
Chlordane [2C]	ND	8.5	0.78							
delta-BHC	ND	1.0	0.07							
delta-BHC [2C]	ND	1.0	0.07							
Dieldrin	ND	2.0	0.04							
Dieldrin [2C]	ND	2.0	0.04							
Endosulfan I	ND	1.0	0.05							
Endosulfan I [2C]	ND	1.0	0.05							
Endosulfan II	ND	2.0	0.06							
Endosulfan II [2C]	ND	2.0	0.06							
Endosulfan sulfate	ND	2.0	0.15							
Endosulfan Sulfate [2C]	ND	2.0	0.15							
Endrin	ND	2.0	0.08							
Endrin [2C]	ND	2.0	0.08							
Endrin aldehyde	ND	2.0	0.09							
Endrin aldehyde [2C]	ND	2.0	0.09							
Endrin ketone	ND	2.0	0.09							
Endrin ketone [2C]	ND	2.0	0.09							
gamma-BHC	ND	1.0	0.12							
gamma-BHC [2C]	ND	1.0	0.12							
gamma-Chlordane	ND	1.0	0.28							
gamma-Chlordane [2C]	ND	1.0	0.28							
Heptachlor	ND	1.0	0.06							
Heptachlor [2C]	ND	1.0	0.06							
Heptachlor epoxide	ND	1.0	0.06							
Heptachlor epoxide [2C]	ND	1.0	0.06							
Methoxychlor	ND	5.0	0.16							

Certificate of Analysis

Stantec	Project Number : Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 01/13/2020

Organochlorine Pesticides by EPA 8081A - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B0A0217 - GCSEMI_PCB/PEST_S (continued)										
Blank (B0A0217-BLK1) - Continued					Prepared: 1/10/2020 Analyzed: 1/10/2020					
Methoxychlor [2C]	ND	5.0	0.16							
Toxaphene	ND	50	4.7							
Toxaphene [2C]	ND	50	4.7							
Surrogate: Decachlorobiphenyl	*11.49*			*16.6667*		*69.0*	*32 - 91*			
Surrogate: Decachlorobiphenyl [	*8.782*			*16.6667*		*52.7*	*32 - 91*			
Surrogate: Tetrachloro-m-xylene	*11.67*			*16.6667*		*70.0*	*38 - 93*			
Surrogate: Tetrachloro-m-xylene	*10.19*			*16.6667*		*61.1*	*38 - 93*			
LCS (B0A0217-BS1)					Prepared: 1/10/2020 Analyzed: 1/13/2020					
4,4′-DDD	13.8292	2.0	0.14	16.6667		83.0	66 - 112			
4,4′-DDD [2C]	12.8862	2.0	0.14	16.6667		77.3	66 - 112			
4,4′-DDE	14.2680	2.0	0.20	16.6667		85.6	62 - 112			
4,4′-DDE [2C]	12.7003	2.0	0.20	16.6667		76.2	62 - 112			
4,4′-DDT	14.0955	2.0	0.04	16.6667		84.6	48 - 90			
4,4′-DDT [2C]	12.6377	2.0	0.04	16.6667		75.8	48 - 90			
Aldrin	13.5882	1.0	0.05	16.6667		81.5	58 - 104			
Aldrin [2C]	12.9928	1.0	0.05	16.6667		78.0	58 - 104			
alpha-BHC	13.0365	1.0	0.12	16.6667		78.2	57 - 105			
alpha-BHC [2C]	12.6677	1.0	0.12	16.6667		76.0	57 - 105			
alpha-Chlordane	13.8243	1.0	0.06	16.6667		82.9	62 - 108			
alpha-Chlordane [2C]	12.9457	1.0	0.06	16.6667		77.7	62 - 108			
beta-BHC	13.5843	1.0	0.08	16.6667		81.5	59 - 106			
beta-BHC [2C]	12.9705	1.0	0.08	16.6667		77.8	59 - 106			
delta-BHC	12.7058	1.0	0.07	16.6667		76.2	63 - 115			
delta-BHC [2C]	12.5092	1.0	0.07	16.6667		75.1	63 - 115			
Dieldrin	13.5805	2.0	0.04	16.6667		81.5	59 - 102			
Dieldrin [2C]	12.5487	2.0	0.04	16.6667		75.3	59 - 102			
Endosulfan I	12.8820	1.0	0.05	16.6667		77.3	61 - 99			
Endosulfan I [2C]	12.1832	1.0	0.05	16.6667		73.1	61 - 99			
Endosulfan II	14.2140	2.0	0.06	16.6667		85.3	65 - 105			
Endosulfan II [2C]	12.6433	2.0	0.06	16.6667		75.9	65 - 105			
Endosulfan sulfate	13.4175	2.0	0.15	16.6667		80.5	59 - 107			
Endosulfan Sulfate [2C]	11.4917	2.0	0.15	16.6667		69.0	59 - 107			
Endrin	14.2447	2.0	0.08	16.6667		85.5	65 - 113			
Endrin [2C]	13.1102	2.0	0.08	16.6667		78.7	65 - 113			
Endrin aldehyde	14.4337	2.0	0.09	16.6667		86.6	61 - 109			
Endrin aldehyde [2C]	13.0745	2.0	0.09	16.6667		78.4	61 - 109			
Endrin ketone	13.2725	2.0	0.09	16.6667		79.6	56 - 97			
Endrin ketone [2C]	12.1717	2.0	0.09	16.6667		73.0	56 - 97			
gamma-BHC	13.3168	1.0	0.12	16.6667		79.9	57 - 101			
gamma-BHC [2C]	13.2737	1.0	0.12	16.6667		79.6	57 - 101			

Certificate of Analysis

Stantec	Project Number : Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 01/13/2020

Organochlorine Pesticides by EPA 8081A - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B0A0217 - GCSEMI_PCB/PEST_S (continued)										
LCS (B0A0217-BS1) - Continued						Prepared: 1/10/2020 Analyzed: 1/13/2020				
gamma-Chlordane	13.5663	1.0	0.28	16.6667		81.4	56 - 125			
gamma-Chlordane [2C]	12.7997	1.0	0.28	16.6667		76.8	56 - 125			
Heptachlor	13.8422	1.0	0.06	16.6667		83.1	61 - 105			
Heptachlor [2C]	13.1533	1.0	0.06	16.6667		78.9	61 - 105			
Heptachlor epoxide	13.0692	1.0	0.06	16.6667		78.4	59 - 97			
Heptachlor epoxide [2C]	12.5353	1.0	0.06	16.6667		75.2	59 - 97			
Methoxychlor	14.9467	5.0	0.16	16.6667		89.7	68 - 118			
Methoxychlor [2C]	12.7165	5.0	0.16	16.6667		76.3	68 - 118			
Surrogate: Decachlorobiphenyl	*14.48*			*16.6667*		*86.9*	*32 - 91*			
Surrogate: Decachlorobiphenyl [	*12.02*			*16.6667*		*72.1*	*32 - 91*			
Surrogate: Tetrachloro-m-xylene	*14.79*			*16.6667*		*88.7*	*38 - 93*			
Surrogate: Tetrachloro-m-xylene	*12.53*			*16.6667*		*75.2*	*38 - 93*			
Matrix Spike (B0A0217-MS1)			**Source: 2000076-01**			Prepared: 1/10/2020 Analyzed: 1/10/2020				
4,4′-DDD	10.5470	2.0	0.14	16.6667	ND	63.3	33 - 116			
4,4′-DDD [2C]	9.56567	2.0	0.14	16.6667	ND	57.4	33 - 116			
4,4′-DDE	10.7252	2.0	0.20	16.6667	ND	64.4	29 - 128			
4,4′-DDE [2C]	10.2515	2.0	0.20	16.6667	ND	61.5	29 - 128			
4,4′-DDT	9.34133	2.0	0.04	16.6667	ND	56.0	27 - 109			
4,4′-DDT [2C]	9.06883	2.0	0.04	16.6667	ND	54.4	27 - 109			
Aldrin	10.0860	1.0	0.05	16.6667	ND	60.5	34 - 110			
Aldrin [2C]	9.70833	1.0	0.05	16.6667	ND	58.2	34 - 110			
alpha-BHC	12.6967	1.0	0.12	16.6667	ND	76.2	39 - 107			
alpha-BHC [2C]	12.3192	1.0	0.12	16.6667	ND	73.9	39 - 107			
alpha-Chlordane	10.6722	1.0	0.06	16.6667	ND	64.0	37 - 111			
alpha-Chlordane [2C]	9.92800	1.0	0.06	16.6667	ND	59.6	37 - 111			
beta-BHC	13.6130	1.0	0.08	16.6667	ND	81.7	33 - 111			
beta-BHC [2C]	13.2742	1.0	0.08	16.6667	ND	79.6	33 - 111			
delta-BHC	11.5853	1.0	0.07	16.6667	ND	69.5	25 - 122			
delta-BHC [2C]	11.2293	1.0	0.07	16.6667	ND	67.4	25 - 122			
Dieldrin	11.3345	2.0	0.04	16.6667	ND	68.0	28 - 114			
Dieldrin [2C]	10.2995	2.0	0.04	16.6667	ND	61.8	28 - 114			
Endosulfan I	10.5045	1.0	0.05	16.6667	ND	63.0	35 - 107			
Endosulfan I [2C]	9.95750	1.0	0.05	16.6667	ND	59.7	35 - 107			
Endosulfan II	11.9212	2.0	0.06	16.6667	ND	71.5	13 - 122			
Endosulfan II [2C]	10.7642	2.0	0.06	16.6667	ND	64.6	13 - 122			
Endosulfan sulfate	11.1882	2.0	0.15	16.6667	ND	67.1	13 - 120			
Endosulfan Sulfate [2C]	9.68050	2.0	0.15	16.6667	ND	58.1	13 - 120			
Endrin	11.8430	2.0	0.08	16.6667	ND	71.1	31 - 121			
Endrin [2C]	10.9295	2.0	0.08	16.6667	ND	65.6	31 - 121			
Endrin aldehyde	13.0325	2.0	0.09	16.6667	ND	78.2	18 - 129			

Certificate of Analysis

Stantec	Project Number : Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 01/13/2020

Organochlorine Pesticides by EPA 8081A - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B0A0217 - GCSEMI_PCB/PEST_S (continued)										
Matrix Spike (B0A0217-MS1) - Continued			**Source: 2000076-01**		Prepared: 1/10/2020 Analyzed: 1/10/2020					
Endrin aldehyde [2C]	11.7982	2.0	0.09	16.6667	ND	70.8	18 - 129			
Endrin ketone	11.0960	2.0	0.09	16.6667	ND	66.6	14 - 113			
Endrin ketone [2C]	10.3713	2.0	0.09	16.6667	ND	62.2	14 - 113			
gamma-BHC	12.7710	1.0	0.12	16.6667	ND	76.6	34 - 104			
gamma-BHC [2C]	12.6622	1.0	0.12	16.6667	ND	76.0	34 - 104			
gamma-Chlordane	10.5373	1.0	0.28	16.6667	ND	63.2	35 - 121			
gamma-Chlordane [2C]	9.91800	1.0	0.28	16.6667	ND	59.5	35 - 121			
Heptachlor	10.5630	1.0	0.06	16.6667	ND	63.4	35 - 110			
Heptachlor [2C]	10.0198	1.0	0.06	16.6667	ND	60.1	35 - 110			
Heptachlor epoxide	10.5638	1.0	0.06	16.6667	ND	63.4	31 - 106			
Heptachlor epoxide [2C]	10.1770	1.0	0.06	16.6667	ND	61.1	31 - 106			
Methoxychlor	11.4107	5.0	0.16	16.6667	ND	68.5	21 - 128			
Methoxychlor [2C]	9.53017	5.0	0.16	16.6667	ND	57.2	21 - 128			
Surrogate: Decachlorobiphenyl	*8.926*			*16.6667*		*53.6*	*32 - 91*			
Surrogate: Decachlorobiphenyl [	*6.640*			*16.6667*		*39.8*	*32 - 91*			
Surrogate: Tetrachloro-m-xylene	*10.84*			*16.6667*		*65.1*	*38 - 93*			
Surrogate: Tetrachloro-m-xylene	*9.695*			*16.6667*		*58.2*	*38 - 93*			
Matrix Spike Dup (B0A0217-MSD1)			**Source: 2000076-01**		Prepared: 1/10/2020 Analyzed: 1/10/2020					
4,4′-DDD	10.7992	2.0	0.14	16.6667	ND	64.8	33 - 116	2.36	20	
4,4′-DDD [2C]	9.57800	2.0	0.14	16.6667	ND	57.5	33 - 116	0.129	20	
4,4′-DDE	10.9157	2.0	0.20	16.6667	ND	65.5	29 - 128	1.76	20	
4,4′-DDE [2C]	10.1928	2.0	0.20	16.6667	ND	61.2	29 - 128	0.574	20	
4,4′-DDT	9.65283	2.0	0.04	16.6667	ND	57.9	27 - 109	3.28	20	
4,4′-DDT [2C]	9.23500	2.0	0.04	16.6667	ND	55.4	27 - 109	1.82	20	
Aldrin	10.2532	1.0	0.05	16.6667	ND	61.5	34 - 110	1.64	20	
Aldrin [2C]	9.67933	1.0	0.05	16.6667	ND	58.1	34 - 110	0.299	20	
alpha-BHC	12.7075	1.0	0.12	16.6667	ND	76.2	39 - 107	0.0853	20	
alpha-BHC [2C]	12.1557	1.0	0.12	16.6667	ND	72.9	39 - 107	1.34	20	
alpha-Chlordane	10.8122	1.0	0.06	16.6667	ND	64.9	37 - 111	1.30	20	
alpha-Chlordane [2C]	9.86517	1.0	0.06	16.6667	ND	59.2	37 - 111	0.635	20	
beta-BHC	13.6548	1.0	0.08	16.6667	ND	81.9	33 - 111	0.307	20	
beta-BHC [2C]	12.8913	1.0	0.08	16.6667	ND	77.3	33 - 111	2.93	20	
delta-BHC	11.6342	1.0	0.07	16.6667	ND	69.8	25 - 122	0.421	20	
delta-BHC [2C]	11.2297	1.0	0.07	16.6667	ND	67.4	25 - 122	0.00302	20	
Dieldrin	11.4855	2.0	0.04	16.6667	ND	68.9	28 - 114	1.32	20	
Dieldrin [2C]	10.2827	2.0	0.04	16.6667	ND	61.7	28 - 114	0.164	20	
Endosulfan I	10.6847	1.0	0.05	16.6667	ND	64.1	35 - 107	1.70	20	
Endosulfan I [2C]	9.86483	1.0	0.05	16.6667	ND	59.2	35 - 107	0.935	20	
Endosulfan II	12.2283	2.0	0.06	16.6667	ND	73.4	13 - 122	2.54	20	
Endosulfan II [2C]	10.7448	2.0	0.06	16.6667	ND	64.5	13 - 122	0.180	20	

Certificate of Analysis

Stantec	Project Number : Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280	Report To : Brian Viggiano
San Bernardino , CA 92408	Reported : 01/13/2020

Organochlorine Pesticides by EPA 8081A - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B0A0217 - GCSEMI_PCB/PEST_S (continued)										
Matrix Spike Dup (B0A0217-MSD1) - Continued			**Source: 2000076-01**		Prepared: 1/10/2020 Analyzed: 1/10/2020					
Endosulfan sulfate	11.3978	2.0	0.15	16.6667	ND	68.4	13 - 120	1.86	20	
Endosulfan Sulfate [2C]	9.73967	2.0	0.15	16.6667	ND	58.4	13 - 120	0.609	20	
Endrin	12.1420	2.0	0.08	16.6667	ND	72.9	31 - 121	2.49	20	
Endrin [2C]	11.0210	2.0	0.08	16.6667	ND	66.1	31 - 121	0.834	20	
Endrin aldehyde	13.2637	2.0	0.09	16.6667	ND	79.6	18 - 129	1.76	20	
Endrin aldehyde [2C]	11.8067	2.0	0.09	16.6667	ND	70.8	18 - 129	0.0720	20	
Endrin ketone	11.5742	2.0	0.09	16.6667	ND	69.4	14 - 113	4.22	20	
Endrin ketone [2C]	10.4960	2.0	0.09	16.6667	ND	63.0	14 - 113	1.19	20	
gamma-BHC	12.8200	1.0	0.12	16.6667	ND	76.9	34 - 104	0.383	20	
gamma-BHC [2C]	12.6098	1.0	0.12	16.6667	ND	75.7	34 - 104	0.414	20	
gamma-Chlordane	10.6830	1.0	0.28	16.6667	ND	64.1	35 - 121	1.37	20	
gamma-Chlordane [2C]	9.87367	1.0	0.28	16.6667	ND	59.2	35 - 121	0.448	20	
Heptachlor	10.7170	1.0	0.06	16.6667	ND	64.3	35 - 110	1.45	20	
Heptachlor [2C]	10.0092	1.0	0.06	16.6667	ND	60.1	35 - 110	0.106	20	
Heptachlor epoxide	10.6332	1.0	0.06	16.6667	ND	63.8	31 - 106	0.654	20	
Heptachlor epoxide [2C]	10.1220	1.0	0.06	16.6667	ND	60.7	31 - 106	0.542	20	
Methoxychlor	11.7930	5.0	0.16	16.6667	ND	70.8	21 - 128	3.30	20	
Methoxychlor [2C]	9.65733	5.0	0.16	16.6667	ND	57.9	21 - 128	1.33	20	
Surrogate: Decachlorobiphenyl	*9.192*			*16.6667*		*55.2*	*32 - 91*			
Surrogate: Decachlorobiphenyl [	*6.704*			*16.6667*		*40.2*	*32 - 91*			
Surrogate: Tetrachloro-m-xylene	*10.73*			*16.6667*		*64.4*	*38 - 93*			
Surrogate: Tetrachloro-m-xylene	*9.499*			*16.6667*		*57.0*	*38 - 93*			

Certificate of Analysis

Stantec		Project Number :	Olson/Gardena-185804443
735 E. Carnegie Drive, Suite 280		Report To :	Brian Viggiano
San Bernardino , CA 92408		Reported :	01/13/2020

Notes and Definitions

ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

ADVANCED TECHNOLOGY LABORATORIES
3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 2

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver:20191022

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	X	☐	5. # OF SAMPLES MATCH COC	X	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	X	☐	7. COOLER TEMP, deg C:	3	
☐ Other: _____	4. SEALED	☐	☐			

CUSTOMER

Company: STANTEC
Address: 735 E. Carnegie Dr
Tel: 909.226.7651
City: San Bernardino State: CA Zip: 92408 Fax:

SEND REPORT TO:
Attn: Brian Viggiano Email: Brian.Viggiano@Stantec.com
Company: STANTEC
Address: 735E. Carnegie Dr.
City: San Bernardino State: CA Zip: 92408

SEND INVOICE TO: ☒ Same as SEND REPORT TO
Attn: Email:
Company: Same
Address:
City: State: Zip:

EDD: ☐ Excel ☐ EDF ☐ Equis ☐ _____
QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV ☐ _____

PROJECT SAMPLES

Project Name: Olson / Gardena
Project No.: 185804443
Sampler: Ruben Durazo
Quote #:
PO #:
Special Instructions/Comments: 24 HOUR RUSH

ITEM	Laboratory ID (For Lab Use Only)	Sample Description: Sample ID / Location	Date	Time
1	2000760-01	SV-18A	1-10-20	9:05
2	-02	SV-18B-1'		9:30
3	-03	SV-18B-3'		9:40
4	-04	SV-18C-1'		9:58
5	-05	SV-18C-3'		10:11
6	-06	SV-18D-1'		10:27
7	-07	SV-18D-3'		10:36
8	-08	SV-12A-1'		11:20
9	-09	SV-12A-3'		11:28
10	-10	SV-12B-1'		11:40

Requested Analysis: 8260 / 624 (Volatiles); 8015 (GRO); 8015 (DRO); 8081 (Organochlorine Pesticides); 8082 (PCBs); 8270 (Semi-volatiles); 6010 / 7000 (Title 22 Metals); TO-15 (25)

Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; NON-AQUEOUS / LAYERED - OIL

Turnaround Time (TAT)

Container: Quantity; Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7 = Canister; Material: 1=Glass; 2=Plastic; 3=Metal; Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn(Ac)2; 6=NaOH; 7=NA2S2O3

Remarks

RMS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples submitted AFTER 5:00 PM are considered received the following business day at 8:00 AM.
3. The following turnaround time conditions apply:
   - TAT = 0 : Same Business Day if received by 9:00 AM
   - TAT = 1 : 1 Business Day (COB)
   - TAT = 2 : 2 Business Days (COB)
   - TAT = 3 : 3 Business Days (COB)
   - TAT = 4 : 4 Business Days (COB)
   - TAT = 5 : 5 Business Days (COB)
   - TAT = 6 : 5 to 7 Business Days (COB)
4. Weekend, holiday, after-hours work --- ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20 sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformatted report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.
12. The laboratory will randomly select from all QC samples received the sample to spike for Matrix Spike/ Matrix Spike Duplicate (MS/MSD) at no cost. However, if you want the laboratory to additionally perform MS/MSD on your sample, a charge will be assessed for the specific sample used.

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Ruben Durazo	1-10-20	14:16		1-10-20	14:16
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Printed Name _____ Signature _____

ADVANCED TECHNOLOGY LABORATORIES
3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 2 of 2

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver:20191022

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	X	☐	5. # OF SAMPLES MATCH COC	X	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	X	☐	7. COOLER TEMP, deg C:	2.6	
☐ Other:	4. SEALED	☐	☐			

CUSTOMER

Company: STANTEC
SEND REPORT TO:
Attn: Brian Viggiano Email: Brian.Viggiano@Stantec
Company: STANTEC
Address: 735 E. Carnegie Dr
City: San Bernardino State: CA Zip: 92408

Address: 735 E. Carnegie Dr Tel: 909.226.7651
City: San Bernardino State: CA Zip: 92408 Fax:
SEND INVOICE TO: X same as SEND REPORT TO
Attn: Email:
Company: SAME
Address:
City: State: Zip:

EDD: ☐ Excel ☐ EDF ☐ Equis ☐ _____
QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV ☐ _____

PROJECT SAMPLES

Project Name: Olson / Gardena
Project No.: 185804443
Sampler: Ruben Durazo
Quote #:
PO #:
Special Instructions/Comments: 24 Hour Rush

ITEM	Laboratory ID (For Lab Use Only)	Sample Description: Sample ID / Location	Date	Time
1	2000761L	SV-12B-3'	1-10-20	11:52
2	-42	SV-12C-1'		12:15
3	-43	SV-12C-3'		12:27
4				
5				
6				
7				
8				
9				
10				

Requested Analysis: 8260 / 624 (Volatiles); 8015 (GRO); 8015 (DRO); 8081 (Organochlorine Pesticides); 8082 (PCBs); 8270 (Semi-volatiles); 6010 / 7000 (Title 22 Metals); TO-15 (X)

Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; NON-AQUEOUS / LAYERED - OIL

Turnaround Time (TAT): 1 / 1 / 1

Container: Quantity: 1 / 1 / 1; Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7 = Canister: 5T / " / "; Material: 1=Glass; 2=Plastic; 3=Metal; Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn(Ac)2; 6=NaOH; 7=NA2S2O3

Remarks

SRM

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples submitted AFTER 5:00 PM are considered received the following business day at 8:00 AM.
3. The following turnaround time conditions apply:
   - TAT = 0 : Same Business Day if received by 9:00 AM
   - TAT = 1 : 1 Business Day (COB)
   - TAT = 2 : 2 Business Days (COB)
   - TAT = 3 : 3 Business Days (COB)
   - TAT = 4 : 4 Business Days (COB)
   - TAT = 5 : 5 Business Days (COB)
   - TAT = 6 : 5 to 7 Business Days (COB)
4. Weekend, holiday, after-hours work --- ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
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8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
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   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformatted report; $35 per reprocessed EDD.
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Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Ruben Durazo	1-10-20	14:16		1-10-20	14:16
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Printed Name _____ Signature _____

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 2

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver:20191022

Method of Transport: ☐ Client ☐ ATL ☐ FedEx ☐ OnTrac ☐ GSO ☐ Other: _____

Sample Conditions Upon Receipt

Condition	Y	N	Condition	Y	N
1. CHILLED	☒	☐	5. # OF SAMPLES MATCH COC	☑	☐
2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☑	☐
3. CONTAINER INTACT	☒	☐	7. COOLER TEMP, deg C:	2	
4. SEALED	☐	☐			

CUSTOMER

Company: STANTEC

Address: 735 E. Carnegie Dr. Tel: 909 226 7651

City: San Bernardino State: CA Zip: 92408 Fax:

SEND REPORT TO:

Attn: Brian Vaggano Email: BVaggano@stantec.com

Company: STANTEC

Address: 735 E. Carnegie Dr.

City: San Bernardino State: CA Zip: 92408

SEND INVOICE TO: ☐ same as SEND REPORT TO

Attn: Email:

Company: SAME

Address:

City: State: Zip:

EDD: ☐ Excel ☐ EDF ☐ Equis ☐ _____

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV ☐ _____

PROJECT SAMPLES

Project Name: Olson / Cucamonga

Project No.: 185804443

Sampler: Ruben Duran

Quote #:

PO #:

Special Instructions/Comments: 24 HOUR RUSH

ITEM	Laboratory ID (For Lab Use Only)	Sample Description: Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015 (GRO)	8015 (DRO)	8081 (Organochlorine Pesticides)	8082 (PCBs)	8270 (Semi-volatiles)	6010 / 7000 (Title 22 Metals)	TO-15	PAHs by 6010B (2)	SOIL / SEDIMENT / SLUDGE	SOLIDS / WIPE / FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	NON-AQUEOUS / LAYERED - OIL	Turnaround Time (TAT)	Container: Quantity	Container: Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Ziplar; 7=Canister	Container: Material: 1=Glass; 2=Plastic; 3=Metal	Container: Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=ZnAc2+NaOH; 6=NaOH; 7=NA2S2O3	Remarks
1		SV-13A-3' (BV)	1-10-20	9:05				X												1	5		
2		SV-13B-1'		9:30																			
3		SV-13B-3'		9:40																			
4		SV-13C-1'		9:58																			
5		SV-13C-3'		10:11																			
6		SV-13D-1'		10:27																			
7		SV-13D-3'		10:36																			
8		SV-12A-1'		11:20									X										
9		SV-12A-3'		11:28																			
10		SV-12B-1'		11:40																			

TERMS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
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   - TAT = 3 : 3 Business Days (COB)
   - TAT = 4 : 4 Business Days (COB)
   - TAT = 5 : 5 Business Days (COB)
   - TAT = 6 : 5 to 7 Business Days (COB)
4. Weekend, holiday, after-hours work --- ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
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   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20 sample/week if extended storage is requested.
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Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
[signature]	1-10-20	14:16	[signature]	1-10-20	14:16
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Printed Name _____ Signature _____

APPENDIX C-
PROUCL WORKSHEETS

	0	1	2	3
	Total Pb (mg/Kg)	Dieldrin (mg/Kg)	Total Lead - Minus Outlier (mg/Kg)	Dieldrin - Minus Outlier (mg/Kg)
1	4.3	0.001	4.3	0.001
2	9.2	0.0074	9.2	0.0074
3	10	0.0057	10	0.0057
4	8.2	0.001	8.2	0.001
5	17	0.001	17	0.001
6	54	0.001	54	0.001
7	10	0.001	10	0.001
8	110	0.001	6	0.001
9	6	0.001	20	0.001
10	20	0.017	5	0.017
11	5	0.001	9	0.001
12	9	0.001	5	0.001
13	5	0.001	5	0.001
14	5	0.17	9	0.001
15	9	0.001	19	0.001
16	19	0.001	9.4	0.001
17	9.4	0.001	7.3	0.001
18	7.3	0.001	25	0.001
19	25	0.001	16	0.001
20	16	0.001	23	0.001
21	23	0.001		

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.11/27/2020 2:09:14 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Total Pb (mg/Kg)

General Statistics

Total Number of Observations	21	Number of Distinct Observations	17
		Number of Missing Observations	0
Minimum	4.3	Mean	18.16
Maximum	110	Median	9.4
SD	23.81	Std. Error of Mean	5.195
Coefficient of Variation	1.311	Skewness	3.291

Normal GOF Test

Shapiro Wilk Test Statistic	0.555	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.908	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.292	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.188	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	27.12	95% Adjusted-CLT UCL (Chen-1995)	30.69
		95% Modified-t UCL (Johnson-1978)	27.74

Gamma GOF Test

A-D Test Statistic	1.394	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.762	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.249	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.193	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.354	k star (bias corrected MLE)	1.192
Theta hat (MLE)	13.41	Theta star (bias corrected MLE)	15.23
nu hat (MLE)	56.87	nu star (bias corrected)	50.08
MLE Mean (bias corrected)	18.16	MLE Sd (bias corrected)	16.63
		Approximate Chi Square Value (0.05)	34.83
Adjusted Level of Significance	0.0383	Adjusted Chi Square Value	33.85

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	26.11	95% Adjusted Gamma UCL (use when n<50)	26.87

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.903	**Shapiro Wilk Lognormal GOF Test**

53			5% Shapiro Wilk Critical Value		0.908		Data Not Lognormal at 5% Significance Level					
54			Lilliefors Test Statistic		0.208		Lilliefors Lognormal GOF Test					
55			5% Lilliefors Critical Value		0.188		Data Not Lognormal at 5% Significance Level					
56			Data Not Lognormal at 5% Significance Level									
57												
58					Lognormal Statistics							
59			Minimum of Logged Data		1.459				Mean of logged Data		2.487	
60			Maximum of Logged Data		4.7				SD of logged Data		0.818	
61												
62					Assuming Lognormal Distribution							
63			95% H-UCL		25.74				90% Chebyshev (MVUE) UCL		26.08	
64			95% Chebyshev (MVUE) UCL		30.43				97.5% Chebyshev (MVUE) UCL		36.48	
65			99% Chebyshev (MVUE) UCL		48.35							
66												
67					Nonparametric Distribution Free UCL Statistics							
68					Data do not follow a Discernible Distribution (0.05)							
69												
70					Nonparametric Distribution Free UCLs							
71			95% CLT UCL		26.71				95% Jackknife UCL		27.12	
72			95% Standard Bootstrap UCL		26.69				95% Bootstrap-t UCL		44.54	
73			95% Hall's Bootstrap UCL		64.97				95% Percentile Bootstrap UCL		27.57	
74			95% BCA Bootstrap UCL		31.06							
75			90% Chebyshev(Mean, Sd) UCL		33.75				95% Chebyshev(Mean, Sd) UCL		40.81	
76			97.5% Chebyshev(Mean, Sd) UCL		50.6				99% Chebyshev(Mean, Sd) UCL		69.85	
77												
78					Suggested UCL to Use							
79			95% Chebyshev (Mean, Sd) UCL		40.81							
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												

	A	B	C	D	E	F	G	H	I	J	K	L
1					Outlier Tests for Selected Uncensored Variables							
2			User Selected Options									
3			Date/Time of Computation	ProUCL 5.11/29/2020 10:06:11 AM								
4				From File	WorkSheet.xls							
5				Full Precision	OFF							
6												
7												
8			Dixon's Outlier Test for Total Pb (mg/Kg)									
9												
10	Number of Observations = 21											
11	10% critical value: 0.391											
12	5% critical value: 0.44											
13	1% critical value: 0.524											
14												
15	1. Observation Value 110 is a Potential Outlier (Upper Ta											
16												
17	Test Statistic: 0.810											
18												
19	For 10% significance level, 110 is an outlier.											
20	For 5% significance level, 110 is an outlier.											
21	For 1% significance level, 110 is an outlier.											
22												
23	2. Observation Value 4.3 is a Potential Outlier (Lower Tai											
24												
25	Test Statistic: 0.034											
26												
27	For 10% significance level, 4.3 is not an outlier.											
28	For 5% significance level, 4.3 is not an outlier.											
29	For 1% significance level, 4.3 is not an outlier.											
30												

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.11/29/2020 10:09:56 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Total Lead - Minus Outlier (mg/Kg)

General Statistics

Total Number of Observations	20	Number of Distinct Observations	16
		Number of Missing Observations	0
Minimum	4.3	Mean	13.57
Maximum	54	Median	9.3
SD	11.42	Std. Error of Mean	2.554
Coefficient of Variation	0.842	Skewness	2.55

Normal GOF Test

Shapiro Wilk Test Statistic	0.715	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.905	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.273	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.192	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	17.99	95% Adjusted-CLT UCL (Chen-1995)	19.33
		95% Modified-t UCL (Johnson-1978)	18.23

Gamma GOF Test

A-D Test Statistic	0.739	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.751	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.235	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.196	Data Not Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.309	k star (bias corrected MLE)	1.996
Theta hat (MLE)	5.877	Theta star (bias corrected MLE)	6.798
nu hat (MLE)	92.37	nu star (bias corrected)	79.85
MLE Mean (bias corrected)	13.57	MLE Sd (bias corrected)	9.605
		Approximate Chi Square Value (0.05)	60.26
Adjusted Level of Significance	0.038	Adjusted Chi Square Value	58.91

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	17.98	95% Adjusted Gamma UCL (use when n<50)	18.39

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.938	**Shapiro Wilk Lognormal GOF Test**

53			5% Shapiro Wilk Critical Value		0.905		Data appear Lognormal at 5% Significance Level				
54			Lilliefors Test Statistic		0.194		**Lilliefors Lognormal GOF Test**				
55			5% Lilliefors Critical Value		0.192		Data Not Lognormal at 5% Significance Level				
56			Data appear Approximate Lognormal at 5% Significance Level								
57											
58			**Lognormal Statistics**								
59			Minimum of Logged Data		1.459				Mean of logged Data		2.376
60			Maximum of Logged Data		3.989				SD of logged Data		0.659
61											
62			**Assuming Lognormal Distribution**								
63			95% H-UCL		18.61				90% Chebyshev (MVUE) UCL		19.39
64			95% Chebyshev (MVUE) UCL		22.19				97.5% Chebyshev (MVUE) UCL		26.08
65			99% Chebyshev (MVUE) UCL		33.72						
66											
67			**Nonparametric Distribution Free UCL Statistics**								
68			Data appear to follow a Discernible Distribution at 5% Significance Level								
69											
70			**Nonparametric Distribution Free UCLs**								
71			95% CLT UCL		17.77				95% Jackknife UCL		17.99
72			95% Standard Bootstrap UCL		17.63				95% Bootstrap-t UCL		21.07
73			95% Hall's Bootstrap UCL		35.39				95% Percentile Bootstrap UCL		18.07
74			95% BCA Bootstrap UCL		19.94						
75			90% Chebyshev(Mean, Sd) UCL		21.23				95% Chebyshev(Mean, Sd) UCL		24.7
76			97.5% Chebyshev(Mean, Sd) UCL		29.52				99% Chebyshev(Mean, Sd) UCL		38.98
77											
78			**Suggested UCL to Use**								
79			95% Adjusted Gamma UCL		18.39						
80											
81			When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test								
82			When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL								
83											
84			Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.								
85			Recommendations are based upon data size, data distribution, and skewness.								
86			These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).								
87			However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.								
88											

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.11/27/2020 2:09:50 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Dieldrin (mg/Kg)

General Statistics

Total Number of Observations	21	Number of Distinct Observations	5
		Number of Missing Observations	0
Minimum	0.001	Mean	0.0103
Maximum	0.17	Median	0.001
SD	0.0368	Std. Error of Mean	0.00803
Coefficient of Variation	3.557	Skewness	4.507

Normal GOF Test

Shapiro Wilk Test Statistic	0.275	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.908	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.437	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.188	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	0.0242	95% Adjusted-CLT UCL (Chen-1995)	0.032
		95% Modified-t UCL (Johnson-1978)	0.0255

Gamma GOF Test

A-D Test Statistic	5.695	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.831	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.488	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.204	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.374	k star (bias corrected MLE)	0.352
Theta hat (MLE)	0.0276	Theta star (bias corrected MLE)	0.0293
nu hat (MLE)	15.71	nu star (bias corrected)	14.8
MLE Mean (bias corrected)	0.0103	MLE Sd (bias corrected)	0.0174
		Approximate Chi Square Value (0.05)	7.123
Adjusted Level of Significance	0.0383	Adjusted Chi Square Value	6.716

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.0215	95% Adjusted Gamma UCL (use when n<50)	0.0228

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.499	**Shapiro Wilk Lognormal GOF Test**

53			5% Shapiro Wilk Critical Value			0.908		Data Not Lognormal at 5% Significance Level				
54			Lilliefors Test Statistic			0.473		**Lilliefors Lognormal GOF Test**				
55			5% Lilliefors Critical Value			0.188		Data Not Lognormal at 5% Significance Level				
56			Data Not Lognormal at 5% Significance Level									
57												
58			**Lognormal Statistics**									
59			Minimum of Logged Data			-6.908				Mean of logged Data		-6.35
60			Maximum of Logged Data			-1.772				SD of logged Data		1.321
61												
62			**Assuming Lognormal Distribution**									
63			95% H-UCL			0.0102				90% Chebyshev (MVUE) UCL		0.00787
64			95% Chebyshev (MVUE) UCL			0.00967				97.5% Chebyshev (MVUE) UCL		0.0122
65			99% Chebyshev (MVUE) UCL			0.0171						
66												
67			**Nonparametric Distribution Free UCL Statistics**									
68			**Data do not follow a Discernible Distribution (0.05)**									
69												
70			**Nonparametric Distribution Free UCLs**									
71			95% CLT UCL			0.0235				95% Jackknife UCL		0.0242
72			95% Standard Bootstrap UCL			0.0232				95% Bootstrap-t UCL		0.202
73			95% Hall's Bootstrap UCL			0.157				95% Percentile Bootstrap UCL		0.0259
74			95% BCA Bootstrap UCL			0.0345						
75			90% Chebyshev(Mean, Sd) UCL			0.0344				95% Chebyshev(Mean, Sd) UCL		0.0453
76			97.5% Chebyshev(Mean, Sd) UCL			0.0605				99% Chebyshev(Mean, Sd) UCL		0.0902
77												
78			**Suggested UCL to Use**									
79			95% Chebyshev (Mean, Sd) UCL			0.0453						
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												

	A	B	C	D	E	F	G	H	I	J	K	L
1					Outlier Tests for Selected Uncensored Variables							
2				User Selected Options								
3			Date/Time of Computation	ProUCL 5.11/29/2020 10:09:28 AM								
4				From File	WorkSheet.xls							
5				Full Precision	OFF							
6												
7												
8			Dixon's Outlier Test for Dieldrin (mg/Kg)									
9												
10	Number of Observations = 21											
11	10% critical value: 0.391											
12	5% critical value: 0.44											
13	1% critical value: 0.524											
14												
15	1. Observation Value 0.17 is a Potential Outlier (Upper T											
16												
17	Test Statistic: 0.962											
18												
19	For 10% significance level, 0.17 is an outlier.											
20	For 5% significance level, 0.17 is an outlier.											
21	For 1% significance level, 0.17 is an outlier.											
22												
23	2. Observation Value 0.001 is a Potential Outlier (Lower											
24												
25	Test Statistic: 0.000											
26												
27	For 10% significance level, 0.001 is not an outlier.											
28	For 5% significance level, 0.001 is not an outlier.											
29	For 1% significance level, 0.001 is not an outlier.											
30												

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.11/29/2020 10:14:48 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Dieldrin - Minus Outlier (mg/Kg)

General Statistics

Total Number of Observations	20	Number of Distinct Observations	4
		Number of Missing Observations	0
Minimum	0.001	Mean	0.00236
Maximum	0.017	Median	0.001
SD	0.00385	Std. Error of Mean	8.6196E-4
Coefficient of Variation	1.637	Skewness	3.333

Normal GOF Test

Shapiro Wilk Test Statistic	0.416	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.905	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.487	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.192	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.00385	95% Adjusted-CLT UCL (Chen-1995)	0.00446
		95% Modified-t UCL (Johnson-1978)	0.00395

Gamma GOF Test

A-D Test Statistic	5.567	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.766	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.52	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.199	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.084	k star (bias corrected MLE)	0.954
Theta hat (MLE)	0.00217	Theta star (bias corrected MLE)	0.00247
nu hat (MLE)	43.35	nu star (bias corrected)	38.18
MLE Mean (bias corrected)	0.00236	MLE Sd (bias corrected)	0.00241
		Approximate Chi Square Value (0.05)	25.03
Adjusted Level of Significance	0.038	Adjusted Chi Square Value	24.19

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.00359	95% Adjusted Gamma UCL (use when n<50)	0.00372

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.458	**Shapiro Wilk Lognormal GOF Test**

53			5% Shapiro Wilk Critical Value		0.905		Data Not Lognormal at 5% Significance Level					
54			Lilliefors Test Statistic		0.505		Lilliefors Lognormal GOF Test					
55			5% Lilliefors Critical Value		0.192		Data Not Lognormal at 5% Significance Level					
56			Data Not Lognormal at 5% Significance Level									
57												
58			Lognormal Statistics									
59			Minimum of Logged Data		-6.908					Mean of logged Data	-6.579	
60			Maximum of Logged Data		-4.075					SD of logged Data	0.824	
61												
62			Assuming Lognormal Distribution									
63			95% H-UCL		0.00307					90% Chebyshev (MVUE) UCL	0.00306	
64			95% Chebyshev (MVUE) UCL		0.00358					97.5% Chebyshev (MVUE) UCL	0.0043	
65			99% Chebyshev (MVUE) UCL		0.00572							
66												
67			Nonparametric Distribution Free UCL Statistics									
68			Data do not follow a Discernible Distribution (0.05)									
69												
70			Nonparametric Distribution Free UCLs									
71			95% CLT UCL		0.00377					95% Jackknife UCL	0.00385	
72			95% Standard Bootstrap UCL		N/A					95% Bootstrap-t UCL	N/A	
73			95% Hall's Bootstrap UCL		N/A					95% Percentile Bootstrap UCL	N/A	
74			95% BCA Bootstrap UCL		N/A							
75			90% Chebyshev(Mean, Sd) UCL		0.00494					95% Chebyshev(Mean, Sd) UCL	0.00611	
76			97.5% Chebyshev(Mean, Sd) UCL		0.00774					99% Chebyshev(Mean, Sd) UCL	0.0109	
77												
78			Suggested UCL to Use									
79			95% Chebyshev (Mean, Sd) UCL		0.00611							
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												

Stantec

Technical Memorandum

To:	Rana Georges Department of Toxic Substances Control 576 Corporate Avenue Cypress, California	From:	Brian Viggiano, PG Kyle Emerson, CEG Stantec Consulting Services Inc. 735 E. Carnegie Drive, Suite 235 San Bernardino, CA 92408
File:	185804443	Date:	August 18, 2020

Reference: Revised Technical Memorandum for Additional Site Investigations
Lloyd's Nursery
1337,1337,1341 and 1343 West 141St Street
Gardena, California

Dear Ms. Georges,

Stantec Consulting Services Inc. (Stantec) has prepared this Technical Memorandum (TM) for additional Site Investigations at the Lloyd's Nursery property located at 1337,1337,1341 and 1343 West 141St Street, Gardena, California (the "Site"). This TM constitutes the Site Assessment Plan required pursuant to the California Land Reuse and Revitalization Act, pursuant to Health and Safety Code Section 25395.94. The scope of work for the additional investigations presented herein was developed in consultation with Department of Toxic Substances Control (DTSC) staff (Staff) during a project scoping meeting held at the DTSC offices on February 26, 2020 and a subsequent field meeting with DTSC Staff on March 11, 2020. During these meetings, DTSC required that additional testing of shallow soil to evaluate potential impact from lead-based paint and organochlorine pesticides (OCPs) and herbicidal residues containing arsenic and lead during historical nursery operations. DTSC further required that additional sampling and monitoring of groundwater be conducted to evaluate temporal trends in groundwater concentrations, and to document concentrations of chemicals of potential concern (COPCs) are consistent with previous reported concentrations, which did not exceed State of California maximum contaminant levels (MCLs). For purposes of exposition only, groundwater concentrations will be compared to a variety of non-regulatory screening levels, including those issue by the DTSC Human and Ecological Risk Office (HERO), USEPA, and the California Regional Water Quality Control Board, San Francisco Bay Region. Screening levels are not cleanup standards and serve only certain defined purposes (See DTSC HERO Note 3, page 4).

The project scoping meeting was held to review historical assessment and remediation data and to evaluate the presence of any data gap or other environmental concerns that warrant further assessment or consideration. As a result of that review, the following environmental conditions were identified that warranted further Site consideration:

- Evaluation of shallow soils around the residences and certain greenhouse structures, where, based on the age of construction, lead-based paint may have been used in the construction materials. In addition to the potential for lead-based paint in soil, DTSC requested that additional analysis of shallow soil from these locations be evaluated for arsenic and OCPs and herbicidal residues containing arsenic and lead.
- Evaluation of shallow soil adjacent to the hazardous material storage cabinet located in one of the green houses (Figure 2) for the presence of lead, arsenic, and OCPs.
- Installation of three groundwater monitoring wells to evaluate current and temporal trends of concentrations of total petroleum hydrocarbons (TPH) and volatile organic compounds (VOCs) in groundwater in addition to the groundwater flow direction.

Reference: **Technical Memorandum for Additional Site Investigations**

The remainder of this TM provides a scope of work to complete the additional investigations.

SCOPE OF WORK

SHALLOW SOIL SAMPLING

To evaluate any potential impact due to the presence of lead, arsenic and OCPs in shallow soil in proximity to Site structures and the hazardous materials storage container, Stantec proposes to advance 13 shallow hand auger borings (HA-5 through HA-17) at the approximate locations depicted on **Figure 2**, which were determined in consultation with DTSC staff during the on-Site scoping meeting held March 11, 2020.

At each of the 13 soil boring locations, soils will be excavated with a hand-auger to the maximum depth three feet below ground surface (bgs). Soil excavated from the borehole will be monitored for odors or other visual signs of impact that may be present. Soil samples will be collected at depths from the surface to 0.5 feet bgs and at 2.5 to 3-feet bgs for potential analysis of lead and arsenic following EPA method 6010B and OCPs following EPA method 8082A. All collected surface samples will be analyzed; however, samples collected at 2.5 feet bgs will be held pending the results of the surface samples and only analyzed in the event that COPCs (lead, arsenic and/ or OCPs) are reported above DTSC Human and Ecological Risk Office (HERO) Note 3 residential screening levels or, an upper bound background concentration of 12 milligrams per kilogram (mg/Kg) for arsenic, in the corresponding surface sample from each boring.

At each sampling depth, soils will be collected by discharging soil directly from the hand auger bucket into pre-cleaned, laboratory provided, glass jars and sealed with a Teflon coated screw on lid. The sample container will be labeled with the Sample ID, sample depth, time and date of collection and the samplers initials and recorded on a chain-of-custody documentation. The samples will be stored in an ice-chilled cooler pending transport to ATL for analysis under chain-of-custody. ATL's Reporting limits for method 6010B and 8082 Analysis are provided in **Appendix A**.

Soil lead analytical results will be screened against HERO Note 3 residential screening level of 80 milligrams per kilogram (mg/Kg) and statistically evaluated in accordance with DTSC HERO Note 4. Soil arsenic concentrations will be screened against the DTSC determined upper-bound background concentration of 12 mg/Kg (DTSC, 2008). Soil OCP concentrations will be screened against residential screening levels presented in DTSC HERO Note 3 and in conjunction with those presented in the USEPA Regional Screening Levels (RSLs).

QA/QC Samples

To evaluate decontamination measures, a starting and ending equipment blank will be collected from the hand auger bucket at the start and following the completion of sampling. The equipment blanks will be by decanting deionized water over the hand auger bucket and collecting the discharge into laboratory provided containers. The samples will be analyzed for lead and arsenic following EPA method 6010B and OCPs following EPA method 8082A.

Reference: **Technical Memorandum for Additional Site Investigations**

GROUNDWATER MONITORING WELL INSTALLATION

Additional groundwater evaluation will be conducted following the installation of three (3) groundwater monitoring wells (MW-1 through MW-3) at the approximate locations depicted on **Figure 2**. The wells will be installed using a combination direct push technology (DPT)/ hollow stem auger (HSA) drilling rig. The following sections present the drilling and well installation procedures.

Well Permits

Prior to drilling, well permits for the installation of three (3) groundwater monitoring wells will be obtained from the Los Angeles County Department of Environmental Health. The application will be submitted with a copy of this TM and the subsequent DTSC approval letter.

Drilling Procedures

Prior to drilling, the concrete or asphalt surface, if any, will be cored to provide access to the underlying soils. A hand auger will then be used to excavate soils to a depth of five feet bgs to clear for utilities lines. Once a depth of five feet bgs is reached, the remainder of the boring will be drilled with the DPT rig equipped with a dual tube (2.85-inch inner rod and 3.75-inchouter rod) sampling system. Soil sampling will commence at a depth of five feet bgs, and subsequent five-foot intervals for lithologic description field screening with a PID.

Soil samples will be collected using a 24-inch long by one-inch diameter stainless steel sampler lined with a clear acetate or PVC sample liner advanced into undisturbed soils using a hydraulic ram on the drilling rig until 24 inches of penetration was achieved. Upon advancement of the sampler to the full 24-inches, the inner steel sampling rod will be extracted from the boring and the sampler removed. The drilling and sampling procedures were repeated to the total depth of the boring.

Upon extraction of the sampler at each sampling depth interval, the acetate liner will be opened, and the soils contained therein visually examined by Stantec field personnel and logged in accordance with the unified soil classification system (USCS). A photoionization detector (PID) calibrated to 100 ppmV isobutylene span gas, will be used to monitor headspace for VOC vapors in soil samples.

Groundwater Monitoring Well Installation

Upon drilling to approximately 10-feet below first encountered groundwater (estimated at approximately 32 feet bgs, based on previous assessments) at each of the well borings, the boreholes will be converted into groundwater monitoring wells with approximately 5-feet of screen above the water table and 10-feet below. The wells were constructed by first removing the inner 2.85-inch diameter sampling rod and leaving the outer 3.75-inch diameter rod in place. Following removal of the inner sampling rod, a 2-inch diameter schedule 40 PVC well casing equipped with 15-feet of 0.01-inch machined slots at an approximately ½-inch diameter No. 3 sand filter-pack encased in a stainless-steel wire-mesh will be lowered to the bottom of the borehole.

Once the well casing is emplaced, six-inch diameter hollow stem augers will be used to over-drill the outer drill rod to a depth equal to the top of the well screen and filter pack, followed by removal of the sampling rod surrounding the well casing. A transition seal consisting of approximately one-foot of granular bentonite will then be placed above the sand pack, followed by placement of an annular seal consisting of neat-cement grout

placed via tremmie pipe. The hollow stem augers will then be removed from the borehole and the annular seal topped off with neat cement to the surface as necessary. The wells will be protected at the surface by setting a traffic rated well box in concrete at the surface.

Groundwater Monitoring Well Development

After at least 72 hours have passed following the installation of the wells, the wells will be developed using surging and/or bailing methods. The wells will be developed by repeatedly surging, bailing and/or pumping the wells until a minimum of three saturated well-bore volumes were purged from the well have been removed and field monitoring parameters (i.e. pH, specific conductance, temperature, and dissolved oxygen) stabilize, whichever is greater.

Groundwater Well Sampling

To evaluate temporal trends in groundwater concentrations, flow direction and gradient, two quarters of groundwater monitoring will be conducted. The first round will be conducted immediately following well installations activities and be reported as part of these supplemental Site investigations, and the second round will be collected approximately 90 days following the first round and be reported as a quarterly update.

Groundwater samples will be collected from the newly installed wells a minimum of 72 hours following development. The well will be purged and sampled following the low-flow (minimum draw down) methods described by Puls and Barcelona (1996) using a Grundfos Rediflow® submersible pump.

Dedicated polyethylene tubing, or equivalent, will be used at each monitoring well to purge and sample the wells. The wells will be purged at a low flow rate (i.e., <0.5 L/min) through a flow cell equipped with a Horiba U-53, or equivalent, multi-meter. The flow rate will be monitored and recorded throughout purging to ensure the flow rate remains <0.5L/min. Groundwater samples will be collected once the following purge parameters stabilized as follows for three consecutive readings:

- Temperature range is no more than +1ºC
- pH varies by no more than 0.2 pH units
- EC readings are within 10% of the average
- Dissolved Oxygen (DO) and Oxidation and Reduction Potential (ORP) are within 10% of the average
- Turbidity is reduced to below 10 nephelometric turbidity units (NTU), or as low as practicable.

Groundwater samples will be transferred directly from the dedicated well tubing into laboratory-provided sample containers with preservative, if required. When transferring samples from the tubing into bottleware, care will be taken to minimize contact of the dedicated sample tubing with the sample container. Following collection, each sample will be labeled, annotated on chain of custody record, and stored in an ice-filled cooler for delivery to ATL for analysis for TPH following modified EPA method 8015B (quantified as C_4-C_{12}, C_{13}-C_{22}, and C_{23}-C_{40})

and for VOCs following EPA method 8260B. ATL's Reporting limits for method 8260B analysis are provided in **Appendix A.**

Groundwater VOC analytical results will be screened against the DTSC-Screening Levels (SLs) presented in DTSC's HERO Note 3 in conjunction with those presented in the USEPA Regional Screening Levels (RSLs). Groundwater TPH analytical results will be screened against San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels (ESLs).

QA/QC Samples

A duplicate sample will be collected during sampling of one of the groundwater monitoring wells and analyzed for VOCs for the purposes of evaluating the sampling the quality of the sampling effort and analytical data. In addition, a laboratory provided trip-blank will be placed in the ice-cooler and accompany the samples to the lab for analysis of VOCs, to evaluate the cleanliness of the cooler and to evaluate whether any cross-contamination may have occurred during transit of the samples.

WELL SURVEY

Following installation, the wells will be surveyed by a State of California Professional Land Surveyor (PLS) to determine the X, Y, and Z coordinates in accordance with State of California Geotracker® requirements. A notch will be cut into the top of the well casing to provide a reference elevation point to gauge groundwater elevations.

FIELD EQUIPMENT DECONTAMINATION PROCEDURES

To maintain quality control during drilling and sampling operations, the sampling equipment will be cleaned using an Alconox or Liquinox (or equivalent) scrub solution, followed by a double rinse, first in tap water followed by final rinse using distilled water. Sampling equipment will be decontaminated and rinsed prior to each sampling interval.

INVESTIGATION-DERIVED WASTE

All drilling waste and decontamination fluids will be placed into DOT approved steel drums pending characterization based on concentrations and off-Site disposal. Labels will be affixed to each drum identifying the contents, date of generation and contact information. Following receipt of waste characterization analytical data, a waste profile will be submitted to a waste receiving facility for acceptance. With approval of the waste disposal facility, the waste will be transported by a transporter meeting all certification and licensing requirements of the State of California.

DATA VALIDATION

Stantec will conduct an EPA Stage 2A data validation (U.S. EPA 2002) on each laboratory report obtained during these supplemental Site investigation activities. Stage 2A validation builds on the validation conducted in Stage 1 by the laboratory and at a minimum consists of:

- Requested methods (handling, preparation, cleanup, and analytical) are performed.

Reference: **Technical Memorandum for Additional Site Investigations**

- Method dates (including dates, times and duration of analysis if needed) for handling (e.g., Toxicity Characteristic Leaching Procedure), preparation, cleanup and analysis are present, as appropriate.
- Sample-related QC data and QC acceptance criteria (e.g., method blanks, surrogate recoveries, deuterated monitoring compounds (DMC) recoveries, laboratory control sample (LCS) recoveries, duplicate analyses, matrix spike and matrix spike duplicate recoveries, serial dilutions, post digestion spikes, standard reference materials) are provided and linked to the reported field samples (including the field quality control samples such as trip and equipment blanks).
- Requested spike analytes or compounds (e.g., surrogate, DMCs, LCS spikes, post digestion spikes) have been added, as appropriate.
- Sample holding times.
- Frequency of QC samples.

All data were validated in accordance with U.S. EPA guidance for data review (U.S. EPA 2017a and 2017b).

REPORTING AND SCHEDULE

The activities outlined in this TM will commence following approval from DTSC. Site investigations are expected to take three weeks including time for receipt and review of laboratory analytical results.

Following receipt of validated analytical data, Stantec will prepare a summary report documenting the completed investigation activities. The summary report will include a description of field activities; an updated Site location map; and a summary of analytical results, data interpretation, certified laboratory analytical reports, and chain-of-custody documents. The report is expected to be completed approximately 2-3 weeks following the receipt of validated analytical data.

A quarterly update will be submitted following completion of the second groundwater monitoring event. Depending on the results, the update may include a request to abandon the wells.

Stantec Consulting Services Inc.

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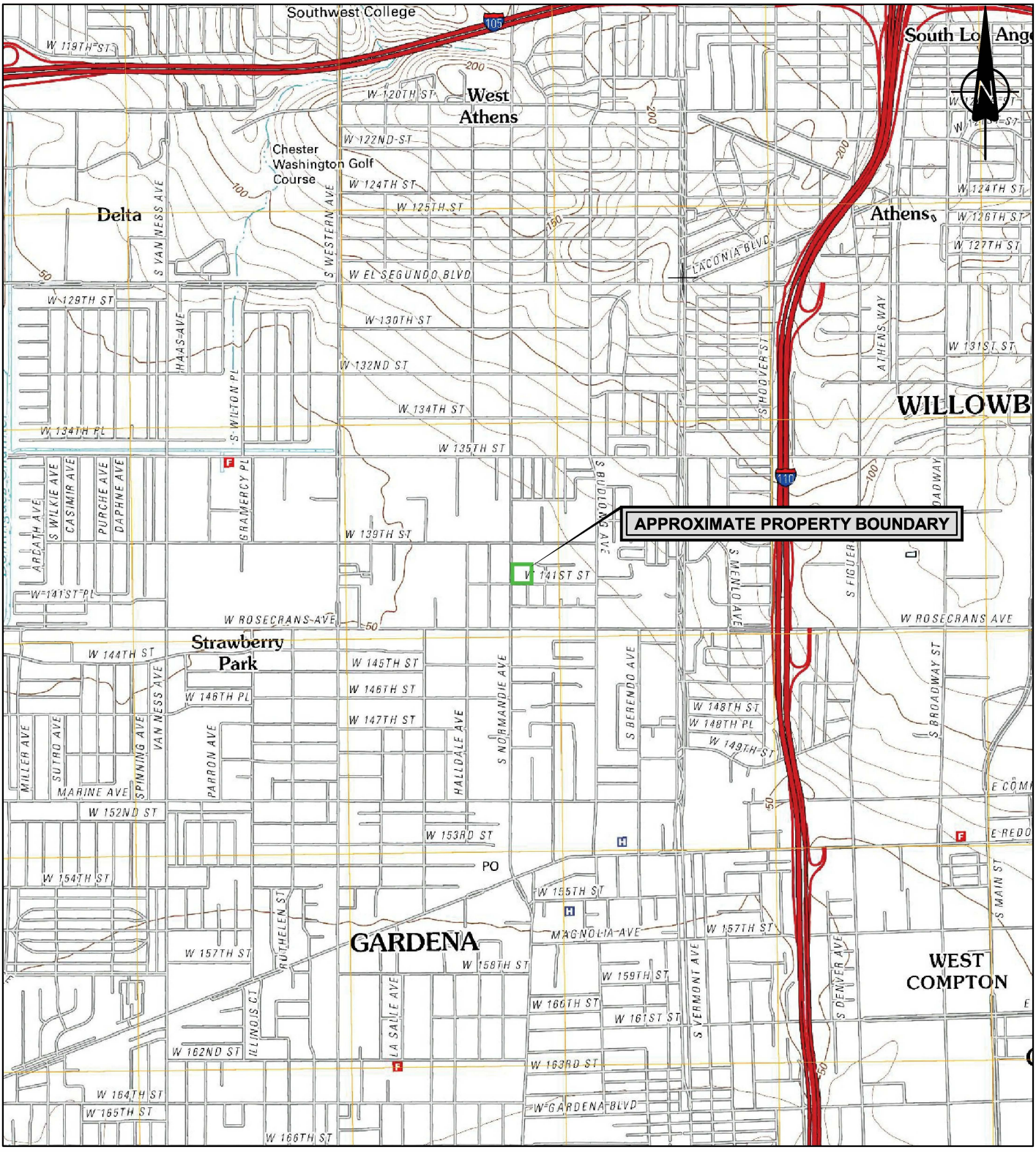
Attachment:
Figure 1 – Site Vicinity Map
Figure 2 – Site Plan, Proposed Boring Locations

Appendix A – Laboratory Reporting Limits

FIGURES



NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC SERVICES INC. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

PROPERTY LOCATION MAP

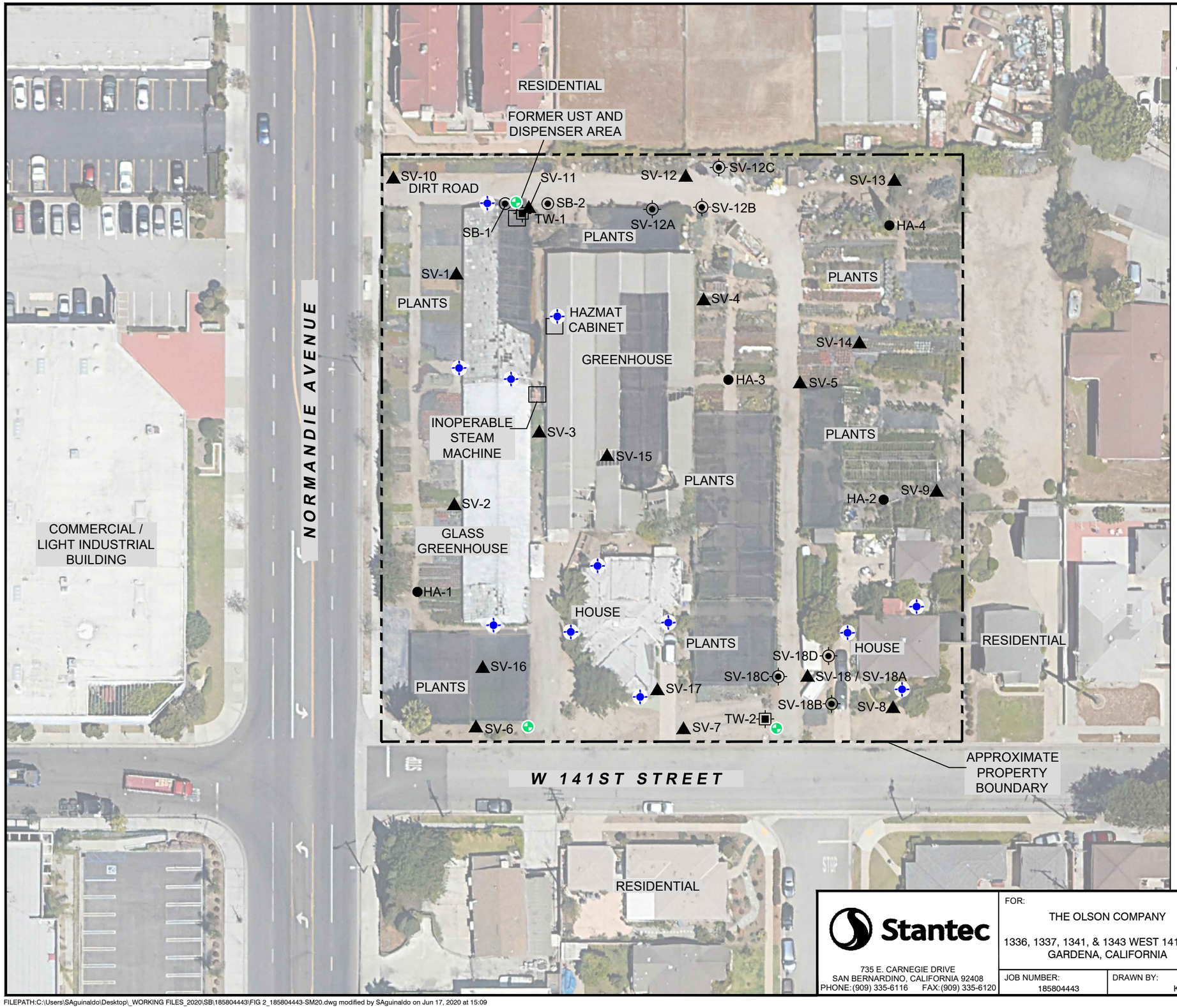
1335, 1337, 1341, & 1343 WEST 141ST STREET, GARDENA, CA

Project No.:	185804443
Scale:	AS SHOWN
Date:	19/05/02
Dwn. By:	CD DM SC2019050003
App'd By:	KE

Fig. No.: 1

Client: THE OLSON COMPANY

Stantec



LEGEND:

- PROPERTY LINE
- SB-2 — SOIL SAMPLE/ SOIL VAPOR PROBE LOCATION
- HA-2 — SHALLOW SOIL SAMPLE LOCATION
- SV-18 — SOIL / SOIL VAPOR SAMPLE LOCATION
- TW-2 — GROUNDWATER SAMPLE LOCATION
- SV-12B — SOIL STEP-OUT BORING LOCATION
- PROPOSED GROUNDWATER MONITORING WELL
- PROPOSED HAND AUGER BORING LOCATION

N

0 50 100

APPROXIMATE SCALE (FEET)

Stantec
735 E. CARNEGIE DRIVE
SAN BERNARDINO, CALIFORNIA 92408
PHONE:(909) 335-6116 FAX:(909) 335-6120

FOR:
THE OLSON COMPANY
1336, 1337, 1341, & 1343 WEST 141ST ST.
GARDENA, CALIFORNIA

PROPERTY DETAILS

FIGURE: **2**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185804443	KM/STA	MB	BV	06/17/20

FILEPATH:C:\Users\SAguinaldo\Desktop_WORKING FILES_2020\SB\185804443\FIG 2_185804443-SM20.dwg modified by SAguinaldo on Jun 17, 2020 at 15:09

APPENDIX A

REPORTING LIMITS

ADVANCED TECHNOLOGY LABORATORIES

ANALYSIS INFORMATION

3275 Walnut Avenue, Signal Hill, CA 90755 • Tel: 562-989-4045 • Fax: 562-989-4040
www.atlglobal.com

ADVANCED TECHNOLOGY LABORATORIES

Analytical Method Information

Analyte	MRL	MDL	Units	Surrogate %Rec	Duplicate RPD	Matrix Spike %Rec	Matrix Spike RPD	Blank Spike/LCS %Rec	Blank Spike/LCS RPD
Individual Metals in Soil (EPA 6010B) [ATL Code: 6010 (ver: As, Pb)]									
Arsenic	1.0	0.12	mg/kg	-	20	55 - 117	20	80 - 120	20
Lead	1.0	0.18	mg/kg	-	20	26 - 161	20	80 - 120	20
Hydrocarbon Chain in Water (EPA 8015B) [ATL Code: 8015_GRO_HCID (ver: C4-12)]									
C4-C12	0.20	0.050	mg/L	-	20	70 - 130	20	70 - 130	20
surr: 4-Bromofluorobenzene	-	-	Surrogate	70 - 130	-	-	-	-	-
Hydrocarbon Chain in Water (EPA 8015B) [ATL Code: 8015_HCID_CUST (ver: C13-C22, C23-C40)]									
C13-C22	0.20	0.20	mg/L	-	20	41 - 153	20	41 - 153	20
C23-C40	0.20	0.20	mg/L	-	20	41 - 153	20	41 - 153	20
surr: p-Terphenyl	-	-	Surrogate	32 - 169	-	-	-	-	-
Organochlorine Pesticides in Soil (EPA 8081A) [ATL Code: 8081]									
4,4´-DDD	2.0	0.078	ug/kg	-	20	27 - 123	20	54 - 111	20
4,4´-DDD [2C]	2.0	0.078	ug/kg	-	20	17 - 136	20	58 - 120	20
4,4´-DDE	2.0	0.094	ug/kg	-	20	34 - 108	20	58 - 105	20
4,4´-DDE [2C]	2.0	0.094	ug/kg	-	20	15 - 135	20	58 - 118	20
4,4´-DDT	2.0	0.10	ug/kg	-	20	14 - 112	20	39 - 110	20
4,4´-DDT [2C]	2.0	0.10	ug/kg	-	20	0 - 158	20	44 - 118	20
Aldrin	1.0	0.087	ug/kg	-	20	32 - 111	20	57 - 100	20
Aldrin [2C]	1.0	0.087	ug/kg	-	20	20 - 127	20	57 - 113	20
alpha-BHC	1.0	0.11	ug/kg	-	20	36 - 115	20	53 - 95	20
alpha-BHC [2C]	1.0	0.11	ug/kg	-	20	22 - 127	20	56 - 108	20
alpha-Chlordane	1.0	0.10	ug/kg	-	20	31 - 115	20	57 - 103	20
alpha-Chlordane [2C]	1.0	0.10	ug/kg	-	20	18 - 131	20	56 - 117	20
beta-BHC	1.0	0.15	ug/kg	-	20	22 - 134	20	57 - 101	20
beta-BHC [2C]	1.0	0.15	ug/kg	-	20	14 - 130	20	56 - 113	20
Chlordane	8.5	1.1	ug/kg	-	20	70 - 130	20	70 - 130	20
Chlordane [2C]	8.5	1.1	ug/kg	-	20	70 - 130	20	70 - 130	20
delta-BHC	1.0	0.11	ug/kg	-	20	22 - 110	20	43 - 94	20
delta-BHC [2C]	1.0	0.11	ug/kg	-	20	9 - 109	20	48 - 100	20
Dieldrin	2.0	0.088	ug/kg	-	20	37 - 116	20	57 - 102	20
Dieldrin [2C]	2.0	0.088	ug/kg	-	20	15 - 137	20	59 - 111	20
Endosulfan I	1.0	0.092	ug/kg	-	20	26 - 114	20	53 - 96	20
Endosulfan I [2C]	1.0	0.092	ug/kg	-	20	15 - 122	20	56 - 102	20
Endosulfan II	2.0	0.091	ug/kg	-	20	28 - 123	20	59 - 107	20

ADVANCED TECHNOLOGY LABORATORIES

Analytical Method Information

Analyte	MRL	MDL	Units	Surrogate %Rec	Duplicate RPD	Matrix Spike %Rec	Matrix Spike RPD	Blank Spike/LCS %Rec	Blank Spike/LCS RPD
Endosulfan II [2C]	2.0	0.091	ug/kg	-	20	10 - 141	20	60 - 115	20
Endosulfan sulfate	2.0	0.11	ug/kg	-	20	4 - 140	20	55 - 98	20
Endosulfan Sulfate [2C]	2.0	0.11	ug/kg	-	20	7 - 135	20	59 - 104	20
Endrin	2.0	0.068	ug/kg	-	20	36 - 130	20	60 - 115	20
Endrin [2C]	2.0	0.068	ug/kg	-	20	23 - 137	20	65 - 120	20
Endrin aldehyde	2.0	0.18	ug/kg	-	20	24 - 122	20	58 - 103	20
Endrin aldehyde [2C]	2.0	0.18	ug/kg	-	20	11 - 138	20	61 - 111	20
Endrin ketone	2.0	0.062	ug/kg	-	20	27 - 112	20	53 - 100	20
Endrin ketone [2C]	2.0	0.062	ug/kg	-	20	10 - 132	20	55 - 110	20
gamma-BHC	1.0	0.12	ug/kg	-	20	41 - 114	20	55 - 98	20
gamma-BHC [2C]	1.0	0.12	ug/kg	-	20	24 - 131	20	58 - 111	20
gamma-Chlordane	1.0	0.11	ug/kg	-	20	30 - 114	20	55 - 104	20
gamma-Chlordane [2C]	1.0	0.11	ug/kg	-	20	25 - 126	20	57 - 115	20
Heptachlor	1.0	0.10	ug/kg	-	20	42 - 109	20	57 - 106	20
Heptachlor [2C]	1.0	0.10	ug/kg	-	20	23 - 130	20	57 - 114	20
Heptachlor epoxide	1.0	0.088	ug/kg	-	20	39 - 108	20	54 - 98	20
Heptachlor epoxide [2C]	1.0	0.088	ug/kg	-	20	19 - 125	20	56 - 107	20
Methoxychlor	5.0	0.14	ug/kg	-	20	22 - 147	20	34 - 140	20
Methoxychlor [2C]	5.0	0.14	ug/kg	-	20	0 - 156	20	48 - 125	20
Toxaphene	50	3.6	ug/kg	-	20	70 - 130	20	70 - 130	20
Toxaphene [2C]	50	3.6	ug/kg	-	20	70 - 130	20	70 - 130	20
surr: Decachlorobiphenyl	-	-	Surrogate	9 - 112	-	-	-	-	-
surr: Decachlorobiphenyl [2C]	-	-	Surrogate	11 - 115	-	-	-	-	-
surr: Tetrachloro-m-xylene	-	-	Surrogate	28 - 107	-	-	-	-	-
surr: Tetrachloro-m-xylene [2C]	-	-	Surrogate	29 - 106	-	-	-	-	-

Advanced Technology Laboratories

8/6/2020

Analytical Method Information

Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matrix Spike %R	Matrix Spike RPD	Blank Spike / LCS %R	Blank Spike / LCS RPD
8260 in Water (EPA 8260B)								
Preservation: HCL								
Container: Voa Vial - HCl		**Amount Required:** 120mL			**Hold Time:** 14 days			
1,1,1,2-Tetrachloroethane	0.11	5.0 ug/L		20	74 - 126	20	74 - 126	20
1,1,1-Trichloroethane	0.21	5.0 ug/L		20	68 - 132	20	68 - 132	20
1,1,2,2-Tetrachloroethane	0.36	5.0 ug/L		20	62 - 125	20	62 - 125	20
1,1,2-Trichloroethane	0.25	5.0 ug/L		20	74 - 123	20	74 - 123	20
1,1-Dichloroethane	0.092	5.0 ug/L		20	62 - 136	20	62 - 136	20
1,1-Dichloroethene	0.13	5.0 ug/L		20	63 - 129	20	63 - 129	20
1,1-Dichloropropene	0.13	5.0 ug/L		20	75 - 130	20	75 - 130	20
1,2,3-Trichloropropane	0.39	5.0 ug/L		20	60 - 128	20	60 - 128	20
1,2,3-Trichlorobenzene	0.18	5.0 ug/L		20	71 - 120	20	71 - 120	20
1,2,4-Trichlorobenzene	0.16	5.0 ug/L		20	70 - 125	20	70 - 125	20
1,2,4-Trimethylbenzene	0.14	5.0 ug/L		20	74 - 122	20	74 - 122	20
1,2-Dibromo-3-chloropropane	0.41	5.0 ug/L		20	45 - 136	20	45 - 136	20
1,2-Dibromoethane	0.24	5.0 ug/L		20	73 - 122	20	73 - 122	20
1,2-Dichlorobenzene	0.20	5.0 ug/L		20	73 - 120	20	73 - 120	20
1,2-Dichloroethane	0.20	5.0 ug/L		20	67 - 135	20	67 - 135	20
1,2-Dichloropropane	0.15	5.0 ug/L		20	74 - 120	20	74 - 120	20
1,3,5-Trimethylbenzene	0.13	5.0 ug/L		20	73 - 124	20	73 - 124	20
1,3-Dichlorobenzene	0.16	5.0 ug/L		20	75 - 121	20	75 - 121	20
1,3-Dichloropropane	0.21	5.0 ug/L		20	72 - 118	20	72 - 118	20
1,4-Dichlorobenzene	0.17	5.0 ug/L		20	74 - 119	20	74 - 119	20
2,2-Dichloropropane	0.38	5.0 ug/L		20	64 - 145	20	64 - 145	20
2-Chlorotoluene	0.11	5.0 ug/L		20	71 - 126	20	71 - 126	20
4-Chlorotoluene	0.12	5.0 ug/L		20	71 - 125	20	71 - 125	20
4-Isopropyltoluene	0.11	5.0 ug/L		20	74 - 122	20	74 - 122	20
Benzene	0.13	5.0 ug/L		20	75 - 121	20	75 - 121	20
Bromobenzene	0.21	5.0 ug/L		20	72 - 122	20	72 - 122	20
Bromochloromethane	0.16	5.0 ug/L		20	72 - 125	20	72 - 125	20
Bromodichloromethane	0.14	5.0 ug/L		20	76 - 121	20	76 - 121	20
Bromoform	0.20	5.0 ug/L		20	63 - 126	20	63 - 126	20
Bromomethane	0.40	5.0 ug/L		20	38 - 191	20	38 - 191	20
Carbon disulfide	0.071	5.0 ug/L		20	53 - 130	20	53 - 130	20
Carbon tetrachloride	0.092	5.0 ug/L		20	72 - 126	20	72 - 126	20
Chlorobenzene	0.13	5.0 ug/L		20	76 - 117	20	76 - 117	20
Chloroethane	0.15	5.0 ug/L		20	25 - 204	20	25 - 204	20
Chloroform	0.11	5.0 ug/L		20	67 - 135	20	67 - 135	20
Chloromethane	0.12	5.0 ug/L		20	50 - 152	20	50 - 152	20
cis-1,2-Dichloroethene	0.14	5.0 ug/L		20	66 - 130	20	66 - 130	20
cis-1,3-Dichloropropene	0.13	5.0 ug/L		20	77 - 130	20	77 - 130	20
Di-isopropyl ether	0.15	5.0 ug/L		20	55 - 137	20	55 - 137	20
Dibromochloromethane	0.16	5.0 ug/L		20	68 - 128	20	68 - 128	20
Dibromomethane	0.19	5.0 ug/L		20	75 - 120	20	75 - 120	20
Dichlorodifluoromethane	0.18	5.0 ug/L		20	47 - 166	20	47 - 166	20
Ethanol	21	500 ug/L		20		20	68 - 121	20
Ethyl Acetate	8.7	50 ug/L		20	42 - 139	20	42 - 139	20
Ethyl Ether	2.0	50 ug/L		20	58 - 131	20	58 - 131	20
Ethyl tert-butyl ether	0.21	5.0 ug/L		20	57 - 134	20	57 - 134	20

Analytical Method Information

Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matrix Spike %R	Matrix Spike RPD	Blank Spike / LCS %R	Blank Spike / LCS RPD
Ethylbenzene	0.13	5.0 ug/L		20	75 - 119	20	75 - 119	20
Freon-113	0.13	5.0 ug/L		20	61 - 142	20	61 - 142	20
Hexachlorobutadiene	0.15	5.0 ug/L		20	71 - 129	20	71 - 129	20
Isopropylbenzene	0.10	5.0 ug/L		20	75 - 129	20	75 - 129	20
m,p-Xylene	0.19	10 ug/L		20	76 - 125	20	76 - 125	20
Methylene chloride	0.71	5.0 ug/L		20	55 - 140	20	55 - 140	20
MTBE	0.26	5.0 ug/L		20	60 - 126	20	60 - 126	20
n-Butylbenzene	0.11	5.0 ug/L		20	75 - 121	20	75 - 121	20
n-Propylbenzene	0.10	5.0 ug/L		20	70 - 129	20	70 - 129	20
Naphthalene	0.41	5.0 ug/L		20	60 - 119	20	60 - 119	20
o-Xylene	0.13	5.0 ug/L		20	76 - 124	20	76 - 124	20
sec-Butylbenzene	0.090	5.0 ug/L		20	74 - 122	20	74 - 122	20
Styrene	0.13	5.0 ug/L		20	78 - 121	20	78 - 121	20
tert-Amyl methyl ether	0.41	5.0 ug/L		20	57 - 128	20	57 - 128	20
tert-Butanol	2.4	100 ug/L		20	26 - 161	20	26 - 161	20
tert-Butylbenzene	0.090	5.0 ug/L		20	73 - 124	20	73 - 124	20
Tetrachloroethene	0.10	5.0 ug/L		20	69 - 124	20	69 - 124	20
Toluene	0.12	5.0 ug/L		20	76 - 125	20	76 - 125	20
trans-1,2-Dichloroethene	0.092	5.0 ug/L		20	60 - 137	20	60 - 137	20
trans-1,3-Dichloropropene	0.23	5.0 ug/L		20	71 - 124	20	71 - 124	20
Trichloroethene	0.099	5.0 ug/L		20	72 - 124	20	72 - 124	20
Trichlorofluoromethane	0.23	5.0 ug/L		20	63 - 136	20	63 - 136	20
Vinyl acetate	1.7	50 ug/L		20	44 - 169	20	44 - 169	20
Vinyl chloride	0.13	5.0 ug/L		20	61 - 135	20	61 - 135	20
surr: 1,2-Dichloroethane-d4			63 - 166					
surr: 4-Bromofluorobenzene			80 - 122					
surr: Dibromofluoromethane			65 - 155					
surr: Toluene-d8			77 - 139					