Phase I Environmental Site Assessment

443, 449, 455 and 461 South Van Buren Street, Placentia, California 92870

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Sign-off Sheet and Signatures of Environmental Professionals

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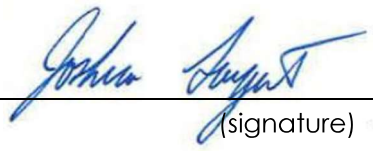
All information, conclusions, and recommendations provided by Stantec in this document regarding the Phase I ESA have been prepared under the supervision of and reviewed by the professionals whose signatures appear below.

Author  (signature)

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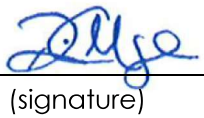
I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in § 312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Property. I have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Quality Reviewer  (signature)

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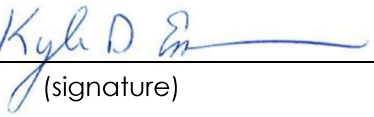
Independent Reviewer  (signature)

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Abbreviations

AAI	All Appropriate Inquiry
ACM	Asbestos containing material
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
BER	Business Environmental Risk
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulation
CREC	Controlled Recognized Environmental Conditions
CWA	Clean Water Act
ELUC	Environmental Land Use Control
EP	Environmental Professional
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
ft msl	Feet above mean sea level
HREC	Historical Recognized Environmental Conditions
HWMU	Hazardous Waste Management Unit
LBP	Lead-based Paint
LUST	Leaking Underground Storage Tank
NESHAP	National Emissions Standard for Hazardous Air Pollutants
PAHs	Polynuclear Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Conditions
SWMU	Solid Waste Management Unit
TSCA	Toxic Substance Control Act
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UST	Underground Storage Tank
VEC	Vapor Encroachment Condition
VOCs	Volatile Organic Compounds

1.0 SUMMARY

Stantec Consulting Services Inc. (Stantec) has completed a Phase I Environmental Site Assessment (ESA) of the property located at 443, 449, 455 and 461 South Van Buren Street, in the City of Placentia, County or Orange, California (the "Property"), on behalf of The Olson Company (the "Client"). The work was performed according to the requirements of the Master Services Agreement between Client and Stantec (the "MSA"). The Olson Company (the "User") has been designated as the User of this report.

The Phase I ESA was conducted in conformance with the requirements of American Society for Testing and Materials (ASTM) Designation E 1527-13, except as may have been modified by the scope of work, and terms and conditions, requested by the Client. Any exceptions to, or deletions from, the ASTM practice are described in Section 2.3.

The Property consists of approximately 5.92 acres of land currently used as an automotive wrecking and storage yard with an idle oil well located in the northeastern portion of the Property. The Property is presently divided into four lots operated by separate businesses addressed as 443, 449, 455, and 461 South Van Buren Street. An active railroad line is located along the northern Property boundary, and a drainage channel is located along the southern boundary. Multiple residences are located along the eastern Property boundary along South Van Buren Street.

According to a preliminary title report provided by the User, assessor parcel numbers (APNs) associated with the Property include 346-164-25, 346-164-26, and 346-164-22. The Property is zoned manufacturing with oil production (M [O]). 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. Photographs taken during the site reconnaissance visit are provided in Appendix A.

Historical Uses

Based on a review of historical documentation the Property was used for agricultural purposes, as an orchard, from at least 1938 until 1946. Oil production operations are known to have occurred on the Property since at least 1929. Division of Oil, Gas, and Geothermal Resources (DOGGR) maps and files indicate that there are two oil wells on site – one that was abandoned in 1959 and one that is an idle well that still has pumping equipment mounted over it. The idle oil well is located in the northeast corner of the Property and the abandoned oil well is documented to have existed in the central portion of the Property and was accompanied by multiple aboveground storage tanks (ASTs). Both of these wells are discussed in further detail in Section 4.3.4.

Additionally, historic aerial photographs depict multiple former ASTs were present in the southwestern portion of the Property, and two potential undocumented oil wells are located near

the northern Property boundary and discussed further under the "Recommendations" heading of this section and in Section 4.3.4.

Since the 1970s, the Property has been operated by several automobile wrecking/dismantling businesses. According to Orange County Health Care Agency (OCHCA) records, hazardous materials used or stored as part of operations included used/waste oil, anti-freeze/coolant, and limited quantities of Stoddard solvent and chlorinated solvents for degreasing. Stantec observed only small quantities of waste oil and coolant stored in drums during the Property reconnaissance but no significant staining was noted in these areas. Historically, OCHCA records indicate that a 466-gallon concrete used oil UST was historically present at the 461 S. Van Buren Street address. The UST was removed in 1992 and issued closure in 1993, as is discussed further in this section and in Section 4.3.1.

Previous Environmental Assessments

Multiple rounds of assessment were performed at the Property in 2014 by The Reynolds Group (TRG). Those assessments identified lead, total petroleum hydrocarbons in the oil range (TPHo), and cadmium impacts to soil throughout the Property. The data indicted to TRG that the impact was limited in depth to the upper 1.5 feet of soil. Soil vapor samples collected at the Property during the 2014 assessments reported low levels of volatile organic compounds (VOCs), including tetrachloroethylene (PCE), at one location, but below residential screening criteria. Other VOCs were reported at trace concentrations with no reported detections above the residential screening levels. No methane sampling is known to have occurred at the Property. A complete discussion of the 2014 environmental assessment is provided in Section 4.4.6

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527 of 443, 449, 455 and 461 South Van Buren Street, City of Placentia, County of Orange, California, the property. Any exceptions to, or deletions from, this practice are described in the Data Gaps section of this report (Section 7.3). This assessment has revealed no evidence of recognized environmental conditions (RECs) in connection with the property except for the following:

- **Lead-Impacted Soil.** An area of the Property has been identified by TRG as being impacted with lead up to a maximum concentration of 406 mg/kg at boring B22. The detected concentration of lead at this location, and many other sample locations depicted in the TRG reports, exceed the California Department of Toxic Substances Control (DTSC) HERO Note 3 residential screening level of 80 mg/kg. TRG provided a map indicating the area of impact on the property where lead exceeded the 80 mg/kg standard.

  Waste disposal analyses (*i.e.*, leaching potential) were performed on only two samples to evaluate whether soluble lead concentrations exceed state or federal hazardous waste levels. The collected data was inconsistent and the results of that analysis were confusing. The results indicated the two samples did not exceed the California hazardous waste levels

based on the soluble concentrations of lead, but exceeded the federal hazardous waste levels (which are not as stringent as the California standards). This result is atypical and, therefore, Stantec recommends collecting additional samples for analysis to determine a waste profile. This will be necessary to project disposal costs, which are higher for California hazardous waste and much higher for federal hazardous waste (under the Resource Conservation and Recovery Act, or "RCRA").

Based on the TRG data, the extent of lead impact does not appear to be deeper than 1.5 feet below ground surface. No soil samples have been collected from 0.5 to 1.5 feet to accurately determine the total volume of lead impacted soils, however. Therefore, Stantec recommends collecting additional soil samples to verify the depth of impact and confirm the lateral limits depicted by TRG. Additionally, samples should also be collected and analyzed for waste profiling purposes to verify whether the soil is considered hazardous waste under California and/or federal law.

- **Cadmium-Impacted Soil.** Elevated levels of cadmium have been identified at two surface locations in the north-central portion of the Property, up to a maximum concentration of 12.0 mg/kg. The detected concentrations at these two locations exceed the DTSC HERO Note 3 residential screening level of 5.2 mg/kg.

  No vertical or lateral definition of the cadmium impacts to surface soils at historical boring locations B17 and B19 have been performed to date. These two locations are also impacted with lead above the residential screening levels. Additionally, no hazardous waste analyses were performed on the collected samples. Stantec recommends performing additional soil sampling in this area to accurately quantify the extent of cadmium impact in this area and the extent to which cadmium-impacted soil may be considered hazardous waste under California and/or federal law.

- **Oil-Impacted Soil.** Oil range TPH was identified in the vicinity of the former car-crusher in the central portion of the Property in historical boring B2 at 11,958 mg/kg. The five-foot soil sample collected at this location reported non-detected levels of TPHo. This concentration exceeds current residential screening levels. The five-foot soil sample collected from this location reported "non-detect" for TPHo. However, no lateral definition was performed in this area. Stantec recommends performing additional soil sampling in this area to accurately quantify the extent of TPH impact in this area and to evaluate soil for the presence of VOCs. Additional sampling is also recommended for TPH and VOCs at the existing car crusher location (*i.e.*, 461 South Van Buren Street).

  On-Site Active Oil Well. An idle oil and gasoline well identified as Richfield East Dome Unit (REDU) "Z19" operated by Greka Oil & Gas Inc. is located in the northeastern portion of the Property. The API number for REDU Z19 is listed as 05900379. According to records located on the DOGGR online database, this well produced approximately 802 barrels of oil in 1977, and 120 barrels of oil in 1993. These are the only reported years in which the well has produced oil. No other records exist on the online database for this well. Soil and soil vapor assessment have been performed in the area of this "Z19" oil well. Soil

assessment data has detected trace amounts of TPHg and soil vapor data has indicated no presence of VOCs. No VOC data has been generated for soil in this area to date, however; therefore, Stantec recommends that soil be sampled and analyzed for VOCs.

Additionally, Stantec recommends that the well be surveyed so that the appropriate oil well setback requirements mandated by local building and safety can be fulfilled in development plans and verified by DOGGR during the Construction Site Review process. If the Z19 well from the existing operator so that the well location can become useable space in the proposed development (i.e. driveway or park) the well would need to be abandoned under appropriate permitting in accordance with the current standard set forth by DOGGR.

- **Historical On-Site Oil Well.** An oil and gasoline well is observable in the central portion of the Property in historical aerial photographs from 1938 through the 1950s, and is no longer visible in the 1963 aerial photograph. According to the online DOGGR database, this well is designated as "plugged and abandoned" and identified as "Mondotte 2", formerly operated by The Superior Oil Company. The API number for Mondotte 2 is listed as 05900380. No other information is listed on the DOGGR online database for this well. The User provided records for this well, but the records were limited and incomplete. According to these records, multiple cement plugs were created within the well casing at various depths. A wood plug exists in the well casing at 18', and the well is documented to have been plugged with cement to 5' below ground surface and capped with a steel plate.

  Two soil borings (B9 and B10) and a single soil vapor boring (SV23) were advanced in the presumed location of the oil well. Collected soil samples were analyzed for TPH and metals, and the collected soil vapor sample was analyzed for VOCs. All detected metals were reported within naturally occurring background concentrations or below current residential screening levels. The surface sample collected from B10 detected TPHo at 86 mg/kg. This concentration is <u>below</u> the current residential screening level. No VOCs were detected in the soil vapor sample collected in this area (*i.e.*, the results were "non-detect").

  According to historical assessment reports for the Property, no attempts were previously made to physically locate the Mondotte 2 oil well in the central portion of the Property. Stantec recommends that the well be located by geophysical methods. Once located, it is recommended the well be uncovered so the casing can be surveyed and its location can be confirmed – so that the appropriate oil well setback requirements mandated by local building and safety can be fulfilled in development plans and verified by DOGGR during the Construction Site Review process. Given that the well was originally abandoned in 1959, it is highly likely that DOGGR will require that the Mondotte 2 well be re-abandoned to their current standard.

In addition, Stantec recommends performing soil and soil vapor assessment activities in the confirmed location of the well. Soil vapor sampling at the location of the well should also include a field evaluation for the presence of methane and VOCs.

- **Historical Off-Site Oil Wells.** Stantec's review of historic aerial photographs, identified two features resembling oil derricks along the north Property boundary from 1946 until 1972. The presence of oil derricks indicates that wells were drilled at these locations However, no listings or records exist for these oil wells on the online DOGGR database. Steel casings and associated concrete foundations were identified during Stantec's site reconnaissance at the two locations that appeared to match the location seen on the historic aerial photographs. These features are located approximately 15 feet north of the current northern fence line on the Property. However, the actual Property line is unknown. Therefore, Stantec recommends that the property line and the well locations be surveyed to confirm if the wells are on or off of the Property.

  Due to the lack of listings for these wells on the online DOGGR database, it is difficult to research records for these wells. Therefore, Stantec also recommends that if the wells are located on the Property, DOGGR and local regulatory agencies should be engaged for purposes of determining the appropriate course of action (i.e. abandonment and/or setback requirements) in regard to the wells – because compliance with those requirements may be costly.

- **Historical Above Ground Storage Tanks.** Two aboveground storage tanks (ASTs) were observed in the southwestern portion of the Property on historic aerial photographs taken between 1963 and 1985. It is unclear if these ASTs were within the Property boundaries. According to historical assessment reports for the Property, a single soil boring (B12) and a single soil vapor boring (SV40) are located east of these historical features. Soil samples collected from B12 detected no TPH, and all detected metals were shown to be within naturally-occurring background concentrations and below residential regulatory screening levels. Soil vapor collected from SV40 detected no VOCs (*i.e.*, the results were "non-detect"). However, these assessment borings appear to be located east of the location where the ASTs appear on the historical aerial photographs. Additionally, during Stantec's site reconnaissance, an oil valve was identified in this area, located within the Property boundary.

  It appears that previous assessment activities were located east of the historical AST area. Additionally, soil vapor collected in this area was analyzed for VOCs only. Oil operations are known to generate methane. Stantec recommends assessing soil at the location of the former ASTs/valve for TPH and VOCs, and in this area. In addition, due to the prevalence of methane (a non-ASTM environmental issue) in situations such as this, methane analysis should be performed along with the TPH and VOCs analysis.

- **Site-Wide Soil Vapor.** Soil vapor samples at the Property have reported PCE in soil vapor below residential screening criteria at a single location. Other VOCs were reported at trace concentrations.

Although a substantial soil vapor survey was performed on the Property to assess the presence of VOCs in soil vapor, this data was collected in 2014 – and automobile salvage operations have continued at the Property since these data were collected in 2014. Therefore, Stantec recommends assessing for VOCs in soil vapor to confirm no VOCs have been introduced since the previous soil vapor survey was performed on the Property.

- **Historical Agricultural Use.** Agricultural cultivation (an orchard) appears to have been present on the Property from at least 1938 until 1946. Residual concentrations of organochlorine pesticides are known to accumulate in soils and persist for years when used during agricultural operations. According to historical assessment reports for the Property, no assessment of pesticides in soil has been performed to-date.

  The historical presence of the orchard is considered a REC. Stantec recommends performing a shallow soil assessment across the Property to determine if organochlorine pesticides are present in the Property soils at concentrations which would require remedial action.

- **Former UST.** According to records on file with the Orange County Health Care Agency (OCHCA), a concrete UST was removed from the 461 S. Van Buren Street address on December 19,1991. Two soil samples were collected from the bottom of the resulting excavation at approximately 5 feet below ground surface (bgs). The soil samples reported total recoverable petroleum hydrocarbons (TRPH) concentrations at a maximum of 5,200 mg/kg and low levels of tetrachloroethylene ("PCE") at 0.0057 mg/kg. Full analysis of volatile organic compounds ("VOCs") was not performed on the two initial soil samples, however.

  Based on the elevated TRPH concentrations, soil was excavated from the former UST pit to a depth of 8 feet and resampled. The excavated soil was disposed at an offsite waste disposal facility under manifest. The soil sample collected at 8 feet bgs from the bottom of the UST excavation reported TRPH at 3 mg/kg, benzene at 0.016 mg/kg, and toluene at 0.017 mg/kg. No ethylbenzene, xylenes, or chlorinated hydrocarbons were detected in the final confirmation sample. OCHCA subsequently issued closure for the UST on January 6, 1993. The location of the former UST is shown on a field sketch by OCHCA. The field sketch is not drawn with any scale but is shown as having been to the northwest of the existing office building at the 461 address, roughly at the present day location of the long storage trailer shown on Figure 2.

  Based on the age of the sample data and advancements in laboratory analytical methods since 1992, Stantec recommends that soil and soil vapor sampling be performed at the approximate location shown on the OCHCA field sketch. It should be noted that the location evaluated will be approximate due to the absence of a scaled figure/sketch but soil and soil vapor data may be useful in evaluating whether residual hydrocarbons are present in soil vapor above human health risk criteria.

- **Asphaltic Soil.** An asphaltic soil layer appeared to cover an area roughly making up 1/3 acre in the west half of Lot 2. This asphaltic layer appears to be used oil mixed with soil which has solidified. Stantec recommends evaluating the thickness and collecting a sample of the material for TPH analysis.

- **Mounded soil.** Among a dense collection of automobile parts, a small mound of soil was observed in the western portion of 455 S. Van Buren St. Stantec recommends that this mounded area be evaluated *via* exploratory hand auger boring to evaluate the physical presence of buried materials in this area.

- **Adjacent Railroad Easement.** A railroad easement has been located along the northern Property boundary since the late 1800s. The previous Phase II ESA prepared by The Reynolds Group (TRG) in 2014 included the collection of shallow soil samples for lead near the northern Property boundary. However, the sampling did not include additional metals such as arsenic. The presence of the adjacent railroad easement is considered an REC in the absence of a complete Title 22 metals evaluation. Stantec recommends that additional shallow soil sampling for metals be performed near the northern Property boundary.

In addition, Stantec has identified the following non-ASTM environmental issue associated with the Property:

- **Methane.** Oil production is known to generate methane. No methane data has been collected from soil vapor. Stantec recommends collecting methane samples for analysis at the Z19 well, Mondotte 2 well (once located), near the northern boundary where the two potential oil wells are located, former AST location, along the Property boundary closest to offsite oil wells in the area, and at general locations throughout the Property. It should be noted that the sampling is for screening purposes and that a complete survey under Orange County Fire Authority oversight would be required prior to redevelopment.

In addition, Stantec has identified the following issue related to Property redevelopment:

- **Site-Wide Petroleum Operations.** Oil production operations are known to have been performed on the Property from at least 1938 through the present day. An idle oil well is located in the northeast corner of the Property, and a former oil well is documented to have been present in the central portion of the Property – with multiple ASTs. Additionally, multiple former ASTs are also observable in the southwestern portion of the Property, and two potential oil wells are located near the northern Property boundary.

  With the abundance of oil production activities occurring on the Property over several decades, the presence of unknown abandoned and active petroleum pipelines, and other below-ground oil field related equipment, may be present at the Property. Due to the current salvage operations covering most of the Property grounds, locating these pipelines now would be a significant and costly undertaking. If redevelopment activities

are to move forward, Stantec recommends performing a comprehensive site-wide geophysical survey of the Property after removal of the site obstructions to identify if abandoned and/or active petroleum infrastructure in-place on the Property. Once these pipelines are identified, proper abandonment of these pipelines will need to be performed, with soil assessment performed below and surrounding the removed features.

The preceding summary is intended for informational purposes only. Reading of the full body of this report is recommended.

2.0 INTRODUCTION

The objective of this Phase I ESA was to perform appropriate inquiry into the past ownership and uses of the Property consistent with good commercial or customary practice as outlined by the ASTM in "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", Designation E1527-13 and All Appropriate Inquiries (AAI) Final Rule 40 CFR Part 312. The purpose of this Phase I ESA was to identify, to the extent feasible, adverse environmental conditions including recognized environmental conditions ("RECs") of the Property.

The ASTM E1527-13 standard indicates that the purpose of the Phase I ESA is to identify RECs, including historical recognized environmental conditions ("HRECs"), and controlled recognized environmental conditions ("CRECs") that may exist at a property. The term "recognized environmental conditions" means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property:

(1) Due to any release to the environment;

(2) Under conditions indicative of a release to the environment; or

(3) Under conditions that pose a material threat of a future release to the environment.

ASTM defines a "HREC" as a REC that has occurred in connection with the property, but has been addressed to the satisfaction of the applicable regulatory authority and meets unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a HREC, the environmental professional must determine whether the past release is a REC when the current Phase I ESA is conducted (for example, if there has been a change in the regulations). If the EP considers the past release to be a REC at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a REC.

ASTM defines a "CREC" as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), but with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

De minimis conditions are not RECs. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. As indicated, the term REC does not include *de minimis* conditions, which generally do not present a material risk to human health and

would not likely be subject to enforcement action if brought to the attention of governmental agencies.

This ESA was conducted in accordance with ASTM E 1527-13. The scope of work conducted during this Phase I ESA consisted of a visual reconnaissance of the Property, interviews with key individuals, and review of reasonably ascertainable documents. The scope of work did not include an assessment for environmental regulatory compliance of any facility ever operated at the Property (past or present), or sampling and analyzing of environmental media. Stantec was not contracted to perform any independent evaluation of the purchase or lease price of the Property and its relationship to current fair market value. The conclusions presented in this ESA Report are professional opinions based on data described herein. The opinions are subject to the limitations described in Section 2.3.

ASTM E1527-13 notes that the availability of record information varies from source to source. The User or Environmental Professional is not obligated to identify, obtain, or review every possible source that might exist with respect to a property. Instead, ASTM identifies record information that is reasonably ascertainable from standard sources. "Reasonably ascertainable" means:

(1) Information that is publicly available;

(2) Information that is obtainable from its source within reasonable time and cost constraints; and

(3) Information that is practicably reviewable.

2.1 PROPERTY DESCRIPTION

The Property consists of approximately 5.92 acres of land currently used as an automotive wrecking and storage yard with an idle oil well located in the northeastern portion of the Property. The Property is presently divided into four lots operated by separate businesses addressed as 443, 449, 455, and 461 South Van Buren Street. An active railroad line is located along the northern Property boundary, and a drainage channel is located along the southern boundary. Multiple residences are located along the eastern Property boundary along South Van Buren Street.

According to a preliminary title report provided by the User, assessor parcel numbers (APNs) associated with the Property include 346-164-25, 346-164-26, and 346-164-22. The Property is zones manufacturing with oil production (M [O]). 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. Photographs taken during the site reconnaissance visit are provided in Appendix A.

2.2 SPECIAL TERMS, CONDITIONS, AND SIGNIFICANT ASSUMPTIONS

There were no special terms, conditions, or significant assumptions associated with this Phase I ESA.

2.3 EXCEPTIONS AND LIMITING CONDITIONS

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided and given the schedule and budget constraints established by the client. No other representations, warranties, or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential and actual liabilities and conditions associated with the identified property.

This report provides an evaluation of selected environmental conditions associated with the identified portion of the property that was assessed at the time the work was conducted and is based on information obtained by and/or provided to Stantec at that time. Stantec can neither warrant nor guarantee the accuracy and completeness of this information. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report, and are based solely on the scope of work described in the report, the limited data available, and the results of the work. They are not a certification of the property's environmental condition.

This report relates solely to the specific project for which Stantec was retained and the stated purpose for which this report was prepared and shall not be used or relied upon by the client identified herein for any variation or extension of this project, any other project, or any other purpose.

This report has been prepared for the exclusive use of the client identified herein and any use of or reliance on this report by any third party is prohibited, except as may be consented to in writing by Stantec or as required by law. The provision of any such consent is at Stantec's sole and unfettered discretion and will only be authorized pursuant to the conditions of Stantec's standard form reliance letter. Stantec assumes no responsibility for losses, damages, liabilities, or claims, howsoever arising, from third party use of this report.

Project Specific limiting conditions are provided in Section 2.2.

The locations of any utilities, buildings and structures, and property boundaries illustrated in or described within this report, if any, including pole lines, conduits, water mains, sewers and other surface or sub-surface utilities and structures are not guaranteed. Before starting work, the exact location of all such utilities and structures must be confirmed by the client.

As the purpose of this report is to identify selected Property conditions which may pose an environmental risk; the identification of non-environmental risks to structures or people on the Property is beyond the scope of this assessment. The findings, observations, and conclusions expressed by Stantec in this report are not an opinion concerning the compliance of any past or

present owner or operator of the Property which is the subject of this report with any Federal, state, provincial or local law or regulation.

This report presents professional opinions and findings of a scientific and technical nature. It does not and shall not be construed to offer a legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, regulations or policies of Federal, state, provincial or local governmental agencies. Issues raised by the report should be reviewed by client legal counsel.

Stantec specifically disclaims any responsibility to update the conclusions in this report if new or different information later becomes available or if the conditions or activities on the property subsequently change.

In the event of any conflict between the terms and conditions of this report and the terms and conditions of the MSA, the MSA shall control.

2.4 PERSONNEL QUALIFICATIONS

This Phase I ESA was conducted by, or under the supervision of, an individual that meets the ASTM definition of an Environmental Professional (EP). The credentials of the EP and other key Stantec personnel involved in conducting this Phase I ESA are provided in Appendix B.

3.0 USER-PROVIDED INFORMATION

ASTM E1527-13 describes responsibilities of the User to complete certain tasks in connection with the performance of "All Appropriate Inquiries" into the Property. The ASTM standard requires that the Environmental Professional request information from the User on the results of those tasks because that information can assist in the identification of RECs, CRECs, HRECs, or *de minimis* conditions in connection with the Property. Towards that end, Stantec requested that the User provide the following documents and information:

Description of Information	Provided (Yes / No)	Description and/or Key Findings
User Questionnaire	Yes	An active oil well and an abandoned oil well are located on the Property.
Environmental Liens or Activity Use Limitations	Yes	An active oil well is located in the northeastern portion of the Property. This well has been determined to remain in-place, and development to occur around the well with the necessary setbacks.
Previous Environmental Permits or Reports Provided by User	Yes	The user provided Stantec with multiple environmental reports for the Property. These reports are discussed in Section 4.4.6.
Purpose of the Phase I ESA	YES	Environmental due diligence.

Stantec forwarded the ASTM recommended User Questionnaire to Mr. Steve Armanino of The Olson Company. The completed User Questionnaire returned to us by Mr. Armanino is included in Appendix C.

The user provided Stantec with multiple environmental reports for the Property. These reports are discussed in Section 4.4.6.

4.0 RECORDS REVIEW

The objective of consulting historical sources of information is to develop the history of the Property and surrounding area, in order to evaluate if past uses may have resulted in RECs. Physical setting records are evaluated to determine if the physical setting may have contributed to adverse environmental conditions in connection with the Property. During the review of historical records, Stantec attempted to identify uses of the Property from the present to the first developed use of the Property. Stantec's research included the reasonably ascertainable and useful records described in this section.

4.1 PHYSICAL SETTING

A summary of the physical setting of the Property is provided in the table below with additional details in the following subsections

Topography:	The Property is located at approximately 245 feet above mean seal level (amsl), and it relatively flat with a slight gradient to the south.
Soil/Bedrock Data:	According to data on the State Water Resources Control Board online database Geotracker for a facility located approximately 1,000 feet to the east observed well-graded to poorly-graded sands in the upper 30 feet, the extent of remedial excavation activities at that facility.
Estimated Depth to Groundwater/ Estimated Direction of Gradient:	According to data on the State Water Resources Control Board online database Geotracker (www.geotracker.waterboards.ca.gov), groundwater in the vicinity of the Property is approximately 68 feet below ground surface with a southerly flow direction.
Note: Site-specific groundwater direction and depth can only be determined by conducting site-specific testing, which Stantec has not conducted.	

4.1.1 Property Topography and Surface Water Flow

The Property is located at approximately 245 feet above mean seal level (amsl), and it relatively flat with a slight gradient to the south. A stormwater channel is located to the south of the Property. Stormwater is expected to infiltrate the ground through soft-scape surfaces on the Property. Stormwater which does not infiltrate into the ground is expected to flow over hard-scaped surfaces and flow east to South Van Buren Street.

4.1.2 Regional and Property Geology

The Site is located in the southern portion of the Peninsular Ranges Geomorphic Province characterized by northwest-southeast trending mountains and faults. The regional surficial geology is underlain by recent alluvium described as unconsolidated stream, river channel, and alluvial fan deposits (CDMG, 1966).

The Property is located within the Coastal Plain of Orange County Groundwater Basin (Basin Number 8-1) which underlies a coastal alluvial plain in the northwestern portion of Orange County. The vicinity of the Property is underlain with Quaternary-aged alluvium deposited by the Santa Ana River from the upper Santa Ana Unit, by Carbon Creek from the Puente Hills, and by minor streams from hills bounding the area.

4.1.3 Regional and Property Hydrogeology

The Property is located within the Coastal Plain of Orange County Groundwater Basin which is bounded by consolidated rocks exposed on the north in the Puente and Chino Hills; on the east in the Santa Ana Mountains; the south in the San Joaquin Hills; the Pacific Ocean on the southwest; and by a low topographic divide approximated by the Orange County – Los Angeles County line on the northwest. The basin underlies the lower Santa Ana River watershed (DWR, Bulletin 118, February 27, 2004).

According to data on the State Water Resources Control Board online database Geotracker (www.geotracker.waterboards.ca.gov), groundwater in the vicinity of the Property is approximately 68 feet below ground surface with a southerly flow direction.

4.2 FEDERAL, STATE AND TRIBAL ENVIRONMENTAL RECORDS

A regulatory agency database search report was obtained from Environmental Data Resources Inc. (EDR), a third-party environmental database search firm. A complete copy of the database search report, including the date the report was prepared, the date the information was last updated, and the definition of databases searched, is provided in Appendix D.

Stantec evaluated the information listed within the database relative to potential impact to the Property, assessing the potential for impacts based in part on the physical setting. As part of this process, inferences have been made regarding the likely groundwater flow direction at or near the Property. As described in 4.1.3, the inferred shallow groundwater flow direction is likely to be in the southerly direction. Observations about the Property and surrounding properties made during the Property reconnaissance are provided in more detail in Section 5.0.

4.2.1 Listings for Property

The Property was identified in the environmental database report under multiple entities. Below is a table summarizing the listings for the Property., Clarks Placentia, Placentia Truck Wrecking, and Placentia Truck & Van & 4 Wheel Drive, and JJS Placentia FGN Auto Work.

Listed Facility Name/Address	Database Listing	REC? (YES / NO)
Placentia Truck Wrecking 461 South Van Buren Street	RCRA-SQG, CA LUST, CA HAZNET, CA HIST CORTESE, CA NPDES, CA WDS, CA RGA LUST	**Yes**
This facility is listed as being a small quantity generator of hazardous waste, likely related to salvage operations on the Property. The facility is listed as disposing of waste oil and mixed oil from 2001 through 2007. The facility is also listed in the LUST database for a waste oil UST removed from the Property in 1991. According to the EDR listing, the waste oil tank was removed from the Property in 1991, and a No Further Action (NFA) letter was issued in 1993 by the local oversight agency, Orange County Health Care Agency (OCHCA). Although a letter was issued by the overseeing agency for the UST, Stantec considers this listing a REC for the Property and recommends performing soil and soil vapor sampling in the area to confirm no impacts exist above present-day residential screening levels.		
Placentia Truck & Van & 4 Wheel Drive 461 South Van Buren Street	CA UST, CA RGA LUST	**Yes**
This facility is listed as having an underground storage tank. No details pertaining to the contents, present condition, or use is listed in the database report. Due to the lack of information regarding the UST, this listing in considered a REC for the Property. This area should be included within the scope of the recommended Phase II subsurface investigation.		
JJS Placentia FGN Auto WKN / JJS Placentia Foreign Auto Work 455 South Van Buren Street	EDR Hist Auto, RCA-SQG, FINDS, ECHO, CA HAZNET	**Yes**
This facility is listed as an automotive repair facility from at least 1989 through 2000. The facility is listed as generating small amounts of hazardous waste, including tetrachloroethylene (PCE). No violations are listed for the facility. Although no violations are listed for the facility, PCE is documented as being used on the Property. PCE is a known carcinogen and is commonly evaluated and compared to applicable risk-based criteria. The documented use of PCE at the facility is considered a REC to the Property. This area should be included within the scope of the recommended Phase II subsurface investigation.		

Listed Facility Name/Address	Database Listing	REC? (YES / NO)
Superior Oil Company "Mondotte 2" Oil Well	OIL_GAS	**Yes**
An oil and gas well identified as "Mondotte 2" is located in the central portion of the Property. The environmental database report lists this well as having an American Petroleum Institute (API) well number of 05900380. No details pertaining to the current status of the well are listed. Oil and gas wells are known to leak and impact surrounding soils and/or groundwater. This listing is considered a REC to the Property. Stantec recommends identifying the location of the well on the Property and performing soil and soil vapor sampling in the vicinity of the well.		
Dave's Auto Wrecking 443 South Van Buren Street	CA HAZNET, CA WDS	No
This listing if for the disposal of "unspecified aqueous solution" and "other inorganic solid waste" to a recycler. This facility is listed for disposing of waste from 2000 through 2002. This facility is also listed as treating/disposing of semisolid wastes from servicing operations, including water pumping. This NPDES permit is a category C, indicating that the facility has no waste treatment systems in place. Due to the nature of this listing, and the lack of reported violations, this listing is considered unlikely to represent a REC to the Property. Therefore, Stantec recommends no further investigation regarding this listing.		
Clarks Placentia 449 South Van Buren Street	RACA-SQG	No
This facility is listed as generating small amounts of hazardous waste. No information related to the contents of the waste or disposal method is listed in the environmental database report. No violations are reported for this facility. This facility is considered unlikely to represent a REC to the Property. Stantec recommends no further investigation regarding this issue.		

4.2.2 Listings for Nearby Sites with Potential to Impact Property

Stantec assessed data presented in the environmental agency database search report to evaluate the potential for conditions to pose a REC, CREC, or HREC for the Property.

Based on this evaluation, the following individual facilities were identified as the most likely potential sources of impact to the Property. The basis for why each of the following listed databases creates a REC for the property is also provided.

Listed Facility Name/Address	Database Listing	Distance/Direction from Property	REC? (YES / NO)
Hart Don Trucking 555 Van Buren Street	RCRA NonGen, FINDS, ECHO	34 feet south	No
This facility is listed as handling hazardous materials and is also listed for holding a permit with the South Coast Air Quality Management District (AQMD). However, no details are listed for the AQMD permit. Due to the nature of this listing, Stantec considers this facility unlikely to represent a REC to the Property. Therefore, Stantec recommends no additional investigation regarding this listing.			
Automotive Services CNTR 1600 Atwood Ave	EDR Hist Auto	85 feet east northeast	No
This facility is listed as an automotive service center from 2001 through 2005. No other details are listed for this facility. Due to the lack of violations or reported releases related to this facility, Stantec considers this facility unlikely to represent a REC to the Property. Therefore, Stantec recommends no further investigation regarding this listing.			
Roadrunner Materials 541 Van Buren Street	CA LUST, CA HIST CORTESE, CA SWEEPS UST, CA HIST UST, CA UST	157 feet east northeast	No
This facility is listed for an unauthorized release of gasoline from an underground storage tank in 1995 affecting soil. The case was overseen by the Orange County Health Care Agency (OCHCA) under the Local Oversight Program (LOP) administered by the Santa Ana Regional Water Quality Control Board. The case is listed as not affecting groundwater, and only affecting soil. The case was closed in 2002 by OCHCA. Due to the current case status as closed, and groundwater not being affected, Stantec considers this facility unlikely to represent a REC to the Property. Therefore, Stantec recommends no additional investigation regarding this listing.			
Mobil Oil Corp Hugo LSE Van Buren / Orangethorpe	RCRA NonGen	200 feet northeast	No
This facility is listed as handling hazardous materials. No violations are reported for the facility. Due to the lack of violations, Stantec considers this facility unlikely to represent a REC to the Property. Therefore, Stantec recommends no further investigation regarding this listing.			
GAR – LEN Equipment 555 S Van Buren	CA SWEEPS UST	242 southeast	No
This facility is listed as having multiple USTs containing gasoline. No other details are listed, and no violations are report for this facility. Due to the lack of violations reported for the facility, and the facility being located hydraulically down-gradient from the Subject Property, this facility is considered unlikely to represent a REC to the Property. Therefore, Stantec recommends no further investigation regarding this listing.			

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Listed Facility Name/Address	Database Listing	Distance/Direction from Property	REC? (YES / NO)
BEJAC CORP 569 S Van Buren Street	CA SWEEPS UST, US AIRS, CA AST	262 feet southeast	No
This facility is listed for having multiple USTs containing diesel fuel, and a 13,000-gallons AST containing unknown contents. Monitoring reports are also listed for the facility and indicate that no violations are reported. Due to the lack of violations reported for the facility, and the facility being located hydraulically down-gradient from the Subject Property, this facility is considered unlikely to represent a REC to the Property. Therefore, Stantec recommends no further investigation regarding this listing.			
Marques Truck & Auto Repair 1616 Atwood Avenue 1617 East Oak Street	EDR Hist Auto	300 feet east	No
This facility is listed as an automotive service center from 1976 through 2014. No other details are listed for this facility. Due to the lack of violations or reported releases related to this facility, Stantec considers this facility unlikely to represent a REC to the Property. Therefore, Stantec recommends no further investigation regarding this listing.			
Hartwell Commercial Div 620 A Jefferson Ave	RCRA-SQG, FINDs, ECHO	460 feet northwest	No
This facility is listed as handling hazardous materials and is also listed for holding a permit with the South Coast Air Quality Management District (AQMD). However, no details are listed for the AQMD permit. No details regarding the classification of the waste are listed. No violations are reported for the facility. Due to the lack of violations or reported releases related to this facility, Stantec considers this facility unlikely to represent a REC to the Property. Therefore, Stantec recommends no further investigation regarding this listing.			
Roofing Wholesale Co Inc. 633 Van Buren Street	CA LUST, CA EMI, CA HIST CORTESE	469 feet southeast	No
This facility is listed for an unauthorized release of gasoline from an underground storage tank in 1990 affecting soil. The case was overseen by the OCHCA under the LOP administered by the Santa Ana Regional Water Quality Control Board. The case is listed as not affecting groundwater, and only affecting soil. The case was closed in 1991 by OCHCA. Due to the current case status as closed, and groundwater not being affected, and the facility being located hydraulically down-gradient of the Property, Stantec considers this facility unlikely to represent a REC to the Property. Therefore, Stantec recommends no further investigation regarding this listing.			
Texaco Oil 1701 Orangethorpe	CA LUST	744 feet east northeast	No
This facility is listed for an unauthorized release of gasoline from an underground storage tank in 1987 that affected soil. The case was overseen by the OCHCA under the LOP administered by			

Listed Facility Name/Address	Database Listing	Distance/Direction from Property	REC? (YES / NO)
the Santa Ana Regional Water Quality Control Board. The case is listed as not affecting groundwater, and only affecting soil. The case was closed in 1987 by OCHCA. Due to the current case status as closed, and groundwater not being affected, Stantec considers this facility unlikely to represent a REC to the Property. Therefore, Stantec recommends no further investigation regarding this listing.			
Mobil Atwood Terminal Tank Farm / Mobil Atwood Term MKTG Oper Div / Mobil Corp / Torrance Logistics Company LLC 1477 North Jefferson Street, Anaheim, CA	RCRA-LQG, AST, CA SLIC, SEMS-ARCHIVE, RCRA-LQG, CA SWEEPS UST, CA CHMIRS, CA EMI, CA ENF, CA HIST CORTESE, CA AST, ICIS, US AIRS	1,000 feet east northeast	
This facility is listed for the presence of several above-ground storage tanks (ASTs), USTs, and multiple unauthorized releases of petroleum products which adversely impacted groundwater beneath the facility. Several areas at the facility have excavated to remove soils impacts with gasoline and other petroleum products. As of 2014, a total of 8,365 pounds of hydrocarbons have been removed from the facility by a soil vapor extraction (SVE) system. Multiple groundwater wells have been installed and abandoned at the facility and have identified hydrocarbon and VOC impacts in groundwater in a shallow zone located approximately 75 below ground surface, and in a deeper zone located approximately 85 feet below ground surface. According to groundwater monitoring reports available on the State Water Resources Control Board online database Geotracker (www.geotracker.waterbaords.ca.gov), the facility has been under the Boards oversight since approximately 1988. Recent quarterly groundwater monitoring performed at the facility indicated that "shallow zone" groundwater flows in a northeastern direction. Total petroleum hydrocarbons as gasoline (TPHg) and VOCs were reported at "non-detect" concentrations within the shallow groundwater zone. Due to the distance of the facility from the Property (approximately 1,000 feet away), the Property's location cross-gradient from the facility, and recent groundwater data indicating "non-detect" concentrations of TPHg and VOCs, Stantec considers this facility unlikely to represent a REC to the Property. Therefore, Stantec recommends no further investigation regarding this listing.			

The remaining listings in the database search report provided in Appendix D do not constitute a REC for the property. Stantec recommends no further investigation regarding any of these facilities.

4.3 LOCAL/REGIONAL ENVIRONMENTAL RECORDS

Stantec checked the following sources to obtain information pertaining to Property use and/or indications of RECs in connection with the Property:

4.3.1 Local Health Department

Agency Name Contact Information	Finding
California State Water Resources Control Board – Santa Ana Region 23737 Main Street, Suite 500 Riverside, CA 92501 Fax: (951) 781-6288 July 24, 2017	Stantec submitted a public records request to this agency via facsimile on July 24, 2017. A response was received from this agency via a telephone conversation on July 25, 2017. This agency indicated that no documents were on-file with the agency, but a "No Further Action Letter" was located on the online database Geotracker (www.geotracker.waterboards.ca.gov) for the facility. This letter was issued by Orange County Health Care Agency (OCHCA), dated January 6, 1993, indicating that site investigation and remedial action at the Property was sufficient. No other documents were available for review on this database. The lack of further documentation does not represent a significant data gap.
Orange County Health Care Agency (OCHCA) 1241 East Dyer Road, Suite 120 Santa Ana, CA 92702 Telephone: (714) 433-6000 Fax: (714) 433-6424 July 24, 2017	Public records regarding hazardous materials storage, inspections, and removal of a former UST were obtained from the Orange County Health Care Agency (OCHCA). The records were split into 6 files identified as FA0024946, 92UT034, FA0028729, FA0026743, FA0046473, and FA28730. Each file is discussed below and copies of the records, including a closure letter for a former UST, are provided in Appendix F. FA0024946 This file includes multiple hazardous waste program fee receipts, inspection reports, and hazardous waste stream reports prepared by OCHCA for 461 S. Van Buren St from 1991 through 2016. Several pages of the file that were old and illegible, especially after being copied. The business that operated onsite at that time was "Placentia Truck, Van, and 4-Wheel. Other than minor, correctable violations (container labeling and lack of

	manifests), no significant violations were noted. Wastes were listed as waste oil, non-halogenated solvents related to a parts washer, and radiator coolant. Stoddard solvent was listed as a waste prior to 1994. Diesel/water mixture was listed as being in a concrete UST in the 1991 inspection and waste stream reports. Note that the UST was removed, as discussed in a separate file. It should be noted that there were. Of most significance was a "Preliminary Investigation Request" dated May 23, 1991 which indicated that an informant notified the Orange County Fire Authority of a conversation that was overheard while "on hold" which allegedly discussed a "hazmat issue at the sump and that if anyone found out about it, they would go to jail". The inspection report asks the question as to whether the sump could have been buried. The reported action taken was a very limited drive by investigation by OCHCA which concluded that the address of 461 S. Van Buren did not exist. Other records contained in the file indicate that 461 S. Van Buren Street is in fact a business address. Based on the reported sump being "hearsay", the lack of resolution in the "Preliminary Investigation Request", and lack of evidence of a sump at the Property during Stantec's reconnaissance, the presence of a sump is unknown and there likely would be no way of locating it until Property redevelopment activities occur. <u>92UT034</u> This file is related to the removal of a 655-gallon concrete waste oil UST from "Placentia Truck, Van, and 4-Wheel" at 461 S. Van Buren St in 1992. One of the documents reference the UST as a "sump". As a result, there is speculation that the sump mentioned in the "Preliminary Investigation Request" from file FA0024946 (discussed previously) references the same feature. According to the file, the concrete UST was removed on December 19, 1991. Two soil samples were collected from the bottom of the resulting excavation at

	approximately 5 feet below ground surface (bgs). The soil samples reported total recoverable petroleum hydrocarbons (TRPH) concentrations at a maximum of 5,200 mg/kg and low levels of tetrachloroethylene ("PCE") at 0.0057 mg/kg. Full analysis of volatile organic compounds ("VOCs") was not performed on the two initial samples. Based on the elevated TRPH concentrations, soil was excavated from the former UST pit to a depth of 8 feet and resampled. The excavated soil was disposed at an offsite waste disposal facility under manifest. The soil sample collected at 8 feet bgs from the bottom of the UST excavation reported TRPH at 3 mg/kg, benzene at 0.016 mg/kg, and toluene at 0.017 mg/kg. No ethylbenzene, xylenes, or chlorinated hydrocarbons were detected in the final confirmation sample. OCHCA subsequently issued closure for the UST on January 6, 1993. The location of the former UST is shown on a field sketch by OCHCA. The field sketch is not drawn with any scale but is shown as having been to the northwest of the existing office building, roughly at the present day location of the long storage trailer shown on Figure 2. Based on the age of the sample data and advancements in laboratory analytical methods since 1992, Stantec recommends that soil and soil vapor sampling be performed at the approximate location shown on the OCHCA field sketch. It should be noted that the location evaluated will be approximate due to the absence of a scaled figure/sketch but soil and soil vapor data may be useful in evaluating whether residual hydrocarbons are present in soil vapor above human health risk criteria. <u>FA0028729</u> This file includes multiple hazardous waste program fee receipts, inspection reports, and hazardous waste stream reports prepared by OCHCA for 443 S. Van Buren St from 1991 through 2010. The business that operated at the address during this time was "Dave's Auto Wrecking". Several pages of the file that were old and illegible, especially after being copied. However, the inspection reports indicated that the business generated only waste oil and waste radiator coolant from the early-2000s until

	2010. Additionally, non-halogenated solvents related to a parts washer were used in the early 2000s and small quantities (<50 gallons annually) of Stoddard solvent were stored and used at the Property from 1991 through the early 2000s. Other than minor, correctable violations (container labeling and lack of manifests), no significant violations were noted. <u>FA0026743</u> The file includes multiple hazardous waste program fee receipts, inspection reports, and hazardous waste stream reports prepared by OCHCA for 455 S. Van Buren St from 1991 through 2010. The business that operated at the address during this time was "JJ Auto Recycling LLC". The inspection reports indicated that the business generated waste oil, waste radiator coolant, non-halogenated solvents related to two 26-gallon parts washers from the 2001 to 2004. Other than minor, correctable violations (container labeling and lack of manifests), no significant violations were noted. <u>FA0046473</u> The file includes inspection reports prepared by OCHCA for 455 S. Van Buren St in 2011 and 2016. The business listed as operating at this address during this time is "Troy's Auto Wrecking". The inspection reports indicated that the business generated waste oil, waste radiator coolant, non-halogenated solvents related to two 26-gallon parts washers from the 2001 to 2004. No violations were cited in the file for this business. <u>FA28730</u> This file includes multiple hazardous waste program fee receipts, inspection reports, and hazardous waste stream reports prepared by OCHCA for 449 S. Van Buren St from 1991 through 2013. The business that operated at the address during this time was "Clark's Placentia Auto Wrecking". The inspection reports indicated that the business generated only waste oil, waste radiator coolant, and non-halogenated solvents related to a parts washer from the early-2000s until 2008. Small quantities (<50 gallons annually) of Stoddard solvent were stored

	and used at the Property from 1991 through the early 2000s. Several incident reports are contained in the file from 2014 through 2017 regarding lack of response from the business regarding storage of onsite vehicles, tires, waste drums, and above ground storage tank. The incident investigations concluded with the former business indicating that they ceased operations at the Property in 2013. The hazardous waste was reportedly disposed of under appropriate manifest in 2014. No information regarding release of hazardous materials at the Property was reported in the file.

4.3.2 State Departments

Agency Name Contact Information	Finding
Regional Water Quality Control Board, Santa Ana Region, Region 8 (RWQCB) 3737 Main Street, Suite 500 Riverside, CA (951) 782-4130 Online database: http://geotracker.waterboards.ca.gov/	A review of the State Water Resources Control Board's Geotracker website revealed the UST case for 461 S. Van Buren Street which was issued closure in 1993 by the OCHCA, as discussed in Section 4.3.1.
Department of Toxic Substances Control 5796 Corporate Avenue Cypress, CA 90630-4732 Phone: 714-484-5300 Online database: http://www.envirostor.dtsc.ca.gov/public	There are no records for the Property or the adjacent properties listed on the DTSC's online database Envirostor.
Department of Oil, Gas, & Geothermal Resources, District 1 5816 Corporate Avenue, Suite 120 Cypress, CA 90630 Telephone: (714) 816-6820	Stantec research the online database Well Finder managed by this agency (https://maps.conservation.ca.gov/doggr/wellfinder/). According to this database, two oil wells are located within the Property boundary, and several

Fax: (714) 816-8653 July 24, 2017	other wells are located in the immediate area of the Property. An idle well identified as Richfield East Dome Unit (REDU) "Z19" operated by Greka Oil & Gas Inc. is located in the northeastern portion of the Property. The well was originally named Mondotte "1" before it was transferred between operators and eventually renamed as REDU Z19. The American Petroleum Institute (API) number for REDU Z19 is listed as 05900379. According to records located on the DOGGR database, this well was drilled in 1929 to a depth of 4,425 feet. The well reportedly produced approximately 802 barrels of oil in 1977, and 120 barrels of oil in 1993. These are the only years on record in which the well produced oil. Production records for this well prior to 1977 were not available online or in the well file. The second well located on the Property is listed as "plugged and abandoned" and is identified as Mondotte "2" formerly operated by The Superior Oil Company. The API number for Mondotte 2 is listed as 05900380. According to records available on the DOGGR online database, this well was drilled in 1929 to a depth of 4,483 feet. The well last produced in July of 1950 at which time it was producing one barrel of oil per day. Mondotte "2" was abandoned in December of 1959 with three cement plugs. The surface casing of the well, which is reported to be 13-inches in diameter, was cut off 6 feet below ground surface. Additional discussion regarding the potential for two other oil wells to be onsite near the northern Property boundary that are not plotted on DOGGR's online database are discussed below.

Based on Stantec's review of historic aerial photographs, two features resembling oil derricks are observable north of the presumed Property boundary from 1946 until 1972. The presence of oil derricks would indicate that wells were drilled at these locations However, no listings or records exist for these oil wells on the online DOGGR database. Steel casings and associated concrete foundations were identified during Stantec's site reconnaissance at the two locations from the aerial photographs. These features are located approximately 15 feet north of the current

northern fence line on the Property. However, the actual Property line is unknown and could be further to the north.

Due to the lack of listings for these wells on the online DOGGR database, it is difficult to research records for these wells. Stantec recommends surveying the location of the well casings in relation to the actual northern Property boundary. Once this survey data is collected, it can be determined if these potential wells are actually located on the Property. Once that determination is made, appropriate engagement with DOGGR and local regulatory agencies can be made to determine the appropriate course of action (i.e. abandonment and/or setback requirements).

4.3.3 Fire Department

Agency Name Contact Information	Finding
Orange County Fire Authority 1 Fire Authority Road, Irvine, CA 92606 Telephone: (714) 573-6000 Fax: (714) 368-8826 July 24, 2017	Stantec submitted a public records request to this agency via facsimile on July 24, 2017. As of the date of this report, no response has been received from the agency by Stantec. If this agency responds with information which would alter the conclusions and recommendations the this report, a memorandum will be prepared and submitted to the User outlining the newly received information and possible changes to this reports conclusion. Based on its review of other sources, however, Stantec considers it unlikely that any records from this agency would alter the conclusions or recommendations of this report.

4.3.4 Local Building and/or Planning Department Records

Agency Name, Contact Information	Findings
City of Placentia Public Works Department 401 East Chapman Avenue, Placentia, CA 92870 Telephone: (714) 993-8131 Fax: (714) 528-4640	Building records were available and obtained from the city of Placentia for the Property addresses of 443, 449, 455, and 461 S. Van Buren Street, and potential former Property addresses of 467 and 507 S. Van Buren Street. Records indicate that the Property has been occupied by several automobile wrecking companies since the late 1970s. The permits reference sewer connections, building construction, sign alterations, and electrical permits for all of the above listed addresses between 1977 and 1979. A permit for a fire wall was also issued to the potential historical address of 507 S. Van Buren Street in 1978. There were no indications of septic tanks, wastewater interceptors, or other belowground structures/features permitted at the Property addresses. A review of building permits for the adjoining offsite residential properties to the east indicated the installation/repair of septic tanks in the 1970s and 1980s. No RECs were identified during Stantec's review of archived building permits.

4.4 HISTORICAL RECORDS REVIEW

4.4.1 Land Title Records/Deeds

A preliminary title report prepared by First American Title Company, dated May 17, 2017 for the Property was provided to Stantec by the User. Stantec review this document and identified several easements pertaining to oil and gas production on the Property from as early as 1927. Other easements pertaining to railroad and other utility easements were also identified. Oil and gas wells are known to leak and impact surrounding soils and groundwater. Therefore, Stantec considers the oil and gas production easements on the Property a REC. Stantec recommends identified the oil and gas easement areas on the Property and conduct environmental assessment in these areas.

A copy of the preliminary title report is provided in Appendix C. No other land title records were reviewed by Stantec as part of this assessment.

4.4.2 Aerial Photographs

Stantec reviewed historical aerial photographs provided by EDR. The general type of activity on a property and land use changes can often be discerned from the type and layout of structures visible in the photographs. However, specific elements of a facility's operation usually cannot be discerned from aerial photographs alone. The following table summarizes Stantec's observations of the reviewed historical aerial photographs.

Year	Scale	Observations, Property and Adjoining Properties
1938	1"=500'	The Property appears to be used as an orchard. There is a cleared area in the central portion of the Property with what appears to be two above-ground storage tanks (ASTs). The operations in this area appears to be related to oil production activity. A railroad line appears to be located along the northern Property boundary. An oil well with multiple ASTs is located to the southwest and southeast of the Property beyond present-day Atwood Channel. Additional oil wells are visible throughout the area. The surrounding area appears to be a mixture of residential development and agricultural cultivation. Orangethorpe is visible north of the Property, and Van Buren is visible east of the Property.
1946	1"=500'	All agricultural activity appears to be cleared from the Property. The oil operations in the central portion of the Property appear to have grown in scale with an expanded cleared area. Two oil-derrick-like structures are now visible along the northern Property boundary. It is unclear if these structures are within the Property boundary or the railroad easement located north of the Property. Other activity is observable in the northeastern corner of the Property; however, details of the activity is not discernible. A residence is now located between the Property and Van Buren Street. Several oil and gas wells are now observable in the surrounding area of the Property. Additional residential develop has occurred in the surrounding area.
1952	1"=500'	The Property and surrounding area appears largely unchanged from the previous photograph.
1963	1"=500'	The oil production activities in the central portion of the Property are no longer visible. Two ASTs are now observable at the southeastern Property boundary. It is unclear if these ASTs are within the Property boundary or within the railroad easement. There appears to be two small ASTs located in the northeastern

Year	Scale	Observations, Property and Adjoining Properties
		portion of the Property. Multiple residences are now located to the east between the Property and Van Buren Street. The oil wells located to the south of the Property are no longer visible. Two ASTs are now visible to the west of the Property beyond the railroad lines. Additional residential development is visible in the surrounding area. located in the southeastern portion of the
1966	1"=500'	There is a worn dirt path with a turn-around circle located in the central portion of the Property. Additionally, the eastern portion of the Property appears to be worn. There appears to be several vehicles parked along the north Property boundary. A drainage channel is visible along the southern Property boundary. The surrounding area appears largely unchanged from the Previous photograph.
1972	1"=500'	Several vehicles are now visible throughout the Property. The two structures located along the northern Property line are no longer visible. Several large ASTs are now visible approximately 1000 feet east of the Property. The remaining surrounding area appears similar to the previous photograph.
1977	1"=500'	The Property and surrounding area appears similar to the previous photograph.
1985	1"=500'	The Property appears to be completely filled with vehicles, with the exception of the southwestern corner lot. Multiple buildings are now located in the eastern portion of the Property. The ASTs located in the southwest corner of the Property have been removed. No agricultural activity is visible in the surrounding area. Recent residential and commercial development is visible in the surrounding area to the Property.
1989	1"=500'	The Property appears similar to the previous photograph. The surrounding area has undergone dramatic residential and commercial development.
1990, 1995, 2005, 2009, 2010, 2012	1"=500'	The Property layout and activities appears largely unchanged from 1990 through 2012. The surrounding area appears to be fully developed with commercial and residential properties by 2005.

Name of aerial photograph source: USDA, USGS, EDR, USGS/DOQQ, USDA/NAIP.

The historical usage of the Property for agricultural purposes and oil production are considered RECs. Recommendations pertaining to further assessment of these RECs is provided in Sections 1.0 and 7.4.

4.4.3 City Directories

Stantec retained a third party to research available reverse city directories for the Property, in approximately five year intervals.

The following is a summary of Stantec's review of the city directory listings:

Subject/Adjoining Property	Year	Listed Occupants
Subject Property: 443 South Van Buren Street	1980, 1985, 1992, 1995, 1999, 2003, 2008, 2013	Daves Placentia Aut Wreck
Subject Property: 449 South Van Buren Street	1980, 1985, 1992, 1995, 1999, 2003, 2008, 2013	Clarks Plac Auto
Subject Property: 455 South Van Buren Street	1980, 1985, 1992, 1995, 1999, 2003, 2008, 2013	JJS Foreign Auto Placentia Auto
Subject Property: 461 South Van Buren Street	1985, 1992, 1995 1999, 2003, 2008, 2013	Plac Trck Van Wrckg Placentia Truck Van & Four Wheel Drive Wrecking
Adjoining N: None Listed	--	--
Adjoining W: None Listed	--	--
Adjoining S: 555 South Van Buren Street	1975 1985	XXX Don Hart Trcking
Adjoining E: 431 South Van Buren Street	1972, 1975, 1985, 1992, 1995, 2003 2008 2013	Martin Apalategui John Williams Lisa Apalategui

Name of city directories and source: Haines Criss-Cross Directory, Cole Information Services

4.4.4 Historical Fire Insurance Maps

Fire insurance maps were developed for use by insurance companies to depict facilities, properties, and their uses for many locations throughout the United States. These maps provide information on the history of prior land use and are useful in assessing whether there may be potential environmental contamination on or near the Property. These maps, which have been

periodically updated since the late 19th century, often provide valuable insight into historical Property uses.

Stantec requested fire insurance maps from Environmental Data Resources; however, no coverage exists for the Property. The Sanborn® Map Search Report indicating "no coverage" is presented in Appendix E.

4.4.5 Historical Topographic Maps

Stantec reviewed historical USGS 7.5-Minute Topographic Maps of the Orange, California Quadrangle (scale 1:24,000) to help identify past Property usage and areas of potential environmental concern.

Copies of the historical maps are provided in Appendix E. The following table summarizes the maps reviewed and our observations.

Year	Scale	Observations, Property and Adjoining Properties
1896, 1898	1:24,000	The Property appears undeveloped, and is bordered along the northern Property line by a Santa Fe Railroad line. Orangethorpe Avenue is visible to the north, and a river is labeled to the south. The surrounding area is sparsely developed.
1901, 1902	1:24,000	The Property and surrounding area appears similar to the previous map. The Anaheim Canal is now visible approximately ½ mile south of the Property, and the Santa Fe Railroad has a new extension north of the Property.
1932	1:24,000	The Property is depicted with an oil/gas well located in the central portion and in the northeastern corner of the Property. Several oil/gas wells are depicted throughout the area.
1935	1:24,000	Oil/gas wells have been removed from the map. The Property appears vacant. The surrounding area has increased development with major roadways in place and some residential structures dispersed through the area.
1942	1:24,000	The Property appears to be used for agricultural cultivation, depicted with a green stipple pattern. A majority of the surrounding area also exhibits this pattern. The roadway and structures in the surrounding area appears similar to the previous map.
1949, 1950	1:24,000	The Property has been cleared of the agricultural use, and now an oil well is shown in the central portion of the Property. What appears to be a service road leads to the well location from the

Year	Scale	Observations, Property and Adjoining Properties
		southern Property boundary. Several oil/gas wells are located throughout the area, including three wells south of the Property and three wells northwest of the Property.
1950	1:24,000	The Property appears to be cleared of oil/gas wells; however, a single AST is now present in the southwestern corner of the Property. It is unclear if this AST is located within the Property boundaries. Several small structures, presumably residences, are now located in the surrounding area. Agricultural cultivation remains prominent in the area. Several oil/gas wells along with ASTs are visible in the surrounding area of the Property.
1964	1:24,000	The Property appears unchanged from the previous map. There are multiple small structures, likely residences, between the eastern Property boundary and Van Buren Street. Four oil/gas wells are located approximately 100 feet south of the Property, and six oil/gas wells with an AST are located on the northeastern-adjacent Property beyond the railroad line. Several oil/gas wells and associated ASTs are located north, west, and east of the Property. The surrounding area remains largely depicted as agricultural land. The city of Anaheim is located west southwest of the Property.
1972	1:24,000	The Property appears unchanged from the previous map. The Anaheim Canal is now visible along the southern boundary of the Property. Additional commercial and residential development is visible throughout the area.
1981	1:24,000	The Property appears unchanged from the previous map. The AST located in the southwestern corner of the Property remains visible. Little agricultural use is visible in the surrounding area to the Property. A majority of the surrounding area has been developed with commercial and residential structures.
2012	1:24,000	The map has been cleared of all structures, including wells and storage tanks, and only depicts major roadways and waterways. Atwood Channel is depicted adjacently south of the Property.

Name of maps and source: Orange 7.5-minute quadrangle map, Anaheim 15-minute quadrangle map, and Corona 30-minute quadrangle map, USGS.

4.4.6 Other Historical Sources

The User provided Stantec with the following environmental reports for the Property.

RECORDS REVIEW
August 15, 2017

Phase II Environmental Site Assessment – Shallow Soils Assessment Report, prepared by The Reynolds Group, dated December 17, 2014

In October 2014, The Reynolds Group (TRG) advanced 40 soil vapor probes throughout the Property to a maximum depth of five feet below ground surface. Soil vapor samples were collected from each of these locations and analyzed for VOCs. Tetrachloroethylene (PCE) was detected in a single soil vapor sample at 0.11 micrograms per liter (ug/L). This concentration is below the Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO) Note 3 screening level of 0.48 ug/L for residential land use.

TRG advanced a total of 16 soil borings throughout the Property to evaluate the presence of petroleum hydrocarbons associated with automotive dismantling activities on the Property. Soil samples were collected at the surface (0-0.5), 5 feet, and 10 feet below ground surface and analyzed for total petroleum hydrocarbons (TPH) and title 22 metals. Oil range TPH (TPHo) was detected in a single surface soil sample from boring B2 at 11,958 milligrams per kilogram (mg/kg). The five-foot soil sample collected at this location reported non-detected levels of TPHo. The TPHo concentration in the surface soil sample is above the United States Environmental Protection Agency (USEPA) Regional Screening Level (RSL) for residential land use of 2,500 mg/kg. TPHo was detected in two other surface soil samples from boring B5 and B10 at 139 mg/kg and 86 mg/kg, respectively. A single surface soil samples from boring B15, located near the currently active oil and gas well in the northeastern portion of the Property, reported gasoline range TPH (TPHg) at 0.2 mg/kg. This concentration is below current residential screening levels.

TRG has identified surface soil at the Property to be impacted with lead at concentrations exceeding the DTSC HERO Note 3 residential screening level of 80 mg/kg up to a maximum concentration of 406 mg/kg from boring B22. No waste disposal analyses (i.e. leaching potential) were performed on these samples. The extent of impact does not appear to be deeper than 1.5 feet below ground surface. No soil samples have been collected from 0.5 to 1.5 feet to accurately determine the total volume of lead impacted soils.

Additionally, TRG has identified elevated levels of cadmium at four surface locations throughout the Property up to a maximum concentration of 12.0 mg/kg. These locations (B17, B19, B23, and B25) exceed the maximum naturally occurring concentrations of 1.7 mg/kg, but only soils at B17 and B19 exceed the DTSC HERO Note 3 residential screening level of 5.2 mg/kg. No vertical or lateral definition of the cadmium impacts to surface soils has been performed to date. Additionally, no hazardous waste analyses were performed on the collected samples. Arsenic was identified in multiple locations at concentrations exceeding the screening levels for residential soils. However, upon review, the reported arsenic concentrations are within naturally occurring background levels.

Soil vapor samples at the Property have reported PCE in soil vapor below residential screening criteria at a single location. Other VOCs were reported at trace concentrations. However, no methane data was collected from soil vapor. Although methane is a non-ASTM issue, the absence

of methane data to-date for the Property has been identified as a REC. Stantec recommends assessing for the presence of methane in the vicinity of the oil and gas wells at the Property. Additionally, salvage operations have continued at the Property since these data were collected in 2014. Therefore, Stantec recommends assessing for VOCs in soil vapor to confirm no VOCs have been introducing since the previous soil vapor survey.

Oil range TPH was identified in the vicinity of the former car-crusher in the central portion of the Property at concentrations exceeding residential screening levels. The five-foot soil sample collected from this location reporter "non-detect" for TPHo. However, no lateral definition was performed in this area. Stantec recommends performing additional soil sampling in this area to accurately quantity the extent of TPHo impact in this area.

Lead impacted soils have been identified at the Property not exceeding 1.5 feet below ground surface. However, no soil samples have been collected between surface impacted materials and 1.5 feet below ground surface. Additionally, no waste disposal analyses were performed on these samples identified with elevated lead concentrations. The lack of vertical definition and waste profiling characteristics of the lead impacted soils at the Property makes it difficult to accurately estimate the disposal cost to remediate the impacted areas. Stantec recommends performed additional vertical definition sampling within the lead-impacted areas and to recollect surface soils in the highest areas of lead impact and perform waste profiling analyses on these soils.

Oil Well Assessment Report & DOGGR Research, prepared by The Reynolds Group, dated December 17, 2014

This report documents a limited soil and soil vapor assessment performed in the vicinity of the "Z19" oil and gas well located in the northeastern portion of the Property. TRG advanced four soil borings (B13 through B16) and a single soil vapor boring (SV39) around the active "Z19" oil well. Soil samples were collected from B13 through B16 at 0-0.5, 5, and 10 feet bgs and analyzed for TPH and CAM metals by EPA method 8015 and 6010, respectively. A single soil vapor sample was collected from SV-39 at 5 feet bgs and analyzed for VOCs by EPA method 8260B. All detected metals reported concentrations within naturally occurring background levels and/or below current regulatory screening levels for residential land use. TPHg was detected in two surface samples (B15-0.5 and B16-0.5) at trace concentrations, well below applicable residential screening levels. No VOCs were detected above the laboratory detection limit in the single soils vapor sample (i.e. results were "non-detect").

Although soil and soil vapor assessment was performed in this area, no methane analysis was performed in the area of the current oil well "Z19". Additionally, due to the data collected in 2014 and operations have continued since this data was gathered, a release to the subsurface may have occurred during that time. Therefore, Stantec recommends performing a soil assessment in this area to document if a recent release has occurred from the oil well, and performing a soil

vapor assessment in this area to include methane analysis in accordance with the local fire authority methane sampling guidelines.

5.0 SITE RECONNAISSANCE

A visit to the Property and its vicinity was conducted by Mr. Dion Monge, Associate Scientist with Stantec, on July 21, 2017. Access to the Property was provided access through Mr. Steve Armanino of Olson Urban Housing and Mr. Greg Bennett, the Property contact. Figure 2 provides information about the Property and adjoining properties and the location of any potential areas of environmental concern. Photographs collected during the Property visit are included in Appendix A.

5.1 SITE RECONNAISSANCE METHODOLOGY

The site reconnaissance focused on observation of current conditions and observable indications of past uses and conditions of the Property that may indicate the presence of RECs. The reconnaissance of the Property was conducted on foot and Stantec utilized the following methodology to observe the Property:

- Traverse the outer Property boundary.
- Traverse transects across the Property.
- Traverse the periphery of all structures on the Property.
- Visually observe accessible interior areas expected to be used by occupants or the public, maintenance and repair areas, utility areas, and a representative sample of occupied spaces.

Weather conditions during the visit to the Property were clear and sunny. There were no weather-related Property access restrictions encountered during the reconnaissance visit.

5.2 GENERAL DESCRIPTION

Property and Area Description:	The Property consists of approximately 5.5 acres used for commercial purposes at 443 S. Van Buren Street, Placentia, California. The surrounding area is a mix of commercial and residential properties with several oil field leases scattered throughout various properties in all directions.
Property Operations:	Historic Property operations included oil exploration and production. An oil well is in the northeast corner of the Property and is completed with a pumpjack. However, the oil well appeared to be idle at the time of the Property reconnaissance and was later confirmed as such through information available on the Division of Oil, Gas, and Geothermal Resources Well Finder database. A separate abandoned oil well is reportedly located near the central portion of the Property, as discussed previously in Section 4.3.6.

	Current and historic commercial operations at the Property have included automotive wrecking/dismantling operations with intermittent leases to other commercial operations such as construction storage. The Property is presently divided into four lots operated by separate businesses. Existing operations/businesses are described below. <u>461 S. Van Buren Street</u> Placentia Truck Wrecking is an automotive wrecking operation with the business address of 461 S. Van Buren Street. A vehicle crusher is located along the western boundary of the lot. The lot contains multiple rows of dismantled vehicles and storage trailers. An idle (non-operating) oil well, complete with pumping equipment, is located in a dirt lot adjacent to the east of the 461 S. Van Buren Street lot. <u>455 S. Van Buren Street</u> Troy's Auto Wrecking is an automotive wrecking operation with the business address of 455 S. Van Buren Street. <u>449 S. Van Buren Street</u> The lot is operated as a contractor's yard that appears to perform concrete work. The business address is posted as 449 S. Van Buren Street. Remnant signage indicates that the lot was previously occupied by an automotive wrecking yard by the name of Clark's Auto Wrecking. <u>443 S. Van Buren Street</u> The use of this lot was unclear but there were a few vehicles stored throughout and two empty 55-gallon drums along the north wall of the small structure that is located in the eastern portion of the lot. The business address is posted as 443 S. Van Buren Street.
Structures, Roads, Other Improvements:	The Property is accessed by an asphalt driveway connected to Van Buren Street. There are a total of five fixed structures at the Property. Several mobile trailers or Conex boxes are used for storage or shop related activities. <u>461 S. Van Buren Street</u> There are two fixed structures on the lot – the southern building is an office and the northern building is a shop/part storage area. Several Conex boxes and a trailer were observed onsite. The Conex boxes stored mostly vehicle parts. However, one was designated for used oil and antifreeze storage, and another for battery storage. The eastern one-third of the lot is paved with concrete while the western two-thirds are unpaved. An idle (non-operating) oil well, complete with pumping equipment, is located on the Property adjacent to the east of 461 S. Van Buren Street. The well is secured by a chain link fence. An electrical panel is located immediately southeast of the fencing. <u>455 S. Van Buren Street</u>

	There is one fixed structure on the lot and is used primarily for small parts storage and as an office. Two 55-gallon drums of used oil were located in the southwest corner of the building. A trailer containing a flammables closet and a shop area was observed to the west of the office building. The eastern half of the lot is paved with concrete while the western half is unpaved. <u>449 S. Van Buren Street</u> There is one fixed structure on the lot. It is an office/equipment storage area. A roof overhang extends approximately 50 feet west of the building. 55-gallon drums of used oil and antifreeze along with an above ground oil tank were located below the overhang. The eastern half of the lot is paved with concrete while the western half is unpaved. <u>443 S. Van Buren Street</u> There is one fixed structure on the lot that appears to be vacant but with remnant equipment and parts noted throughout. Two empty 55-gallon drums were noted outside along the northern building wall. No surface staining or evidence of a release was noted in the area of the drums. An apparent building foundation was observed approximately 35 feet to the northeast of the building. Roughly 90% of the lot is paved with concrete and the remaining 10% with asphalt.
Property Size (acres):	Approximately 5.5 acres
Estimated % of Property Covered by Buildings and/or Pavement:	~40%
Observed Current Property Use/Operations:	See "Property Operations" discussion above.
Observed Evidence of Past Property Use(s):	Oil production in the northeast corner and automotive wrecking/dismantling throughout the remainder of the Property.
Sewage Disposal Method (and age):	Unknown
Potable Water Source:	Municipal
Electric Utility:	Edison

5.3 HAZARDOUS SUBSTANCES AND PETROLEUM PRODUCTS

The following table summarizes Stantec's observations during the Property reconnaissance.

Observations	Description/Location
Hazardous Substances and Petroleum Products as Defined by CERCLA 42 U.S.C. § 9601(14):	Hazardous substances and petroleum products were observed on each of the four lots. Refer to Figure 2 for the location indicated below.

Observations	Description/Location
	461 S. Van Buren Street A conex box located along the southern boundary was designated for used oil and antifreeze storage, and another for battery storage. Two 55-gallon drums containing gasoline and diesel fuel were observed on a concrete surface to the south of the automobile crusher along the western boundary. No staining or signs of a significant past release were observed. 455 S. Van Buren Street Two 55-gallon drums of used oil were located in the southwest corner of the office building. A flammable materials closet was also observed in the trailer to the west of the building. No staining or signs of a significant past release were observed at either location. 449 S. Van Buren Street Two 55-gallon drums of used oil and antifreeze along with an above ground oil tank were located below the overhang to the west of the office/equipment storage building. Two 5-gallon buckets of lubricating oil were observed along the southern fence line of 449 S. Van Buren Street. No staining or signs of a significant past release were observed. 443 S. Van Buren Street Two 10-gallon diesel fuel containers were observed on a wood pallet in the western portion of 443 S. Van Buren Street. No staining or signs of a significant past release were observed.
Drums (≥ 5 gallons):	Several drums in excess of 5 gallons were observed across the Property as noted above and illustrated on Figure 2.
Strong, Pungent, or Noxious Odors:	None detected.
Pools of Liquid:	None observed.
Unidentified Substance Containers:	None observed.
PCB-Containing Equipment:	None observed.
Other Observed Evidence of Hazardous Substances or Petroleum Products:	None observed.

5.4 INTERIOR OBSERVATIONS

Stantec made the following observations during the Property reconnaissance of the building interiors at the Property and/or identified the following information during the interview or records review portions of the assessment:

Observations	Description
Heating/Cooling Method:	No heating or cooling systems were identified.
Surface Stains or Corrosion:	None observed.
Floor Drains and Sumps:	None observed.
Other Interior Observations:	The interior areas of the structures and trailers were used primarily as office space or parts/equipment storage. No clarifiers or below ground lifts were observed at the Property.

5.5 EXTERIOR OBSERVATIONS

Stantec made the following observations during the site reconnaissance of exterior areas of the Property and/or identified the following information during the interview or records review portions of the assessment:

Observations	Description
On-site Pits, Ponds, or Lagoons:	None observed.
Stained Soil or Pavement:	Minor staining was noted in various locations of the Property on both pave and unpaved areas. An asphaltic soil layer appeared to cover an area roughly making up 1/3 acre in the west half of 455 S. Van Buren Street. This asphaltic layer appears to be used oil mixed with soil. Stantec recommends performing assessment in this area to identify the lateral and vertical extent of this material.
Stressed Vegetation:	None observed.
Waste Streams and Waste Collection Areas:	Countless automotive parts and inoperable, dismantled vehicles were observed throughout the Property. Construction debris such as crushed concrete was observed in the central portion of 449 S. Van Buren Street. Waste antifreeze and/or used oil collection areas were observed in various locations, as stated in Section 5.3 and illustrated on Figure 2.
Solid Waste Disposal:	See discussion above.
Potential Areas of Fill Placement:	No signs of fill placement were observed on the Property.
Wastewater:	Through a few wet areas were noted on concrete paved surfaces near shop buildings, no significant quantities of wastewater appeared to be generated from existing Property operations. Given the absence of floor drains, swales, or drums of wastewater at the Property, any wastewater generated would likely be discharged to the ground surface and either evaporate from the concrete or seep into the soil.
Stormwater:	The topography of the Property slopes gently to the south with approximately 5 feet of relief. Storm water would flow in a southerly direction into the unlined Atwood Channel which

Observations	Description
	eventually terminates at Miller recharge basin, approximately one mile to the west.
Wells:	No groundwater monitoring or water wells were observed at the Property. An idle oil well is located in the northeast corner of the Property and an abandoned oil well is located near the central portion of the Property. These oil wells are discussed further in Section 4.3.6.
Septic Systems:	None known.
Other Exterior Observations:	Among a dense collection of automobile parts, a small mound of soil was observed in the western portion of 455 S. Van Buren Street. Stantec recommends that this mounded area be evaluated via exploratory hand auger boring to evaluate the physical presence of buried materials in this area.

5.6 UNDERGROUND STORAGE TANKS/STRUCTURES

Existing USTs:	No visible evidence, reports, or other evidence of the current presence of USTs was discovered during this Phase I ESA.
Former USTs:	No visible evidence, reports, or other evidence of the former presence of USTs was discovered during this Phase I ESA.
Other Underground Structures:	None observed.

5.7 ABOVEGROUND STORAGE TANKS

Existing ASTs:	An approximate 250-gallon waste oil AST was observed below the overhang connected to the building at 449 S. Van Buren Street. No staining or signs of a significant past release were observed.
Former ASTs:	No visible evidence, reports, or other evidence of the former presence of ASTs was discovered during this Phase I ESA.

5.8 ADJOINING PROPERTIES

5.8.1 Current Uses of Adjoining Properties

As viewed from the Property and/or from public rights-of-way, Stantec made the following observations about use and activities on adjoining properties:

NORTH	Railroad easement (4 tracks) followed by Orangethorpe Avenue
SOUTH	Atwood Channel, followed by Bejac Corporation (construction equipment rental yard)
EAST	S. Van Buren Street followed by residences and active oil wells
WEST	Railroad easement (Metrolink – one track) followed by a commercial business complex (west) and oil field (northwest)

Refer to Figure 2.

5.8.2 Observed Evidence of Past Uses of Adjoining Properties

Observations of adjoining properties providing indications of past use and activities, if any, are described below.

NORTH	Aside from the railroad easement, Stantec observed two concrete pads approximately 16 feet north of the Property fence line. The concrete pads appeared to coincide with the location of two tall surface features that cast shadows similar to an oil derrick in aerial photographs from the 1940s and 1950s (see Section 4.4.2). The east concrete pad feature also included a concrete riser situated over a steel casing. The casing was filled with soil and leaves to approximately 1 foot below the surrounding grade. No oil wells are plotted in this area on publicly available DOGGR maps. However, there is potential that these two features could be undocumented oil wells or oil well related features. Recommendations related to these features are provided in Section 4.4.2.
SOUTH	Active oil wells were observed on the property to the south of the Atwood Channel.
EAST	Active oil wells were observed on the properties to the east of Van Buren Street.
WEST	Active oil wells were observed on the properties to the west and northwest of the adjoining railroad easement.

5.8.3 Pits, Ponds or Lagoons on Adjoining Properties

As viewed from the Property and/or from public rights-of-way, Stantec made the following observations about the presence of pits, ponds and lagoons on adjoining properties:

NORTH	None observed.
SOUTH	None observed.
EAST	None observed.
WEST	None observed.

5.9 OBSERVED PHYSICAL SETTING

Topography of the Property and Surrounding Area:	The Property and surrounding area slopes gently to the south with approximately 5 feet of relief from the north end to the south end.

6.0 INTERVIEWS

Stantec conducted interviews with the following individuals:

Name and contact information	Relationship to Property	Key findings:
Greg Bennett, (714) 673-0398	Seller representative	Mr. Bennett has been familiar with the Property for approximately 35 years. He indicated that during that time he has not be onsite on a daily basis but has intermittently made visits. Mr. Bennett indicated that the Property has mostly been operated as a multi-tenant automotive wrecking/dismantling yard and that a vehicle crusher was located in the south-central portion of the Property prior to its relocation in the southwest portion. During the time period the crusher was located in the south-central portion of the Property he indicated that vehicle batteries were not always removed prior to crushing the vehicles which may have contributed to the metals impacts detected in shallow soils during previous environmental investigations at the Property (refer to Section 4.4.6). He also indicated that the previous environmental investigations included soil sampling for TPH and soil vapor sampling for VOCs across the Property and that the results reported no significant concentrations of TPH of VOCs in the respective physical media sampled. To Mr. Bennett's recollection there have been no large scale releases on the Property. However, he did indicate that from time to time during his visits he has witnessed the tenants "not following the rules", meaning that some improper housekeeping practices or minimal discharges to the ground surface were observed. Mr. Bennett indicated that he is not aware of any subsurface structures such as USTs, oil-water separators, sumps, lifts, septic systems, or floor drains at the Property. He also indicated that he is not aware of any environmental issues in the surrounding area other than those possibly related to oil production activities.

7.0 EVALUATION

This section provides a summary overview of or Findings, Opinions, and Conclusions.

7.1 FINDINGS FROM INTERVIEWS WITH PROPERTY NEIGHBOERS

No interview with property neighbors were conducted as part of this assessment.

7.2 FINDINGS AND OPTIONS

Information gathered from interviews, reviews of existing data, and a property inspection was evaluated to determine if RECs are present in connection with the Property. Based on this information, Stantec made the following findings and developed the following opinions.

Finding 1: The Property is currently used as an automotive salvage yard. Multiple rounds of assessment were performed at the Property in 2014 by TRG and identified lead, TPHo, and cadmium impacts to soil throughout the Property.

Oil range TPH was identified in the vicinity of the former car-crusher in the central portion of the Property in historical boring B2 at 11,958 mg/kg by the TRG. The five-foot soil sample collected at this location reported non-detected levels of TPHo. This concentration exceeds current residential screening levels. The five-foot soil sample collected from this location reported "non-detect" for TPHo. However, no lateral definition was performed in this area. Stantec recommends performing additional soil sampling in this area to accurately quantity the extent of TPHo impact in this area.

An area of the Property has been identified by TRG as being impacted with lead up to a maximum concentration of 406 mg/kg at boring B22. The detected concentration of lead at this location, and many other sample locations, depicted in the TRG reports exceed the DTSC HERO Note 3 residential screening level of 80 mg/kg. TRG provided a map indicating the area of impact on the property where lead exceeded the 80 mg/kg.

A waste disposal analyses (i.e. leaching potential) was performed on only two samples to evaluate whether soluble lead concentrations exceed state or federal hazardous waste levels and the collected data was inconsistent. The results of that analysis were confusing and indicted the two samples did not exceed the California hazardous waste levels based on the soluble concentrations of lead, but exceed the federal hazardous waste levels. This result is a typical and Stantec would recommend collecting additional samples for analysis to determine a waste profile.

Elevated levels of cadmium have been identified at four surface locations throughout the Property up to a maximum concentration of 12.0 mg/kg. These locations (B17, B19, B23, and B25) exceed the maximum naturally occurring concentrations of 1.7 mg/kg, but only surface soils at B17 and B19 exceed the DTSC HERO Note 3 residential screening level of 5.2 mg/kg. No vertical or lateral definition of the cadmium impacts to surface soils has been performed to date. Additionally, no hazardous waste analyses were performed on the collected samples.

Arsenic was identified in multiple locations at concentrations exceeding the screening levels for residential soils. However, upon review, the reported arsenic concentrations are within naturally occurring background levels.

Soil vapor samples at the Property have reported PCE in soil vapor below residential screening criteria at a single location. Other VOCs were reported at trace concentrations.

Opinion 1: Based on the TRG data the extent of lead impact does not appear to be deeper than 1.5 feet below ground surface. No soil samples have been collected from 0.5 to 1.5 feet to accurately determine the total volume of lead impacted soils. Stantec would recommend collecting additional soil samples to verify the depth of impact and confirm the lateral limits depicted by TRG Additionally, additional samples should be collected and analyzed for waste profiling purposes to verify if it is a California or Federal hazardous waste.

No lateral definition TPHo impact has been performed in the area of B2. Stantec recommends performing additional soil sampling in this area to accurately quantity the extent of TPHo impact in this area.

No vertical or lateral definition of the cadmium impacts to surface soils at historical boring locations B17 and B19 have been performed to date. Additionally, no hazardous waste analyses were performed on the collected samples. Stantec recommends performing additional soil sampling in this area to accurately quantity the extent of TPHo impact in this area.

Although a substantial soil vapor survey was performed on the Property to assess the presence of VOCs in soil vapor, this data was collected in 2014. Automotive salvage operations have continued at the Property since these data were collected in 2014. Therefore, Stantec recommends assessing for VOCs in soil vapor to confirm no VOCs have been introduced since the previous soil vapor survey was performed on the Property.

Finding 2: An idle oil and gas well identified as Richfield East Dome Unit (REDU) "Z19" operated by Greka Oil & Gas Inc. is located in the northeastern portion of the

Property. The API number for REDU Z19 is listed as 05900379. According to records located on the DOGGR online database, this well produced approximately 802 barrels of oil in 1977, and 120 barrels of oil in 1993. No production information is available for the well prior to 1977. Soil and soil vapor assessment have been performed in the area of this "Z19" oil well. Soil assessment data has detected trace amounts of TPHg, and no VOCs in soil vapor. No soil VOC data has been collected in this area to date. Additionally, no methane data was collected from the single soil vapor probe installed in this area.

Opinion 2: Oil production is known to generate methane. No methane data was collected from soil vapor. Stantec recommends assessing for the presence of methane in the vicinity of the idle oil and gas well.

Finding 3: An area of disturbed land is observable in the central portion of the Property in historical aerial photographs from 1938 through the 1950's, and is no longer visible in the 1963 aerial photograph. The location and time period of the disturbed area coincides with the location of the onsite abandoned oil well plotted on DOGGR maps and the drilling dates indicated in DOGGR records. The API number for Mondotte 2 is listed as 05900380. According to the well file available on the DOGGR online database, Mondotte "2" was drilled in 1929 to a depth of 4,483 feet. The well last produced in July of 1950 at which time it was producing one barrel of oil per day. Mondotte "2" was abandoned in December of 1959 with three cement plugs. The surface casing of the well, which is reported to be 13-inches in diameter, was cut off 6 feet below ground surface.

In 2014 two soil borings (B9 and B10) and a single soil vapor boring (SV23) were advanced in the presumed location of the Mondotte "2" oil well by the previous consultant. Collected soil samples were analyzed for TPH and metals, and the collected soil vapor sample was analyzed for VOCs. All detected metals were reported within naturally occurring background concentrations or below current residential screening levels. The surface sample collected from B10 detected TPHo at 86 mg/kg. This concentration is below the current residential screening level. No VOCs were detected in the soil vapor sample collected in this area (i.e. results were "non-detect").

Opinion 3: According to historical assessment reports for the Property, no attempt has been made to confirm the physical location of the Mondotte 2 oil well in the central portion of the Property. Therefore, Stantec recommends performing a geophysical survey to attempt to locate the Mondotte 2 oil well. Additionally, it is recommended that any anomalies identified by the geophysical survey be exposed via excavation to visually confirm the well location. Furthermore, once the well casing is exposed, Stantec recommends the well casing be surveyed. This

survey data will be critical in incorporating oil well setback requirements, mandated by local building and safety, into the proposed development layout.

The assessment activities in relation to this well have been placed in the "presumed location" of the oil well. It is known that the DOGGR online database can miss-locate wells by up to 300 feet from their physical location. Therefore, the assessment borings for the Mondotte 2 oil well may have been misplaced. Once the well is physically located, Stantec recommends performing soil and soil vapor assessment activities in the corrected location of the well.

Soil vapor collected in the area of the Mondotte 2 well was analyzed for VOCs only. Oil production is known to generate methane. No methane data was collected from soil vapor. Stantec recommends assessing for the presence of methane in soil vapor near the Mondotte 2 oil and gas well.

Finding 4: Two potential undocumented oil wells are observable north of the presumed Property boundary from 1946 until 1972. No listings or records exist for these oil wells on the online DOGGR database. Well casings and associated concrete foundations for these wells were identified during Stantec's site reconnaissance. These features are located approximately 15 feet north of the current northern fence line on the Property.

Opinion 4: Due to the lack of listings for these wells on the online DOGGR database, it is difficult to research records for these wells. Stantec recommends surveying the location of the well casings in relation to the actual northern Property boundary. Once this survey data is collected, it can be determined if these wells are actually located on the Property. Once that determination is made, appropriate engagement with DOGGR and local regulatory agencies can be made to determine the appropriate course of action (i.e. abandonment and/or setback requirements).

Finding 5: Two aboveground storage tanks (ASTs) are observable in the southwestern portion of the Property from 1963 until 1985 on historic aerial photographs. It is unclear if these ASTs are within the Property boundaries. According to historical assessment reports for the Property, a single soil boring (B12) and a single soil vapor boring (SV40) are located east of these historical features. Soil samples collected from B12 detected no TPH, and all detected metals are within naturally occurring background concentrations and below residential regulatory screening levels. Soil vapor collected from SV40 detected no VOCs (i.e. results were "non-detect"). However, these assessment borings appear to be located east of the historical ASTs placement. Additionally, during Stantec's site reconnaissance, an oil valve was identified in this area, located within the Property boundary.

Opinion 5: It appears that previous assessment activities were located east of the historical AST area. Additionally, soil vapor collected in this area was analyzed for VOCs only. Oil operations are known to generate methane. No methane data was collected from soil vapor. Stantec recommends assessing for the presence of methane in soil vapor near the former ASTs in the southwestern portion of the Property.

Finding 6: Oil production operations are known to exist on the Property from at least 1938 through present day. An idle oil well is located in the northeast corner of the Property, a former oil well is documented to have existed in the central portion of the Property with multiple ASTs. Additionally, multiple former ASTs are also observable in the southwestern portion of the Property, and two potential oil wells are located near the northern Property boundary.

Opinion 6: With the abundance of oil production activities occurring on the Property over several decades, the presence of unknown abandoned and active petroleum pipelines, and other below ground oil field related equipment may be present at the Property. Due to the current salvage operations covering most of the Property grounds, locating these pipelines now take a significant and costly undertaking. If redevelopment activities are to move forward, Stantec recommends performing a comprehensive site-wide geophysical survey of the Property after demolition activities have been performed to identify abandoned and active petroleum infrastructure in-place on the Property. Once these pipelines are identified, proper abandonment of these pipelines will need to be performed, with soil assessment performed below and surrounding the removed features.

Finding 7: Agricultural cultivation (an orchard) appears to have been present on the Property from at least 1938 until 1946. According to historical assessment reports for the Property, no assessment of residual pesticides in soil has been performed to-date.

Opinion 7: Residual concentrations of organochlorine pesticides are known to accumulate in soils located within agricultural activity. The historical presence of the orchard, and associates pesticides, is considered a REC. Stantec recommends performing a shallow soil assessment across the Property to determine if organochlorine pesticides are present in the Property soils at concentrations which would require remedial action.

Finding 8: According to records on file with the Orange County Health Care Agency (OCHCA), a concrete UST was removed from the 461 S. Van Buren Street address on December 19,1991. Two soil samples were collected from the bottom of the resulting excavation at approximately 5 feet below ground surface (bgs). The soil samples reported total recoverable petroleum hydrocarbons (TRPH) concentrations at a maximum of 5,200 mg/kg and low levels of tetrachloroethylene ("PCE") at 0.0057 mg/kg. Full analysis of volatile organic

compounds ("VOCs") was not performed on the two initial samples. Based on the elevated TRPH concentrations, soil was excavated from the former UST pit to a depth of 8 feet and resampled. The excavated soil was disposed at an offsite waste disposal facility under manifest. The soil sample collected at 8 feet bgs from the bottom of the UST excavation reported TRPH at 3 mg/kg, benzene at 0.016 mg/kg, and toluene at 0.017 mg/kg. No ethylbenzene, xylenes, or chlorinated hydrocarbons were detected in the final confirmation sample. OCHCA subsequently issued closure for the UST on January 6, 1993. The location of the former UST is shown on a field sketch by OCHCA. The field sketch is not drawn with any scale but is shown as having been to the northwest of the existing office building at the 461 address, roughly at the present day location of the long storage trailer shown on Figure 2.

Opinion 8: Based on the age of the sample data and advancements in laboratory analytical methods since 1992, Stantec recommends that soil and soil vapor sampling be performed at the approximate location shown on the OCHCA field sketch. It should be noted that the location evaluated will be approximate due to the absence of a scaled figure/sketch but soil and soil vapor data may be useful in evaluating whether residual hydrocarbons are present in soil vapor above human health risk criteria.

Finding 9: A "Preliminary Investigation Request" was found in the OCHCA file that was dated May 23, 1991 for the 461 S. Van Buren St address. The document indicated that an informant notified the Orange County Fire Authority of a conversation that was overheard while "on hold" which allegedly discussed a "hazmat issue at the sump and that if anyone found out about it, they would go to jail". The inspection report asks the question as to whether the sump could have been buried. The reported action taken was a very limited drive by investigation by OCHCA which concluded that the address of 461 S. Van Buren did not exist. Other records contained in the file indicate that 461 S. Van Buren Street is in fact a business address.

Opinion 9: Based on the reported sump being "hearsay", the lack of resolution in the "Preliminary Investigation Request", and lack of evidence of a sump at the Property during Stantec's reconnaissance, the presence of a sump is unknown and there likely would be no way of locating it until Property redevelopment activities occur. Additionally, the previously discussed UST file for the 461 address references the UST as a "sump". As a result, the sump mentioned in the "Preliminary Investigation Request" from file FA0024946 (see Finding/Opinion 8) may be a reference to the UST which was removed in 1991. It is recommended that a Soil Management Plan be prepared for the Site to address any unknown soil impacts or subsurface structures such as the unconfirmed sump.

Finding 10: An asphaltic soil layer appeared to cover an area roughly making up 1/3 acre in the west half of Lot 2. This asphaltic layer appears to be used oil mixed with soil which has solidified.

Opinion 10: Stantec recommends evaluating the thickness and collecting a sample of the material for TPH, metals, and PCB analysis.

Finding 11: Among a dense collection of automobile parts, a small mound of soil was observed in the western portion of 455 S. Van Buren St.

Opinion 11: Stantec recommends that this mounded area be evaluated via exploratory hand auger boring to evaluate the physical presence of buried materials in this area.

Finding 12: The Property is located in an area designated as Federal EPA Radon Zone Level 3 with a predicted average indoor screening level less than 2 pCi/L. However, according to the EDR report, nine of the sixty-three sites tested in the 92870 zip code (area of the Property) exhibited levels above 4 pCi/L. Therefore, the Property may be in an area where radon can exist at levels above U.S. EPA standards. The U.S. EPA recommends that positive ventilation and the absence of basements or subsurface parking reduces the risk of Radon accumulations and exposure.

Opinion 12: Stantec recommends that structures be designed with positive ventilation to reduce the potential for radon accumulation. If basements or subsurface parking is planned for the development, positive ventilation also needs to be incorporated into the design of those structures. Positive ventilation should address the potential radon issues at the Property based on U.S.EPA documents. No additional costs are likely to be associated with positive ventilation being incorporated into the building design.

Finding 13: Several small business office structures are located on Property that were originally constructed in the late 1970s. The painted surfaces on the outside of the structures appear to be in good conditions. However, the outside painted surfaces of these structures appear to be in poor condition.

Opinion 13: All LBP in flaking or deteriorated condition should be removed from the Property prior to activities with the potential to disturb painted surfaces, in accordance with all applicable laws

Finding 14: Several small business office structures are located on Property that were originally constructed in the late 1970s. Therefore, the presence of asbestos containing materials is considered likely.

Opinion 14: Stantec recommends that a pre-demolition survey be performed prior to building demolition to identify ACM at the Property and evaluate the need for compliance

with EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations.

7.3 DATA GAPS

The federal AAI rule [40 CFR 312.10(a)] and ASTM E1527-13 identify a "data gap" as the lack or inability to obtain information required by the standards and practices of the rule despite good faith efforts by the Environmental Professional or the User.

Any data gaps resulting from the Phase I ESA described in this report are listed and discussed below.

Gap	Discussion
Deletions or Exceptions From Scope of Work Referenced in Section 1.4:	None.
Weather-Related Restrictions To Site Reconnaissance:	None.
Facility Access Restrictions to Site Reconnaissance:	None.
Other Site Reconnaissance Restrictions:	None.
Data Gaps From Environmental Records Review:	None.
Data Gaps From Historical Records Review:	None.
Data Gaps From Interviews:	None.
Other Data Gaps:	None.

7.4 CONCLUSIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527 of 443, 449, 455 and 461 South Van Buren Street, City of Placentia, County of Orange, California, the property. Any exceptions to, or deletions from, this practice are described in the Data Gaps section of this report (Section 7.3). This assessment has revealed no evidence of recognized environmental conditions (RECs) in connection with the property except for the following:

- **Lead-Impacted Soil.** An area of the Property has been identified by TRG as being impacted with lead up to a maximum concentration of 406 mg/kg at boring B22. The detected concentration of lead at this location, and many other sample locations

depicted in the TRG reports, exceed the California Department of Toxic Substances Control (DTSC) HERO Note 3 residential screening level of 80 mg/kg. TRG provided a map indicating the area of impact on the property where lead exceeded the 80 mg/kg standard.

Waste disposal analyses (*i.e.*, leaching potential) were performed on only two samples to evaluate whether soluble lead concentrations exceed state or federal hazardous waste levels. The collected data was inconsistent and the results of that analysis were confusing. The results indicated the two samples did not exceed the California hazardous waste levels based on the soluble concentrations of lead, but exceeded the federal hazardous waste levels (which are not as stringent as the California standards). This result is atypical and, therefore, Stantec recommends collecting additional samples for analysis to determine a waste profile. This will be necessary to project disposal costs, which are higher for California hazardous waste and much higher for federal hazardous waste (under the Resource Conservation and Recovery Act, or "RCRA").

Based on the TRG data, the extent of lead impact does not appear to be deeper than 1.5 feet below ground surface. No soil samples have been collected from 0.5 to 1.5 feet to accurately determine the total volume of lead impacted soils, however. Therefore, Stantec recommends collecting additional soil samples to verify the depth of impact and confirm the lateral limits depicted by TRG. Additionally, samples should also be collected and analyzed for waste profiling purposes to verify whether the soil is considered hazardous waste under California and/or federal law.

- **Cadmium-Impacted Soil.** Elevated levels of cadmium have been identified at two surface locations in the north-central portion of the Property, up to a maximum concentration of 12.0 mg/kg. The detected concentrations at these two locations exceed the DTSC HERO Note 3 residential screening level of 5.2 mg/kg.

  No vertical or lateral definition of the cadmium impacts to surface soils at historical boring locations B17 and B19 have been performed to date. These two locations are also impacted with lead above the residential screening levels. Additionally, no hazardous waste analyses were performed on the collected samples. Stantec recommends performing additional soil sampling in this area to accurately quantify the extent of cadmium impact in this area and the extent to which cadmium-impacted soil may be considered hazardous waste under California and/or federal law.

- **Oil-Impacted Soil.** Oil range TPH was identified in the vicinity of the former car-crusher in the central portion of the Property in historical boring B2 at 11,958 mg/kg. The five-foot soil sample collected at this location reported non-detected levels of TPHo. This concentration exceeds current residential screening levels. The five-foot soil sample collected from this location reported "non-detect" for TPHo. However, no lateral definition was performed in this area. Stantec recommends performing additional soil sampling in this area to accurately quantify the extent of TPH impact in this area and to evaluate soil for the

presence of VOCs. Additional sampling is also recommended for TPH and VOCs at the existing car crusher location (*i.e.*, 461 South Van Buren Street).

On-Site Active Oil Well. An idle oil and gasoline well identified as Richfield East Dome Unit (REDU) "Z19" operated by Greka Oil & Gas Inc. is located in the northeastern portion of the Property. The API number for REDU Z19 is listed as 05900379. According to records located on the DOGGR online database, this well produced approximately 802 barrels of oil in 1977, and 120 barrels of oil in 1993. These are the only reported years in which the well has produced oil. No other records exist on the online database for this well. Soil and soil vapor assessment have been performed in the area of this "Z19" oil well. Soil assessment data has detected trace amounts of TPHg and soil vapor data has indicated no presence of VOCs. No VOC data has been generated for soil in this area to date, however; therefore, Stantec recommends that soil be sampled and analyzed for VOCs.

Additionally, Stantec recommends that the well be surveyed so that the appropriate oil well setback requirements mandated by local building and safety can be fulfilled in development plans and verified by DOGGR during the Construction Site Review process. If the Z19 well from the existing operator so that the well location can become useable space in the proposed development (i.e. driveway or park) the well would need to be abandoned under appropriate permitting in accordance with the current standard set forth by DOGGR.

- **Historical On-Site Oil Well.** An oil and gasoline well is observable in the central portion of the Property in historical aerial photographs from 1938 through the 1950s, and is no longer visible in the 1963 aerial photograph. According to the online DOGGR database, this well is designated as "plugged and abandoned" and identified as "Mondotte 2", formerly operated by The Superior Oil Company. The API number for Mondotte 2 is listed as 05900380. No other information is listed on the DOGGR online database for this well. The User provided records for this well, but the records were limited and incomplete. According to these records, multiple cement plugs were created within the well casing at various depths. A wood plug exists in the well casing at 18', and the well is documented to have been plugged with cement to 5' below ground surface and capped with a steel plate.

  Two soil borings (B9 and B10) and a single soil vapor boring (SV23) were advanced in the presumed location of the oil well. Collected soil samples were analyzed for TPH and metals, and the collected soil vapor sample was analyzed for VOCs. All detected metals were reported within naturally occurring background concentrations or below current residential screening levels. The surface sample collected from B10 detected TPHo at 86 mg/kg. This concentration is <u>below</u> the current residential screening level. No VOCs were detected in the soil vapor sample collected in this area (*i.e.*, the results were "non-detect").

  According to historical assessment reports for the Property, no attempts were previously made to physically locate the Mondotte 2 oil well in the central portion of the Property.

Stantec recommends that the well be located by geophysical methods. Once located, it is recommended the well be uncovered so the casing can be surveyed and its location can be confirmed – so that the appropriate oil well setback requirements mandated by local building and safety can be fulfilled in development plans and verified by DOGGR during the Construction Site Review process. Given that the well was originally abandoned in 1959, it is highly likely that DOGGR will require that the Mondotte 2 well be re-abandoned to their current standard.

In addition, Stantec recommends performing soil and soil vapor assessment activities in the confirmed location of the well. Soil vapor sampling at the location of the well should also include a field evaluation for the presence of methane and VOCs.

- **Historical Off-Site Oil Wells.** Stantec's review of historic aerial photographs, identified two features resembling oil derricks along the north Property boundary from 1946 until 1972. The presence of oil derricks indicates that wells were drilled at these locations However, no listings or records exist for these oil wells on the online DOGGR database. Steel casings and associated concrete foundations were identified during Stantec's site reconnaissance at the two locations that appeared to match the location seen on the historic aerial photographs. These features are located approximately 15 feet north of the current northern fence line on the Property. However, the actual Property line is unknown. Therefore, Stantec recommends that the property line and the well locations be surveyed to confirm if the wells are on or off of the Property.

  Due to the lack of listings for these wells on the online DOGGR database, it is difficult to research records for these wells. Therefore, Stantec also recommends that if the wells are located on the Property, DOGGR and local regulatory agencies should be engaged for purposes of determining the appropriate course of action (i.e. abandonment and/or setback requirements) in regard to the wells – because compliance with those requirements may be costly.

- **Historical Above Ground Storage Tanks.** Two aboveground storage tanks (ASTs) were observed in the southwestern portion of the Property on historic aerial photographs taken between 1963 and 1985. It is unclear if these ASTs were within the Property boundaries. According to historical assessment reports for the Property, a single soil boring (B12) and a single soil vapor boring (SV40) are located east of these historical features. Soil samples collected from B12 detected no TPH, and all detected metals were shown to be within naturally-occurring background concentrations and below residential regulatory screening levels. Soil vapor collected from SV40 detected no VOCs (*i.e.*, the results were "non-detect"). However, these assessment borings appear to be located east of the location where the ASTs appear on the historical aerial photographs. Additionally, during Stantec's site reconnaissance, an oil valve was identified in this area, located within the Property boundary.

It appears that previous assessment activities were located east of the historical AST area. Additionally, soil vapor collected in this area was analyzed for VOCs only. Oil operations are known to generate methane. Stantec recommends assessing soil at the location of the former ASTs/valve for TPH and VOCs, and in this area. In addition, due to the prevalence of methane (a non-ASTM environmental issue) in situations such as this, methane analysis should be performed along with the TPH and VOCs analysis.

- **Site-Wide Soil Vapor.** Soil vapor samples at the Property have reported PCE in soil vapor below residential screening criteria at a single location. Other VOCs were reported at trace concentrations.

  Although a substantial soil vapor survey was performed on the Property to assess the presence of VOCs in soil vapor, this data was collected in 2014 – and automobile salvage operations have continued at the Property since these data were collected in 2014. Therefore, Stantec recommends assessing for VOCs in soil vapor to confirm no VOCs have been introduced since the previous soil vapor survey was performed on the Property.

- **Historical Agricultural Use.** Agricultural cultivation (an orchard) appears to have been present on the Property from at least 1938 until 1946. Residual concentrations of organochlorine pesticides are known to accumulate in soils and persist for years when used during agricultural operations. According to historical assessment reports for the Property, no assessment of pesticides in soil has been performed to-date.

  The historical presence of the orchard is considered a REC. Stantec recommends performing a shallow soil assessment across the Property to determine if organochlorine pesticides are present in the Property soils at concentrations which would require remedial action.

- **Former UST.** According to records on file with the Orange County Health Care Agency (OCHCA), a concrete UST was removed from the 461 S. Van Buren Street address on December 19,1991. Two soil samples were collected from the bottom of the resulting excavation at approximately 5 feet below ground surface (bgs). The soil samples reported total recoverable petroleum hydrocarbons (TRPH) concentrations at a maximum of 5,200 mg/kg and low levels of tetrachloroethylene ("PCE") at 0.0057 mg/kg. Full analysis of volatile organic compounds ("VOCs") was not performed on the two initial soil samples, however.

  Based on the elevated TRPH concentrations, soil was excavated from the former UST pit to a depth of 8 feet and resampled. The excavated soil was disposed at an offsite waste disposal facility under manifest. The soil sample collected at 8 feet bgs from the bottom of the UST excavation reported TRPH at 3 mg/kg, benzene at 0.016 mg/kg, and toluene at 0.017 mg/kg. No ethylbenzene, xylenes, or chlorinated hydrocarbons were detected in the final confirmation sample. OCHCA subsequently issued closure for the UST on January

6, 1993. The location of the former UST is shown on a field sketch by OCHCA. The field sketch is not drawn with any scale but is shown as having been to the northwest of the existing office building at the 461 address, roughly at the present day location of the long storage trailer shown on Figure 2.

Based on the age of the sample data and advancements in laboratory analytical methods since 1992, Stantec recommends that soil and soil vapor sampling be performed at the approximate location shown on the OCHCA field sketch. It should be noted that the location evaluated will be approximate due to the absence of a scaled figure/sketch but soil and soil vapor data may be useful in evaluating whether residual hydrocarbons are present in soil vapor above human health risk criteria.

- **Asphaltic Soil.** An asphaltic soil layer appeared to cover an area roughly making up 1/3 acre in the west half of Lot 2. This asphaltic layer appears to be used oil mixed with soil which has solidified. Stantec recommends evaluating the thickness and collecting a sample of the material for TPH analysis.

- **Mounded soil.** Among a dense collection of automobile parts, a small mound of soil was observed in the western portion of 455 S. Van Buren St. Stantec recommends that this mounded area be evaluated *via* exploratory hand auger boring to evaluate the physical presence of buried materials in this area.

- **Adjacent Railroad Easement.** A railroad easement has been located along the northern Property boundary since the late 1800s. The previous Phase II ESA prepared by The Reynolds Group (TRG) in 2014 included the collection of shallow soil samples for lead near the northern Property boundary. However, the sampling did not include additional metals such as arsenic. The presence of the adjacent railroad easement is considered an REC in the absence of a complete Title 22 metals evaluation. Stantec recommends that additional shallow soil sampling for metals be performed near the northern Property boundary.

In addition, Stantec has identified the following non-ASTM environmental issue associated with the Property:

- **Methane.** Oil production is known to generate methane. No methane data has been collected from soil vapor. Stantec recommends collecting methane samples for analysis at the Z19 well, Mondotte 2 well (once located), near the northern boundary where the two potential oil wells are located, former AST location, along the Property boundary closest to offsite oil wells in the area, and at general locations throughout the Property. It should be noted that the sampling is for screening purposes and that a complete survey under Orange County Fire Authority oversight would be required prior to redevelopment.

In addition, Stantec has identified the following issue related to Property redevelopment:

- **Site-Wide Petroleum Operations.** Oil production operations are known to have been performed on the Property from at least 1938 through the present day. An idle oil well is located in the northeast corner of the Property, and a former oil well is documented to have been present in the central portion of the Property – with multiple ASTs. Additionally, multiple former ASTs are also observable in the southwestern portion of the Property, and two potential oil wells are located near the northern Property boundary.

  With the abundance of oil production activities occurring on the Property over several decades, the presence of unknown abandoned and active petroleum pipelines, and other below-ground oil field related equipment, may be present at the Property. Due to the current salvage operations covering most of the Property grounds, locating these pipelines now would be a significant and costly undertaking. If redevelopment activities are to move forward, Stantec recommends performing a comprehensive site-wide geophysical survey of the Property after removal of the site obstructions to identify if abandoned and/or active petroleum infrastructure in-place on the Property. Once these pipelines are identified, proper abandonment of these pipelines will need to be performed, with soil assessment performed below and surrounding the removed features.

8.0 NON-SCOPE CONSIDERATIONS

The scope of work completed was limited solely to those items in the ASTM E1527-13 standard. No ASTM E1527-13 non-scope services were performed as part of this Phase I ESA.

8.1 LEAD-BASED PAINT

Concern for lead-based paint (LBP) is primarily related to residential structures. The EPA's Final Rule on Disclosure of Lead-Based Paint in Housing (40 CFR Part 745) defines LBP as paint or other surface coatings that contain lead equal to or in excess of 1.0 milligram per square centimeter or 0.5 percent by weight.

The risk of lead toxicity in LBP varies based upon the condition of the paint and the year of its application. The U.S. Department of Housing and Urban Development (HUD) has identified the following risk factors:

The age of the dwelling as follows: maximum risk is from paint applied before 1950.

There is severe risk from paint applied before 1960.

There is moderate risk from deteriorated paint applied before 1970.

There is slight risk from the paint that is intact but applied before 1977.

The condition of the painted surfaces.

The presence of children and certain types of households in the building.

Previously reported cases of lead poisoning in the building or area.

Construction Date	Residential (Yes/No)	Observed Condition of Painted Surfaces
Variable	No	Several small business office structures are located on Property. The painted surfaces on the outside of the structures appear to be in good conditions. However, the outside painted surfaces of these structures appear to be in poor condition. All LBP should be removed from the Property prior to activities with the potential to disturb painted surfaces, in accordance with all applicable laws.

8.2 ASBESTOS

Asbestos can be found in many applications, including sprayed-on or blanket-type insulation, pipe wraps, mastics, floor and ceiling tiles, wallboard, mortar, roofing materials, and a variety of other materials commonly used in construction. The greatest asbestos-related human health risks are associated with friable asbestos, which is ACM that can be reduced to powder by hand pressure. Friable asbestos can become airborne and be inhaled, and has been associated with specific types of respiratory disease. The manufacturing and use of asbestos in most building products was curtailed during the late 1970s.

Stantec makes no warranty as to the possible existence or absence of inaccessible materials or to their evaluation with respect to asbestos content. Samples of suspect ACM should be collected for laboratory analysis of asbestos prior to any renovation or building demolition, in order to determine the need for compliance with EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations.

8.3 RADON

Radon is a colorless, tasteless radioactive gas with an EPA-specified action level of 4.0 picoCuries per liter of air (pCi/L) for residential properties. Radon gas has a very short half-life of 3.8 days. The health risk potential of radon is primarily associated with its rate of accumulation within confined areas near or in the ground, such as basements, where vapors can readily transfer to indoor air from the ground through foundation cracks or other pathways. Large, adequately ventilated rooms generally present limited risk for radon exposure. The radon concentrations in buildings and homes depend on many factors, including soil types, temperature, barometric pressure, and building construction (EPA, 1993).

The Property is located in an area designated as Federal EPA Radon Zone Level 3 with a predicted average indoor screening level less than 2 pCi/L. However, according to the EDR report, nine of the sixty-three sites tested in the 92870 zip code (area of the Property) exhibited levels above 4 pCi/L. Therefore, the Property may be in an area where radon can exist at levels above U.S. EPA standards. The U.S. EPA recommends that positive ventilation and the absence of basements or subsurface parking reduces the risk of Radon accumulations and exposure.

Therefore, Stantec recommends that structures be designed with positive ventilation to reduce the potential for radon accumulation. If basements or subsurface parking is planned for the development, positive ventilation also needs to be incorporated into the design of those structures. Positive ventilation should address the potential radon issues at the Property based on U.S.EPA documents. No additional costs are likely to be associated with positive ventilation being incorporated into the building design.

8.4 FLOOD ZONES

According to the Physical Setting summary portion of the EDR report, the Property is located within a 500-year flood plain. The nearest Surface Water is Atwood Channel located adjacent to the south.

PHASE II ENVIRONMENTAL SITE ASSESSMENT

443, 449, 455 and 461 South Van Buren Street,
Placentia, California
Stantec Project No: 185803982

Prepared for:
Olson Urban Housing, LLC
3010 Old Ranch Parkway,
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25864-F Business Center Drive
Redlands, California

August 30, 2017

Sign-off Sheet

This PHASE II ENVIRONMENTAL SITE ASSESSMENT was prepared by Stantec Consulting Services Inc. for The Olson Company and Olson Urban Housing, LLC, and its/their subsidiaries and affiliates. The material in it reflects Stantec's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec Consulting Services Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Prepared by  (signature)

Dion Monge, Associate Scientist

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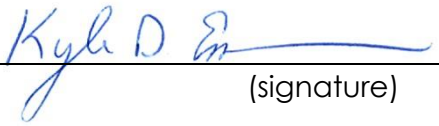
Approved by  (signature)

Kyle Emerson, Managing Principal Geologist, C.E.G. 1271

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EXECUTIVE SUMMARY

The subject property consists of approximately 5.92 acres of land currently used as an automotive wrecking and storage yard at 443, 449, 455, and 461 South Van Buren Street, Placentia, California (the "Property").

The Property is presently divided into four lots operated by separate businesses – addressed as 443, 449, 455, and 461 South Van Buren Street. An active railroad line is located along the northern Property boundary, and a drainage channel is located along the southern boundary. Multiple residences are located along the eastern Property boundary along South Van Buren Street.

Historical Uses

Based on a review of historical documentation, the Property was used for agricultural purposes, as an orchard, from at least 1938 until 1946. Oil production operations are known to have occurred on the Property since at least 1929. Division of Oil, Gas, and Geothermal Resources (DOGGR) maps and files indicate that there are two oil wells on site – one that was abandoned in 1959 and one that is an idle well that still has pumping equipment mounted over it. The idle oil well is located in the northeast corner of the Property and the abandoned oil well is documented on DOGGR maps to have existed in the central portion of the Property and was accompanied by multiple aboveground storage tanks (ASTs).

Additionally, historic aerial photographs depict multiple former above-ground storage tanks ("ASTs") were present in the west/southwestern portion of the Property, and two potential undocumented oil wells are located near the northern Property boundary. To date, it has not been confirmed whether these two potential oil wells are located within or outside of the boundaries of the Property. Therefore, a Property boundary survey has reportedly been requested from the Property civil engineer – in order to make that determination.

Since the 1970s, the Property has been operated by several automobile wrecking/dismantling businesses. According to Orange County Health Care Agency (OCHCA) records, hazardous materials used or stored as part of operations included used/waste oil, anti-freeze/coolant, and limited quantities of Stoddard solvent and chlorinated solvents for degreasing. Stantec observed only small quantities of waste oil and coolant stored in drums during the Property reconnaissance but observed no significant staining was noted in these areas. Historically, OCHCA records indicate that a 466-gallon concrete used oil underground storage tank ("UST") was historically present at the 461 S. Van Buren Street address. The UST was removed in 1992 and issued closure in 1993.

Stantec completed a Phase I Environmental Site Assessment (ESA) on the Property and submitted a report of findings dated August 15, 2017. The Phase I ESA identified multiple Recognized

Environmental Conditions (RECs) related to current and historical uses of the Property and adjacent properties, and further assessment was recommended.

To address the identified RECs, Stantec completed a Phase II ESA (*i.e.*, subsurface investigation) between August 10, 2017, and August 14, 2017. The RECs assessed, and the results of the Phase II Environmental Site Assessment are described in the table below:

Issue of Concern / Location	Contaminants of Concern	Media Sampled	Summary of Results	Recommendations
Heavy Metals-impacted soil / Site wide shallow soil	Primarily lead	Soil	Analytical results reported no cadmium concentrations above the residential threshold. Lead was detected above the residential threshold of 80 mg/kg to a depth of 6-inches over an approximately 3.75-acre area. One location (SB-5) reported deeper lead impacts to approximately1 feet bgs. Soluble lead analysis of several samples indicated a waste classification of *non-RCRA* California hazardous.	Excavate and dispose of lead-impacted soil that is above residential thresholds under agency oversight. Remedial action in the form of excavation and off-site disposal under agency oversight would be necessary as a condition to obtaining a no further action letter (*i.e.*, an "NFA Letter). Based on the soil data, excavation of the lead impacted soil to a depth of at least 6-inches, or deeper in select areas, will be necessary. Stantec estimates that the quantity of lead impacted soil that will require excavation and offsite disposal amounts to **approximately 4,600 cubic yards** (6,900 tons).
Adjacent Railroad easement / northern boundary	Heavy Metals	Soil	Lead was detected above the residential threshold of 80 mg/kg in two borings along the northern Property boundary. The detected lead concentrations appear	No further recommendation.

Issue of Concern / Location	Contaminants of Concern	Media Sampled	Summary of Results	Recommendations
			to be associated with the onsite lead impacts from automotive salvage activities as previous samples collected closer to the railroad (beyond the Property fence line) reported lead below residential thresholds. Arsenic (typically used as an herbicide along railroads) was detected within naturally occurring background concentrations. No other metals were detected above regulatory thresholds. Based on this data and prior assessment data collected in 2014, Stantec concludes the adjoining railroad is not a REC.	
Oil impacted soil / former and existing car crusher	TPH and VOCs	Soil and soil vapor	Soil samples collected at the existing car crusher location (SB-3) reported TPH concentrations below regulatory thresholds and non-detect concentrations of VOCs in near surface soils. Step-out borings (SB-11 and SB-13) advanced laterally away from the oil impacted soil at former car crusher location (TRG boring B2)	No further assessment is recommended at the existing car crusher. With regard to the former car crusher, the TPH impact above RSLs appears to be shallow (less than 5 feet bgs) based on the TRG boring data. However, the lateral distribution of TPH at this location is not defined, particularly given new information provided to The Olson Company during a community meeting after

Issue of Concern / Location	Contaminants of Concern	Media Sampled	Summary of Results	Recommendations
			identified during the previous 2014 Phase II assessment were below residential RSLs for TPH and VOCs. The sample collected at 1 foot bgs at SB-12 only slightly exceeded the RSL value for TPHd. Soil vapor samples collected and the former and existing car crusher were below laboratory reporting limits (*i.e.*, the results were "non-detect") for TPHg and VOCs.	Stantec had conducted the Phase II ESA. The new information was provided by a former employee of one of the site businesses. The employee stated that he was familiar with historical Property operations between 1994 and 1997. The new information provided indicates that impacts may surround the concrete slab at the former car crusher. Therefore, an additional Phase II ESA is recommended around the concrete slab where the former car crusher was located to evaluate this new information provided to Stantec, as discussed in the "Conclusions and Recommendations" heading.
Onsite idle oil well ("Z19") / northeast corner of Property	TPH and VOCs	Soil and soil vapor	Soil samples collected at the Z19 oil well reported TPH concentrations below regulatory thresholds and non-detect concentrations of VOCs. Soil vapor samples collected near the Z19 oil well were below laboratory reporting limits (*i.e.*, the result were "non-detect") for TPHg and VOCs.	Stantec recommends no further investigation based on the assessment data from this investigation. However, new information was provided by the former employee (referenced above) to Stantec after the Phase II ESA was performed. The former employee stated he was familiar with historical Property operations between 1994 and 1997 and knew the longtime owner of the residence adjacent to the

Issue of Concern / Location	Contaminants of Concern	Media Sampled	Summary of Results	Recommendations
				Z19 well. The information mentioned by that owner in a community meeting suggests that an oil sump from drilling activities of the Z19 well is located to the west of the well. Therefore, Stantec recommends additional assessment in the area to the west of the well, as discussed under the "Conclusions and Recommendations" heading. The well's location was surveyed by C&V Consulting. It is recommended that its location be stated in future Site plans and submitted to DOGGR during the Construction Site Review Plan process to confirm that all applicable setbacks from wells are fulfilled.
Historical onsite oil well Mondotte"2" / central portion of Property	TPH and VOCs	Soil and soil vapor	The soil sample collected from stained soil (4 feet bgs) adjacent to the Mondotte 2 well reported TPHg at 160 mg/kg, TPHd at 84,000 mg/kg, and TPHo at 110,000 mg/kg. TPH concentrations in this sample exceed the residential RSLs. Additional "observation" step out hand auger borings	No further assessment is recommended with regard to soil vapor at this location. With regard to soil, Stantec recommends that the estimated 10 cubic yards of TPH impacted soil near Mondotte 2 well be excavated and disposed. Lastly, the Mondotte 2 oil well was located and visually confirmed *via* geophysical survey and excavation. The well's location was surveyed by

Issue of Concern / Location	Contaminants of Concern	Media Sampled	Summary of Results	Recommendations
			were performed at the time of the assessment to visually evaluate the extent of impact. The extent of the impact appeared localized to an approximate 10 foot by 10 foot area for a thickness of 2 feet (less than 10 cubic yards). Soil vapor samples collected near the Mondotte 2 oil well were below laboratory reporting limits (*i.e.*, the result were "non-detect") for TPHg and VOCs.	C&V Consulting and appears to be roughly 40 to 50 feet west of where it was plotted on DOGGR maps. Stantec recommends that its location be stated in future Site plans and submitted to DOGGR during the Construction Site Review Plan process to confirm that all applicable setbacks from wells are fulfilled.
Potential undocumented oil wells / Near northern Property boundary (assumed off-site)	TPH and VOCs	Soil vapor	Soil vapor samples collected near the potentially undocumented oil wells near the northern boundary were below laboratory reporting limits (i.e. the result were "non-detect") for TPHg and VOCs.	No further assessment is recommended with regard to soil vapor at this location. However, recommendations regarding determination of whether the potential wells are onsite or offsite based on a Property boundary survey are provided under the "Conclusions and Recommendations" heading.
Historical above ground storage tanks / West-southwest corner of Property	TPH and VOCs	Soil and soil vapor	The soil sample analyzed in the vicinity of the former ASTs and valve reported TPHd at 85 mg/kg and TPHo at 49 mg/kg. Both of these concentrations	No further recommendation.

Issue of Concern / Location	Contaminants of Concern	Media Sampled	Summary of Results	Recommendations
			are below residential RSLs for TPH and VOCs. Soil vapor samples collected near the former ASTs at the west end of the Property were below laboratory reporting limits (i.e. the result were "non-detect") for TPHg and VOCs.	
Former UST / Historical documentation is vague as to location (i.e., eastern portion of 461 S. Van Buren, west of buildings)	TPH and VOCs	Soil and soil vapor	The soil sample analyzed near the approximate location of the former UST noted on OCHCA documents reported TPHd at 46 mg/kg and TPHo at 16 mg/kg. Both of these concentrations are below residential RSLs. Soil vapor samples collected near the approximate location of the former UST noted on OCHCA documents reported non-detect to trace concentrations of TPHg and VOCs. PCE was detected in the 5 and 15 foot samples at 0.070 and 0.030 ug/L, respectively.	Based on the soil analytical results and provided the unscaled location of the former UST is correct, the former UST does not represent at REC and no further assessment is recommended. As previously indicated in the Phase I ESA, the UST received closure from the OCHCA in 1993. It should be noted that the location of the former UST listed in OCHCA records was not drawn to scale and the boring location was positioned by Stantec in the general area where the UST was depicted. Therefore, the assessment boring may not have been in the exact location of the former UST. As a result, a Soil Management Plan (SMP) is recommended for the Property and additional costs should be allocated to address any unknown soil

Issue of Concern / Location	Contaminants of Concern	Media Sampled	Summary of Results	Recommendations
				contamination under the SMP, if encountered. No further assessment is recommended with regard to soil vapor at this location.
Asphaltic soil / Various areas of 455 and 461 S. Van Buren	TPH and VOCs	Soil	The soil sample collected and analyzed of the asphaltic soil reported TPHd at 90 mg/kg and TPHo at 270 mg/kg. Both of these concentrations are below residential RSLs for TPH and VOCs.	No further recommendation.
Mounded soil / West end of 455 S. Van Buren St	Buried materials	Visual evaluation	A hand auger evaluation revealed no evidence of buried materials at the location investigated.	No further assessment is recommended with regard to this particular location. Please note that due to the long history of use as a vehicle salvage yard and oil field, it is possible that previously-unknown buried materials may be encountered during site development activities. Therefore, Stantec recommends that a Soil Management Plan be prepared for the Property that can be followed should such unknown materials be encountered during redevelopment. Further, additional costs should be allocated to address such unknown issues under the SMP should they arise.
Fuel Tank Rack	TPH	Soil	A rack used to store removed vehicle fuel tanks was discovered	No further recommendation.

Issue of Concern / Location	Contaminants of Concern	Media Sampled	Summary of Results	Recommendations
			during the Phase II ESA activities and assessed via shallow boring (SB-34). The soil sample collected and analyzed at this location reported TPH below regulatory thresholds.	
Historic agricultural use / Site wide shallow soil	Organochlorine Pesticides, arsenic	Soil	Low concentrations of residual DDT, Chlordane, Aldrin, Dieldrin, Endrin, Endosulfan I, and Heptachlor Epoxide were detected in various soil samples. However, the detected compounds were well below regulatory thresholds (DTSC Note 3 and US EPA RSLs) for residential use. Arsenic concentrations were non-detect at most locations. Where arsenic was detected (max: 2.2. mg/kg), the concentrations were within the typical naturally occurring ranges found in California.	No further recommendation.
Site-wide, including former ASTs, USTs, and oil wells	TPH and VOCs	Soil vapor	Soil vapor samples collected in other areas across the Property were non-detect for TPHg and VOCs, except for the trace detections of PCE at the approximate location of the former UST (discussed previously).	Potential impacts to soil vapor were not found to be an REC during this investigation. However, new information was provided by a former employee to Stantec after the Phase II ESA was performed. The former

Issue of Concern / Location	Contaminants of Concern	Media Sampled	Summary of Results	Recommendations
				employee stated he was familiar with historical Property operations between 1994 and 1997. The information suggests additional areas of concern where soil vapor sampling should be performed. Therefore, additional recommendations to assess these areas are discussed in the "Conclusions and Recommendations" heading.

In addition, Stantec assessed the following non-ASTM environmental issue associated with the Property:

Issue of Concern	Location	Contaminants of Concern	Media Sampled	Summary of Results	Recommendations
Methane	Site wide (adjacent to onsite oil wells, nearby offsite oil wells, and former ASTs	Methane and hydrogen sulfide	Soil vapor	No methane or hydrogen sulfide gases were detected using a GEM 2000 Plus field meter	Prior to redevelopment a larger scale Site-wide methane survey will need to be conducted under oversight of the Orange County Fire Authority (OCFA) in accordance with their "Combustible Soil Gas Hazardous Mitigation Guideline C-03".

Conclusions and Recommendations

Based on the Phase II subsurface investigation data obtained to date, Stantec recommends the following:

- **Previously Unknown Environmental Issues.** Stantec conducted an interview with a former Site business employee on August 22, 2017. The employee was reportedly present at a City of Placentia community meeting regarding the proposed development and states that he was an employee at the Property between 1994 and 1997. The former employee indicated that, during his employment, he witnessed the illegal disposal of engine oil in the southwest corner of 461 S. Van Buren St. He further indicated that the southwest corner

was a designated area where the oil contained within vehicle engines was allowed to drain.

In addition, he stated that the area was eventually capped with concrete. The employee does not remember any cleanup of occurring in that area. He also suggested that similar activities were likely done in the western portions of the 449 and 455 addresses, but could not confirm such activities since his familiarity with the Property was mostly related to the 461 address. The former employee also mentioned that a fuel tank rack was located in the southeastern portion of the Property where gasoline would commonly drip onto the ground out of the tanks; and that the area all around the raised concrete platform where the former vehicle crusher was located would repeatedly be an area where releases of oil had pooled. This area was fully covered with vehicles and not visible to Stantec during the Property reconnaissance. Lastly, the employee indicated that the longtime occupant of the residence adjacent to the Z19 well had previously indicated that an oil sump from well drilling activities was located to the west of the well.

Recommendation: Stantec recommends performing additional soil and soil vapor sampling at the above-referenced areas for TPH and VOCs in light of the new information.

- **Lead in Soil.** Phase II analytical results reported lead concentrations in shallow soil at levels above the residential threshold of 80 mg/kg to a depth of 6-inches over an approximate 3.75 acre area. One location (SB-5) reported deeper lead impacts to approximately1 feet bgs. Soluble lead analysis of several samples indicated a waste classification of non-RCRA California hazardous. The elevated lead concentrations in shallow soil is considered an REC and excavation of the lead impacted soil to a depth of at least 6-inches, or deeper in select areas, will be necessary.

  Recommendation: Stantec recommends obtaining agency oversight for the removal of the lead impacted soil in order to obtain and NFA letter. It is estimated that the quantity of lead impacted soil that will require excavation and offsite disposal amounts to approximately 4,600 cubic yards (approximately 6,900 tons).

- **TPH-Impacted Soil.** TPH impacted soil adjacent to the Mondotte 2 oil well and former car crusher exceed residential RSLs. Stantec recommends that the estimate 10 cubic yards (approximately 15 tons) of TPH impacted soil near Mondotte 2 be excavated and disposed. The volume of TPH impacted soil at the former crusher is undetermined at this time based on additional information provided to Stantec by a former site business employee which suggests that additional TPH impacts are present in a larger area around the former crusher.

  Recommendation: As indicated previously, additional assessment is recommended around the perimeter of the raised concrete platform.

- **Oil Well Abandonment.** There are two oil wells that are known to be onsite and two potential oil wells that may also be onsite depending on the actual location of the northern

Property boundary. If the Z19 well is acquired from the existing operator so that the well location can become useable space in the proposed development (i.e. driveway or park) the well would need to be abandoned under appropriate permitting in accordance with the current standard set forth by DOGGR. Given that the Mondotte 2 oil well in the central portion of the Property was originally abandoned in 1959, it is highly likely that DOGGR will require that the Mondotte 2 well be re-abandoned to their current standard.

Recommendation: If the two potential oil wells near the Property boundary are determined to be on the Property and confirmed to be oil wells, abandonment (or re-abandonment) would be necessary since there appears to be no record of them with DOGGR.

- **Methane.** No methane or hydrogen sulfide gases were detected during the Phase II ESA for screening purposes. However, prior to redevelopment a larger scale Site-wide methane survey will need to be conducted under oversight of the Orange County Fire Authority (OCFA) in accordance with their "Combustible Soil Gas Hazardous Mitigation Guideline C-03".

  Recommendations: Prior to redevelopment, perform a site-wide methane survey under OCFA oversight. Although no methane was detected during the Phase II, at a minimum the following "Mandatory Procedures for Mitigation" will be imposed by OCFA due to the presence of oil wells on the Property and potential offsite wells near the northern Property boundary:

  - All abandoned onsite oil wells within 25 feet of any structure or within 25 feet from a continuous hardscape that covers an abandoned well will need to be vented;
  - Subslab passive venting systems will need to be installed below all proposed buildings within 25 feet of any well or within 25 feet from a continuous hardscape that covers an abandoned well.

- **Unknown Structures and/or Contamination.** The Property has a long history of oil drilling/production and automobile salvage activities, and approximately 65% of the Property is covered with stored vehicles and vehicle parts, some of which cannot easily be moved. As a result, Stantec anticipates that unknown/undocumented issues or features (including soil contamination, sumps, oil pipelines, or unregistered storage tanks) will be encountered during grading that will result in additional time and costs for assessing and remediating. However, based on the data collected to date, it does not appear that any large scale releases have occurred on the Property other than the lead impacts discussed above.

  Recommendation: As stated in the Phase I ESA, Stantec also advises that, if feasible, a comprehensive site-wide geophysical survey of the Property be performed after removal of the site obstructions to identify if abandoned and/or active infrastructure is in-place on the Property that could be avoided in connection with redevelopment activities.

In addition, Stantec recommends that a Soil Management Plan be prepared for the Property that can be followed should unknown materials or contamination be encountered during redevelopment. Further, additional costs should be allocated to address such unknown issues under the SMP should they arise.

It has been a pleasure to provide environmental consulting services for you on this project and we look forward to working with you in the future. Should there be any questions regarding the

information provided within the accompanying report, please do not hesitate to contact the undersigned at (909) 335-6116.

Respectfully submitted,
STANTEC CONSULTING SERVICES INC.

Dion Monge
Associate Scientist

Kyle D. Emerson, CEG 1271
Managing Principal Geologist

1.0 INTRODUCTION

This report documents the methodology and results of the Supplemental Phase II Environmental Site Assessment (ESA) investigation completed by Stantec Consulting Services Inc. (Stantec) for the property addressed 443, 449, 455 and 461 South Van Buren Street, within the City of Placentia, County of Orange, California (Figure 1; the "Property").

Due to the density of vehicles and vehicle parts, Stantec was unable to observe the ground surface at the Property during the Phase I ESA and Phase II ESAs. The lack of visual observations is considered a data gap. Because obstructions could not fully be removed in order to enable Stantec to observe the ground surface at the Property in its entirety, Stantec performed a Phase II subsurface investigation to sample and analyze soil and soil vapor at key areas where subsurface impacts were figured to be most likely and based on information obtained by Stantec from the seller and from historical documentation. In addition, a soil vapor survey was conducted to evaluate subsurface conditions Property wide.

The work was conducted in accordance with the Master Services Agreement between Stantec and The Olson Company (the "MSA"), based on the scope of work set forth in the Proposal for Additional Soil and Soil Vapor Sampling, approved by the SARWQCB on August 4, 2017. The scope of work and the results of the investigation are described in subsequent sections. The following subsections provide the site description and a summary of past operations.

1.1 PROPERTY DESCRIPTION AND OPERATIONS

The Property consists of approximately 5.92 acres of land currently used as an automotive wrecking and storage yard with an idle oil well located in the northeastern portion of the Property. The Property is presently divided into four lots operated by separate businesses addressed as 443, 449, 455, and 461 South Van Buren Street. An active railroad line is located along the northern Property boundary, and a drainage channel is located along the southern boundary. Multiple residences are located along the eastern Property boundary along South Van Buren Street.

1.2 PROPERTY GEOLOGY AND HYDROGEOLOGY

The Site is located in the southern portion of the Peninsular Ranges Geomorphic Province characterized by northwest-southeast trending mountains and faults. The regional surficial geology is underlain by recent alluvium described as unconsolidated stream, river channel, and alluvial fan deposits (CDMG, 1966).

The Property is located within the Coastal Plain of Orange County Groundwater Basin (Basin Number 8-1) which underlies a coastal alluvial plain in the northwestern portion of Orange County. The vicinity of the Property is underlain with Quaternary-aged alluvium deposited by the Santa Ana River from the upper Santa Ana Unit, by Carbon Creek from the Puente Hills, and by minor streams from hills bounding the area.

The Property is located within the Coastal Plain of Orange County Groundwater Basin which is bounded by consolidated rocks exposed on the north in the Puente and Chino Hills; on the east in the Santa Ana Mountains; the south in the San Joaquin Hills; the Pacific Ocean on the southwest; and by a low topographic divide approximated by the Orange County – Los Angeles County line on the northwest. The basin underlies the lower Santa Ana River watershed (DWR, Bulletin 118, February 27, 2004).

According to data on the State Water Resources Control Board online database Geotracker (www.geotracker.waterboards.ca.gov), groundwater in the vicinity of the Property is approximately 68 feet below ground surface with a southerly flow direction.

2.0 BACKGROUND INFORMATION

Based on a review of historical documentation the Property was used for agricultural purposes, as an orchard, from at least 1938 until 1946. Oil production operations are known to have occurred on the Property since at least 1929. Division of Oil, Gas, and Geothermal Resources (DOGGR) maps and files indicate that there are two oil wells on site – one that was abandoned in 1959 and one that is an idle well that still has pumping equipment mounted over it. The idle oil well is located in the northeast corner of the Property and the abandoned oil well is documented to have existed in the central portion of the Property and was accompanied by multiple aboveground storage tanks (ASTs). Additionally, historic aerial photographs depict multiple former above-ground storage tanks ("ASTs") were present in the west/southwestern portion of the Property, and two potential undocumented oil wells are located near the northern Property boundary. To date, it has not been confirmed whether these two potential oil wells are located within or outside of the boundaries of the Property. Therefore, a Property boundary survey has reportedly been requested from the Property civil engineer – in order to make that determination.

Since the 1970s, the Property has been operated by several automobile wrecking/dismantling businesses. According to Orange County Health Care Agency (OCHCA) records, hazardous materials used or stored as part of operations included used/waste oil, anti-freeze/coolant, and limited quantities of Stoddard solvent and chlorinated solvents for degreasing. Stantec observed only small quantities of waste oil and coolant stored in drums during the Property reconnaissance but observed no significant staining was noted in these areas. Historically, OCHCA records indicate that a 466-gallon concrete used oil underground storage tank ("UST") was historically present at the 461 S. Van Buren Street address. The UST was removed in 1992 and issued closure in 1993.

Previous Environmental Assessments

Multiple rounds of assessment were performed at the Property in 2014 by The Reynolds Group (TRG). Those assessments identified lead, total petroleum hydrocarbons in the oil range (TPHo), and cadmium impacts to soil throughout the Property. The data indicted to TRG that the impact was limited in depth to the upper 1.5 feet of soil. Soil vapor samples collected at the Property during the 2014 assessments reported low levels of volatile organic compounds (VOCs), including tetrachloroethylene (PCE), at one location, but below residential screening criteria. Other VOCs were reported at trace concentrations with no reported detections above the residential screening levels. No methane sampling was reportedly performed at the Property by TRG.

Stantec's Phase I ESA concluded that there were several RECs at the Property that required further assessment, including the detected lead and cadmium impacts, potential metals impacts along the adjoining railroad easement to the north, TPH/VOC impacts from automotive uses, TPH/VOC impacts from historic oil drilling/production activities and ASTs, residual pesticides from historic agricultural use, a former UST, a mounded soil area, and soil vapor impacts from recent industrial

activities occurring at the Property since the 2014 TRG Phase II ESA. A complete list of the RECs identified in the Phase I ESA is provided in the Executive Summary of this report.

The Phase II ESA scope of work to evaluate the identified RECs is discussed in Section 3.0 and analytical results of the sampling are discussed in Section 5.2.

Additional Information and Interview

Following the completion of the Phase II ESA field sampling, The Olson Company took part in a community meeting at the City of Placentia regarding the proposed development. During that meeting, The Olson Company reported to Stantec that some of the residents of the city reported their familiarity with the Property. In particular, a former site business employee provided his knowledge of the Property to the Olson Company and to Stantec in a telephone interview on August 22, 2017. He was allegedly an employee at the Property between 1994 and 1997. That former employee indicated that during his employment he witnessed illegal disposal of engine oil in the southwest corner of 461 S. Van Buren St. He indicated that it was a designated area where the oil contained within vehicle engines was allowed to drain. The employee stated that the area was eventually capped with concrete and he does not remember any cleanup of occurring in that area. He also suggested that similar activities were likely done in the western portions of the 449 and 455 addresses but could not confirm such activities since his familiarity with the Property was mostly related to the 461 address. He also mentioned that a fuel tank rack was located in the southeastern portion of the Property where gasoline would commonly drip onto the ground out of the tanks. He also mentioned that the area all around the raised concrete platform where the former vehicle crusher was located would repeatedly be the site of pooled oil. This area was fully covered with vehicles and not visible to Stantec during the Property reconnaissance. Lastly, he indicated that the longtime occupant of the residence adjacent to the Z19 well indicated that an oil sump from well drilling activities was located to the west of the well. Recommendations for further assessment in the above referenced areas are provided in the Executive Summary and in Section 6.0.

3.0 FIELD INVESTIGATION PROGRAM

3.1 SCOPE OF WORK

The scope of work consisted of the following general elements:

Task 1: Pre-Drilling Activities

Prior to the commencement of fieldwork activities Stantec made the following preparations:

- As required by law, Stantec updated the existing Underground Service Alert (USA) ticket number prior to commencement of Property drilling activities.
- In accordance with federal OSHA regulations (29 CFR, Section 1910.120), Stantec updated the existing site specific Health and Safety Plan (HASP) for the Property. All Stantec personnel and subcontractors associated with the project were required to be familiar with, and comply with, all provisions of the HASP.

Task 2: Geophysical Survey

Stantec subcontracted the services of a geophysical surveyor to perform a well locating survey in the approximate area of the abandoned Mondotte 2 oil well at the Property on August 1, 2017. The approximate location of the survey was centered around the well location on record DOGGR maps and on Stantec's review of historic aerial photographs. The area surveyed measured approximately 150 feet by 150 feet. The survey also included searching for any potential oil wells or related infrastructure along a 280 foot long by 60 foot wide segment of the northern Property line near the two potential offsite oil wells observed near the shared boundary of the railroad easement and the Property. The geophysical survey did not extend beyond the two areas stated above.

Task 3: Field Investigation

Stantec provided a field geologist/engineer to supervise and direct all onsite investigation activities. All work was conducted under the supervision of a State of California registered professional and included the activities described below:

<u>Soil Sampling</u>

Soil samples were collected from twenty-seven soil borings (SB-1 through SB-10, SB-14, SB-16 through SB-27, and SB-29 through SB-32) at depths intervals of 0 to 0.5 feet, 0.5 to 1.0, and 1.0 to 1.5 feet bgs. The soil samples were collected at these intervals for potential analysis of lead or Title 22 metals. Soil samples were collected at deeper borings at SB-1, SB-3, SB-15, SB-20, SB-28, and SB-33 at depths ranging from 1 foot bgs to 15 feet bgs for potential analysis of TPH and VOCs. The intent of these borings was to evaluate soil and/or soil vapor at specific features including the former ASTs (SB-1), existing car crusher (SB-3), former UST (SB-15), asphaltic soil (SB-20), and the two onsite oil wells (SB-28 and SB-33).

Borings SB-11 through SB-13 were advanced to the north, southwest, and southeast of TRG's former boring B2 where TPH impacts were previously reported above regulatory thresholds. Samples collected at 1 feet and 3 feet bgs at these locations.

Soil Vapor Sampling
Stantec installed soil vapor probes at depths of 5 feet and 15 feet bgs at borings SB-1, SB-15, SB-28, and SB-33 and at 5 feet bgs at borings SB-3, SB-10, SB-16, SB-20, and SB-30. The soil vapor probes were installed on August 11, 2017 and allowed to equilibrate for a period of at least 48-hours prior to collection and analysis of samples. The soil vapor samples were analyzed in a mobile laboratory on August 14, 2017, as discussed in Section 3.2.

3.2 SAMPLING PROCEDURES

Soil Sampling
Soil boring locations were hand augured within the upper five feet for utility clearance. Soil samples collected for metals analysis within the 0 to 0.5 feet, 0.5 to 1.0, and 1.0 to 1.5 feet bgs intervals were first placed in separate zip lock bags and the 6-inch sample contained therein was manually homogenized before being packed into 8 ounce glass jars. Once the five-foot depth was reached during hand auguring activities, deeper soil borings were further advanced using a Geoprobe direct push rig to the desired depth. During advancement of each boring, sampling of subsurface soils was performed using the direct push rig starting at a depth of approximately five (5) feet bgs and collecting 24-inch long by 1.25-inch inner diameter sampling cores equipped with acetate inserts through each five foot interval thereafter. At each sampling interval, the sampler was driven into undisturbed soil using a hydraulic ram on the Geoprobe rig until the appropriate amount of penetration was achieved. Upon advancement of the sampler to the desired sampling depth interval, the steel rods were extracted from the boring and the sample acetate sleeves were removed. The drilling and sampling sequence was then repeated for the entire depth of each boring.

During boring activities extending deeper than 5 feet bgs, the soil extracted from the borings were visually examined by Stantec field personnel who then classified the soils in accordance with the unified soil classification system (USCS). After classification, the soil samples were collected from the bottom portion of the acetate liner. Labeling included pertinent identification (boring number, sample depth, sample collection date, and sample collection time). The samples were then logged on a chain-of-custody (COC) form and placed in an ice-filled cooler for transport to the laboratory. Copies of the COC forms are included as Appendix A.

Soil Vapor Sampling
Temporary soil vapor sampling probes were installed at the target depths specified in Section 3.1 using a Direct Push drilling rig. The sample probe boreholes were sealed with hydrated granular bentonite clay to isolate the sample intervals from ambient air. A tracer compound placed above the surface seal was used to evaluate the integrity of the seal. The probes were allowed to equilibrate for 48 hours prior to sampling.

All samples were collected in general accordance with the methods and procedures outlined by the California Department of Toxic Substances Control (DTSC) and California Regional Water Quality Control Board (CRWQCB) *Advisory – Active Soil Gas Investigations*, dated 2015. The samples were labeled with the appropriate identification and delivered under COC to an onsite mobile laboratory for potential chemical analysis. The COC records for the samples collected from the borings are attached to the laboratory report in Appendix A.

3.3 BORING ABANDONMENT PROCEDURES

Following the completion of drilling and soil sampling, borings were abandoned by removing the sampling equipment from the borehole and subsequently backfilling with hydrated granular bentonite clay or with the soil cuttings collected from that depth interval. Concrete surfaces were patched with concrete to match the surrounding surface conditions.

4.0 LABORATORY TESTING PROGRAM

A total of one hundred-seven (107) soil samples collected during this investigation were delivered under COC (Appendix A) to Advanced Technology Laboratories (ATL) based out of Signal Hill, California. In general, the soil samples from the 0.0 to 0.5 and 0.5 to 1.0 foot bgs sampling intervals were analyzed for total lead, total cadmium, or Title 22 metals by EPA methods 6010B. A total of twelve (12) soil samples collected at the 0.0 to 0.5 foot interval from boring spaced throughout the Property were analyzed for organochlorine pesticides by EPA Method 8081A. Select soil samples were analyzed for TPH or VOCs by EPA Methods 8015 and 8260b depending on the feature assessed. The remainder of the soil samples were field screened using a photoionization detector (PID) and placed on hold pending the results of the analyzed samples.

A total of fourteen (14) soil vapor samples collected during this investigation were delivered under COC (Appendix A) to H&P Mobile Geochemistry, Inc (H&P)) and analyzed onsite in a mobile laboratory within one (1) hour of sampling. H&P is certified to perform hazardous waste testing by the State of California Department of Health Services, Environmental Laboratory Accreditation Program. All of the soil vapor samples were analyzed for TPHg and VOCs by EPA test method 8260B.

5.0 INVESTIGATION RESULTS

5.1 GEOPHYSICAL SURVEY AND OIL WELL EXCAVATION

Geophysical survey technology included the use of a G858 cesium magnetometer to locate metallic objects buried within the ground. The survey located three magnetic anomalies that appeared to give off a stronger reading than those typical expected from surface metal. One anomaly appeared to potentially be the oil well and two of the anomalies appear to be pipelines extending into the Property.

The location of the potential oil well anomaly was excavated using a backhoe after the geophysical survey was complete in order to physically confirm the presence of a well at that location. The magnetic anomaly was found to be a well casing at approximately 5 feet below the existing grade. The well appears to be the Mondotte 2 well casing based on its relatively centralized location at the Property (which is consistent with DOGGR maps and historical aerial photographs), and based on the matching casing size reported in the Mondotte 2 well file. The location of the Mondotte 2 oil well was surveyed by C&V Consulting (C&V) prior to backfill of the excavation. The potential pipelines were not excavated due to the potential for damaging the line. The potential pipelines identified by the geophysical survey, idle oil well (REDU Z19), and the potential oil well casings near the northern Property boundary were also surveyed by C&V.

5.2 FIELD OBSERVATIONS

Drilling and Sample Observations
On August 10 and 11, 2017, Stantec personnel oversaw the boring advancement and sampling of thirty-three (33) borings at the Property. Soils encountered during the investigation consisted predominately of well graded sand to the maximum explored depth of 15 feet bgs. The only variation in lithology was silty sand observed between 0 and 5 feet bgs in boring SB-1 and between 14 and 15 feet in SB-28. All soils appeared moist to the terminal boring depth.

Staining and petroleum hydrocarbon odors were observed at 4 feet bgs in boring SB-28. PID measurements reached a maximum of 10.8 parts per million by volume (ppmv) for this sample interval. No chemical odors or staining were observed in any of the other borings advanced during this assessment.

5.3 ANALYTICAL RESULTS

The laboratory test results are discussed below and summarized in the attached tables. The laboratory reports are attached as Appendix A.

Soil Samples – TPH & VOCs

Oil impacted soil / former and existing car crusher

Soil samples collected at the existing car crusher location (SB-3) reported TPH concentrations below regulatory thresholds and non-detect concentrations of VOCs in near surface soils. No further assessment is recommended at the existing car crusher.

Step-out borings (SB-11 and SB-13) advanced laterally away from the oil impacted soil at former car crusher location (TRG boring B2) identified during the previous 2014 Phase II assessment were below residential RSLs for TPH and VOCs. The sample collected at 1 foot bgs at SB-12 slightly exceeded the RSL value for TPHd.

Onsite idle oil well ("Z19")

Soil samples collected at the Z19 oil well reported TPH concentrations below regulatory thresholds and non-detect concentrations of VOCs. Soil vapor samples collected near the Z19 oil well were below laboratory reporting limits (i.e. the result were "non-detect") for TPHg and VOCs.

Abandoned onsite oil well (Mondotte"2")

The soil sample collected from stained soil (4 feet bgs) adjacent to the Mondotte 2 well reported TPHg at 160 mg/kg, TPHd at 84,000 mg/kg, and TPHo at 110,000 mg/kg. TPH concentrations in this sample exceed the residential RSLs. Additional "observation" step out hand auger borings were performed at the time of the assessment to visually evaluate the extent of impact. The extent of the impact appeared localized to an approximate 10 foot by 10 foot area for a thickness of 2 feet (less than 10 cubic yards).

Historical ASTs

The soil sample analyzed in the vicinity of the former ASTs and valve reported TPHd at 85 mg/kg and TPHo at 49 mg/kg. Both of these concentrations are below residential RSLs for TPH and VOCs.

Former UST

The soil sample analyzed near the approximate location of the former UST noted on OCHCA documents reported TPHd at 46 mg/kg and TPHo at 16 mg/kg. Both of these concentrations are below residential RSLs for TPH and VOCs.

Asphaltic soil

The soil sample collected and analyzed of the asphaltic soil reported TPHd at 90 mg/kg and TPHo at 270 mg/kg. Both of these concentrations are below residential RSLs for TPH and VOCs.

Fuel Tank Rack

A rack used to store removed vehicle fuel tanks was discovered during the Phase II ESA activities and assessed via shallow boring (SB-34). The soil sample collected and analyzed at this location reported TPH below regulatory thresholds. Stantec recommends no further investigation regarding this issue.

Soil Samples – Title 22 Metals

Metals-impacted soil

Analytical results reported no cadmium concentrations above the residential threshold. Lead was detected above the residential threshold of 80 mg/kg to a depth of 6-inches over an approximate 3.75 acre area. Within this area the concentrations ranged from 82 to 400 mg/kg. One location (SB-5) reported deeper lead impacts to approximately1 feet bgs but was below 80 mg/kg in the 1.0 to1.5 foot sample interval. Soluble lead analysis of several samples indicated a waste classification of non-RCRA California hazardous. No other metals were detected above regulatory thresholds except for arsenic which was detected within naturally occurring ranges in California.

Adjacent Railroad Easement

Lead was detected above the residential threshold of 80 mg/kg in two borings along the northern Property boundary. However, the detected lead concentrations appear to be associated with the onsite lead impacts from automotive salvage activities as previous samples collected closer to the railroad (beyond the Property fence line) reported lead below residential thresholds. Arsenic (typically used as an herbicide along railroads) was detected within naturally occurring background concentrations. No other metals were detected above regulatory thresholds.

Soil Samples – Organochlorine Pesticides

Low concentrations of residual DDT (max: 0.0319 mg/kg), Chlordane (max: 0.0434 mg/kg), Aldrin (0.0012 mg/kg), Dieldrin (max: 0.0070 mg/kg), Endrin (0.0028 mg/kg), Endosulfan I (0.0010 mg/kg), and Heptachlor Epoxide (max: 0.0040 mg/kg) were detected in various soil samples. However, the detected compounds were well below regulatory thresholds (DTSC Note 3 and US EPA RSLs) for residential use.

Soil Vapor Samples – TPHg and VOCs

Soil vapor sampling was performed across the Property and also included assessment at specific features of concern such as the former ASTs (SB-1), the existing car crusher (SB-3), the former UST (SB-15), the onsite oil wells (SB-28 and SB-33), potential offsite oil well locations (SB-16 and SB-30), and two additional areas (SB-10 and SB-20A) for added coverage across the Property.

Soil vapor samples collected at the Property were non-detect for TPHg and VOCs, except for the trace detections of PCE at the approximate location of the former UST. PCE was detected at the former UST location (boring SB-15) at a maximum of 70 µg/m^3 (5 feet bgs) and 30 µg/m^3 (15 feet bgs). The human health risk based screening level for PCE on residential sites is 480 µg/m^3.

Soil Vapor Samples - Methane

Methane readings were collected from all soil vapor probes installed at the previously referenced locations across the Property using a GEM 2000 Plus field meter. No methane or hydrogen sulfide gases were detected.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the Phase II subsurface investigation data obtained to date, Stantec recommends the following:

- **Previously Unknown Environmental Issues.** Stantec conducted an interview with a former Site business employee on August 22, 2017. The employee was reportedly present at a City of Placentia community meeting regarding the proposed development and states that he was an employee at the Property between 1994 and 1997. The former employee indicated that, during his employment, he witnessed the illegal disposal of engine oil in the southwest corner of 461 S. Van Buren St. He further indicated that the southwest corner was a designated area where the oil contained within vehicle engines was allowed to drain.

  In addition, he stated that the area was eventually capped with concrete. The employee does not remember any cleanup of occurring in that area. He also suggested that similar activities were likely done in the western portions of the 449 and 455 addresses, but could not confirm such activities since his familiarity with the Property was mostly related to the 461 address. The former employee also mentioned that a fuel tank rack was located in the southeastern portion of the Property where gasoline would commonly drip onto the ground out of the tanks; and that the area all around the raised concrete platform where the former vehicle crusher was located would repeatedly be an area where releases of oil had pooled. This area was fully covered with vehicles and not visible to Stantec during the Property reconnaissance. Lastly, the employee indicated that the longtime occupant of the residence adjacent to the Z19 well had previously indicated that an oil sump from well drilling activities was located to the west of the well.

  Recommendation: Stantec recommends performing additional soil and soil vapor sampling at the above-referenced areas for TPH and VOCs in light of the new information.

- **Lead in Soil.** Phase II analytical results reported lead concentrations in shallow soil at levels above the residential threshold of 80 mg/kg to a depth of 6-inches over an approximate 3.75 acre area. One location (SB-5) reported deeper lead impacts to approximately1 feet bgs. Soluble lead analysis of several samples indicated a waste classification of non-RCRA California hazardous. The elevated lead concentrations in shallow soil is considered an REC and excavation of the lead impacted soil to a depth of at least 6-inches, or deeper in select areas, will be necessary.

  Recommendation: Stantec recommends obtaining agency oversight for the removal of the lead impacted soil in order to obtain and NFA letter. It is estimated that the quantity of lead impacted soil that will require excavation and offsite disposal amounts to approximately 4,600 cubic yards (approximately 6,900 tons).

- **TPH-Impacted Soil.** TPH impacted soil adjacent to the Mondotte 2 oil well and former car crusher exceed residential RSLs. Stantec recommends that the estimate 10 cubic yards (approximately 15 tons) of TPH impacted soil near Mondotte 2 be excavated and disposed. The volume of TPH impacted soil at the former crusher is undetermined at this time based on additional information provided to Stantec by a former site business employee which suggests that additional TPH impacts are present in a larger area around the former crusher.

  Recommendation: As indicated previously, additional assessment is recommended around the perimeter of the raised concrete platform.

- **Oil Well Abandonment.** There are two oil wells that are known to be onsite and two potential oil wells that may also be onsite depending on the actual location of the northern Property boundary. If the Z19 well is acquired from the existing operator so that the well location can become useable space in the proposed development (i.e. driveway or park) the well would need to be abandoned under appropriate permitting in accordance with the current standard set forth by DOGGR. Given that the Mondotte 2 oil well in the central portion of the Property was originally abandoned in 1959, it is highly likely that DOGGR will require that the Mondotte 2 well be re-abandoned to their current standard.

  Recommendation: If the two potential oil wells near the Property boundary are determined to be on the Property and confirmed to be oil wells, abandonment (or re-abandonment) would be necessary since there appears to be no record of them with DOGGR.

- **Methane.** No methane or hydrogen sulfide gases were detected during the Phase II ESA for screening purposes. However, prior to redevelopment a larger scale Site-wide methane survey will need to be conducted under oversight of the Orange County Fire Authority (OCFA) in accordance with their "Combustible Soil Gas Hazardous Mitigation Guideline C-03".

  Recommendations: Prior to redevelopment, perform a site-wide methane survey under OCFA oversight. Although no methane was detected during the Phase II, at a minimum the following "Mandatory Procedures for Mitigation" will be imposed by OCFA due to the presence of oil wells on the Property and potential offsite wells near the northern Property boundary:

  - All abandoned onsite oil wells within 25 feet of any structure or within 25 feet from a continuous hardscape that covers an abandoned well will need to be vented;
  - Subslab passive venting systems will need to be installed below all proposed buildings within 25 feet of any well or within 25 feet from a continuous hardscape that covers an abandoned well.

- **Unknown Structures and/or Contamination.** The Property has a long history of oil drilling/production and automobile salvage activities, and approximately 65% of the Property is covered with stored vehicles and vehicle parts, some of which cannot easily be

moved. As a result, Stantec anticipates that unknown/undocumented issues or features (including soil contamination, sumps, oil pipelines, or unregistered storage tanks) will be encountered during grading that will result in additional time and costs for assessing and remediating. However, based on the data collected to date, it does not appear that any large scale releases have occurred on the Property other than the lead impacts discussed above.

Recommendation: As stated in the Phase I ESA, Stantec also advises that, if feasible, a comprehensive site-wide geophysical survey of the Property be performed after removal of the site obstructions to identify if abandoned and/or active infrastructure is in-place on the Property that could be avoided in connection with redevelopment activities.

In addition, Stantec recommends that a Soil Management Plan be prepared for the Property that can be followed should unknown materials or contamination be encountered during redevelopment. Further, additional costs should be allocated to address such unknown issues under the SMP should they arise.

7.0 LIMITATIONS

The conclusions presented in this report are professional opinions based on data described in this report. The opinions of this report have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location, and are subject to the following inherent limitations. 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 County and State regulations.

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

In the event of any conflict between the terms and conditions of this report and the terms and conditions of the MSA, the MSA shall control.

8.0 REFERENCES

California Department of Conservation, Division of Mines and Geology, 2000, Digital Images of Official Maps of Alquist-Priolo Earthquake Fault Zones of California, Southern Region

California Division of Mines and Geology (CDMG), Photo Revised 1978, Geologic Map of California, Santa Ana Sheet, Scale 1:250,000

California Geological Survey (CGS), 2002, California Geomorphic Provinces, Note 36.

Department of Toxic Substances Control, 2017, Human and Ecological Risk Office, Human Health Risk Assessment Note 3, June.

The Reynolds Group, Oil Well Assessment Report and DOGGR Research, 443-461 S. Van Buren St, Placentia, California, dated December 17, 2014.

The Reynolds Group, Phase II Environmental Site Assessment Shallow Soils Assessment Report, 443-461 S. Van Buren St, Placentia, California, dated December 17, 2014.

Stantec Consulting Services, Inc, 2017, Phase I Environmental Site Assessment, 443, 449, 455 and 461 South Van Buren Street, Placentia, California, dated August 15, 2017.

TABLES

Table 1
Summary of Soil Analytical Results - TPH and VOCs
443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185803982

Sample ID [1]	Location	Sampling Date	Sampling Depth [2]	Petroleum Hydrocarbons [3] EPA 8015B			VOCs [3] EPA 8260B						
				Gasoline Range Organics	Deisel Range Organics	Oil Range Organics	Benzene	Ethylbenzene	PCE	Toluene	TCE	Total Xylenes	Other VOCs
DTSC HERO Note 3 or USEPA RSL for Residential Soil [4]				NA	NA	NA	0.33	5.8	0.60	1,100	0.94	580	varies
US EPA Residential RSLs				82	96	2,500	0.011	0.7	NE	0	NE	1.75	varies
Samples													
SB-1-1.0	Former ASTs	8/10/2017	1	<1.0	**85**	**49**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<varies
SB-3-1.0	Existing car crusher	8/10/2017	1	<1.0	**79**	**110**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<varies
SB-11-1.0	Oil Impacted Soil - SW	8/10/2017	1	<1.0	<10	<10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<varies
SB-12-1.0	Oil Impacted Soil - SE	8/11/2017	1	<1.0	**170**	**87**	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<varies
SB-13-1.0	Oil Impacted Soil - N	8/10/2017	1	<1.0	**73**	**86**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<varies
SB-15-5	Approximate Former UST	8/11/2017	5	<1.0	**46**	**16**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<varies
SB-20-0.5	Asphaltic Soil	8/10/2017	0.5	<1.0	**90**	**270**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**0.031**	<varies
SB-28-4.0	Mondotte 2 Oil Well	8/11/2017	4	**160**	**84,000**	**110,000**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<varies
SB-33-15	Z19 Oil Well	8/11/2017	15	<1.0	**30**	**12**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<varies
SB-34-1.0	Vehicle fuel tank storage	8/11/2017	1	<1.0	**70**	**110**	--	--	--	--	--	--	--

NOTES:
(1) Refer to Figure 2 for sampling locations
(2) Sampling depth is reported as feet below ground surface
(3) Concentrations reported in milligrams per kilogram (mg/kg)
(4) More conservative value between USEPA RSL and DTSC HERO Note 3 for residential land use used as screening level
(5) CRWQCB Interim Site Assessment and Cleanup Guidebook, May, 1996
< - Indicates the concentration was not detected above the laboratory method reporting limit.

BOLD indicates analyte is present above the laboratory practical quantitation limit.

(a) Chromatographic pattern was inconsistent with the profile of the reference fuel standard.

Abbreviations:
DTSC HERO - Department of Toxic Substances Control, Human and Ecological Risk Office
NA - Not applicable
NE - Not established
PCE - Tetrachloroethene
PCBs - Polychlorinated Biphenyl's
TCE - Trichloroethene
TPH - Total petroleu
TPHg - TPH as Gasoli
TPHd - TPH as Diesel
TPHo - TPH as Motor
1,2,4-TMB - 1,2,4-Trimethy
VOC - Volatile Orga
USEPA RSL - United States

Table 2
Summary of Soil Analytical Results - Metals
443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185803982

Sample ID [1]	Sampling Date	Sampling Depth [2]	Metals [3]														
			EPA 6010B														EPA 7471A
			Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Soluble Lead (STLC)	Soluble Lead (TCLP)	Molybdenum	Nickel	Vanadium	Zinc	Mercury
USEPA RESIDENTIAL RSLs (mg/kg)			*31*	*0.68*	*15,000*	*160*	*71*	*120,000*	*23*	*3,100*	*400*	--	--	*390*	*1,500*	*390*	*23,000*	*23*
DTSC HERO Note 3, residential use			*NE*	*0.067*	*NE*	*15*	*5.2*	*36,000*	*NE*	*NE*	*80*	--	--	*NE*	*490*	*390*	*NE*	*1.0*
California Background Levels Range			*0.15-1.95*	*0.6-12.0 [4]*	*133-1400*	*0.25-2.7*	*0.05-1.70*	*23-1,579*	*2.7-46.9*	*9.1-96.4*	*12.4-97.1*	--	--	*5,580-73,400*	*9-509*	*75-288*	*133-236*	*0.1-0.9*
Samples																		
SB-1-0.5	8/10/2017	0.5	<2.0	<1.0	**28**	<1.0	<1.0	**7.8**	**4.0**	**5.3**	**7.7**	--	--	<1.0	**5.1**	**18**	**30**	<0.10
SB-1-1.0	8/10/2017	1.0	<2.0	<1.0	**28**	<1.0	<1.0	**8.0**	**3.6**	**5.2**	**6.8**	--	--	<1.0	**4.9**	**16**	**25**	<0.10
SB-2-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**120**	<1.0	<0.25	--	--	--	--	--
SB-2-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**8.3**	--	--	--	--	--	--	--
SB-3-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**160**	**12**	<0.25	--	--	--	--	--
SB-3-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**18**	--	--	--	--	--	--	--
SB-4-0.5	8/10/2017	0.5	<2.0	<1.0	**44**	<1.0	<1.0	**12**	**6.1**	**11**	**21**	--	--	<1.0	**9.3**	**29**	**54**	<0.10
SB-4-1.0	8/10/2017	1.0	<2.0	<1.0	**91**	<1.0	<1.0	**19**	**10**	**20**	**4.4**	--	--	<1.0	**13**	**40**	**52**	<0.10
SB-5-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**400**	**23**	**0.46**	--	--	--	--	--
SB-5-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**270**	**14**	**0.38**	--	--	--	--	--
SB-5-1.5	8/10/2017	1.5	--	--	--	--	--	--	--	--	**10**	--	--	--	--	--	--	--
SB-6-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**28**	--	--	--	--	--	--	--
SB-6-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**3.0**	--	--	--	--	--	--	--
SB-7-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**190**	**14**	<0.25	--	--	--	--	--
SB-7-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**30**	--	--	--	--	--	--	--
SB-8-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**100**	**6.3**	<0.25	--	--	--	--	--
SB-8-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**13**	--	--	--	--	--	--	--
SB-9-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**170**	**13**	<0.25	--	--	--	--	--
SB-9-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**29**	--	--	--	--	--	--	--
SB-10-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**32**	--	--	--	--	--	--	--
SB-10-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**5.2**	--	--	--	--	--	--	--
SB-14-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**25**	--	--	--	--	--	--	--
SB-14-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**68**	--	--	--	--	--	--	--
SB-16-0.5	8/11/2017	0.5	<2.0	<1.0	**37**	<1.0	<1.0	**6.0**	**3.2**	**7.2**	**10**	--	--	<1.0	**10**	**16**	**28**	<0.10
SB-16-1.0	8/11/2017	1.0	<2.0	<1.0	**28**	<1.0	<1.0	**7.0**	**3.3**	**4.8**	**6.7**	--	--	<1.0	**6.4**	**14**	**26**	<0.10
SB-17-0.5	8/10/2017	0.5	<2.0	<1.0	**52**	<1.0	<1.0	**13**	**7.0**	**15**	**79**	--	--	<1.0	**13**	**28**	**100**	<0.10
SB-17-1.0	8/10/2017	1.0	<2.0	<1.0	**52**	<1.0	<1.0	**13**	**7.2**	**11**	**37**	--	--	<1.0	**10**	**30**	**62**	<0.10
SB-18-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**24**	--	--	--	--	--	--	--
SB-18-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**11**	--	--	--	--	--	--	--
SB-19-0.5	8/10/2017	0.5	<2.0	<1.0	**63**	<1.0	<1.0	**17**	**7.4**	**14**	**160**	**11**	<0.25	<1.0	**12**	**29**	**87**	<0.10
SB-19-1.0	8/10/2017	1.0	<2.0	<1.0	**72**	<1.0	<1.0	**15**	**9.0**	**11**	**26**	--	--	<1.0	**11**	**34**	**51**	<0.10
SB-20-0.5	8/10/2017	0.5	<2.0	<1.0	**52**	<1.0	<1.0	**12**	**7.2**	**8.3**	**3.9**	--	--	<1.0	**8.6**	**30**	**41**	<0.10
SB-20-1.0	8/10/2017	1.0	<2.0	<1.0	**45**	<1.0	<1.0	**12**	**6.9**	**7.9**	**2.0**	--	--	<1.0	**8.6**	**29**	**34**	<0.10

Table 2
Summary of Soil Analytical Results - Metals
443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185803982

Sample ID [1]	Sampling Date	Sampling Depth [2]	Metals [3]														
			EPA 6010B														EPA 7471A
			Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Soluble Lead (STLC)	Soluble Lead (TCLP)	Molybdenum	Nickel	Vanadium	Zinc	Mercury
USEPA RESIDENTIAL RSLs (mg/kg)			*31*	*0.68*	*15,000*	*160*	*71*	*120,000*	*23*	*3,100*	*400*	--	--	*390*	*1,500*	*390*	*23,000*	*23*
DTSC HERO Note 3, residential use			*NE*	*0.067*	*NE*	*15*	*5.2*	*36,000*	*NE*	*NE*	*80*	--	--	*NE*	*490*	*390*	*NE*	*1.0*
California Background Levels Range			*0.15-1.95*	*0.6-12.0 [4]*	*133-1400*	*0.25-2.7*	*0.05-1.70*	*23-1,579*	*2.7-46.9*	*9.1-96.4*	*12.4-97.1*	--	--	*5,580-73,400*	*9-509*	*75-288*	*133-236*	*0.1-0.9*
Samples																		
SB-21-0.5	8/11/2017	0.5	<2.0	**1.8**	**100**	<1.0	<1.0	**14**	**5.2**	**22**	**87**	**4.7**	<0.25	**2.6**	**9.0**	**25**	**65**	<0.10
SB-21-1.0	8/11/2017	1.0	<2.0	<1.0	**33**	<1.0	<1.0	**7.1**	**4.2**	**5.8**	**13**	--	--	<1.0	**5.1**	**16**	**28**	<0.10
SB-22-0.5	8/11/2017	0.5	<2.0	<1.0	**59**	<1.0	<1.0	**8.2**	**4.2**	**13**	**82**	--	--	<1.0	**7.9**	**17**	**87**	<0.10
SB-22-1.0	8/11/2017	1.0	<2.0	<1.0	**32**	<1.0	<1.0	**7.0**	**4.3**	**5.4**	**2.5**	--	--	<1.0	**5.1**	**15**	**28**	<0.10
SB-23-0.5	8/11/2017	0.5	<2.0	**2.2**	**51**	<1.0	<1.0	**9.5**	**4.8**	**12**	**6.2**	--	--	<1.0	**14**	**26**	**35**	<0.10
SB-23-1.0	8/11/2017	1.0	<2.0	<1.0	**25**	<1.0	<1.0	**9.7**	**3.0**	**4.1**	**2.2**	--	--	<1.0	**6.3**	**12**	**18**	<0.10
SB-24-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**10**	--	--	--	--	--	--	--
SB-24-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**2.8**	--	--	--	--	--	--	--
SB-25-0.5	8/10/2017	0.5	<2.0	<1.0	**68**	<1.0	<1.0	**15**	**8.1**	**19**	**130**	**9.4**	<0.25	<1.0	**11**	**31**	**450**	<0.10
SB-25-1.0	8/10/2017	1.0	<2.0	<1.0	**65**	<1.0	<1.0	**15**	**8.9**	**9.0**	**3.6**	--	--	<1.0	**10**	**34**	**46**	<0.10
SB-26-0.5	8/10/2017	0.5	--	--	--	--	<1.0	--	--	--	**41**	--	--	--	--	--	--	--
SB-26-1.0	8/10/2017	1.0	--	--	--	--	<1.0	--	--	--	**7.9**	--	--	--	--	--	--	--
SB-27-0.5	8/10/2017	0.5	--	--	--	--	<1.0	--	--	--	**22**	--	--	--	--	--	--	--
SB-27-1.0	8/10/2017	1.0	--	--	--	--	<1.0	--	--	--	**8.6**	--	--	--	--	--	--	--
SB-28-4.0	8/11/2017	4.0	<2.0	<1.0	**49**	<1.0	<1.0	**8.4**	**4.9**	**9.9**	**21**	--	--	<1.0	**32**	**34**	**100**	<0.10
SB-29-0.5	8/11/2017	0.5	<2.0	**1.9**	**54**	<1.0	<1.0	**9.5**	**4.9**	**11**	**12**	--	--	<1.0	**14**	**26**	**44**	<0.10
SB-29-1.0	8/11/2017	1.0	<2.0	<1.0	**42**	<1.0	<1.0	**9.0**	**5.4**	**7.3**	**5.0**	--	--	<1.0	**6.6**	**20**	**33**	<0.10
SB-30-0.5	8/11/2017	0.5	<2.0	<1.0	**80**	<1.0	**1.2**	**14**	**7.1**	**23**	**90**	--	--	<1.0	**5.1**	**18**	**30**	<0.10
SB-30-1.0	8/11/2017	1.0	<2.0	<1.0	**63**	<1.0	<1.0	**14**	**7.9**	**12**	**16**	--	--	<1.0	**10**	**28**	**53**	<0.10
SB-31-0.5	8/11/2017	0.5	<2.0	<1.0	**57**	<1.0	**1.5**	**11**	**5.7**	**14**	**46**	--	--	<1.0	**8.3**	**22**	**73**	<0.10
SB-31-1.0	8/11/2017	1.0	<2.0	<1.0	**59**	<1.0	<1.0	**14**	**7.9**	**11**	**7.9**	--	--	<1.0	**10**	**29**	**53**	<0.10
SB-32-0.5	8/11/2017	0.5	<2.0	**1.7**	**53**	<1.0	<1.0	**13**	**5.6**	**13**	**120**	**7.6**	<0.25	<1.0	**8.5**	**23**	**73**	<0.10
SB-32-1.0	8/11/2017	1.0	<2.0	<1.0	**50**	<1.0	<1.0	**11**	**6.7**	**9.3**	**6.3**	--	--	<1.0	**8.2**	**24**	**40**	<0.10

NOTES:
(1) Refer to Figure 2 for sampling locations
(2) Sampling depth is reported as feet below ground surface
(3) Concentrations reported in milligrams per kilogram (mg/kg)
(4) Chernoff G., Bosan W., and Oudiz B., DTSC, Determination of a Southern California Regional Background Arsenic Concentration in Soil
< - Indicates the concentration was not detected above the laboratory method reporting limit.
* - Indicates the sample was analyzed by EPA method 6020

ABBREVIATIONS:
USEPA RSLs - United States Environmental Protection Agency Regional Screening Levels for Residential Soils- June 2015
NA - Not Analyzed
NE - Not established

Table 3
Summary of Soil Analytical Results - Organochlorine Pesticides
443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185803982

Sample ID [2]	Sample Depth (feet)	Sampling Date	Organochlorine Pesticides [1]									
			4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Chlordane[3]	Dieldrin	Endosulfan I	Endrin	Heptachlor Epoxide	Others
Regulatory Threshold for Residential Use [4]			*2.3*	*2.0*	*1.9*	*0.039*	*0.43*	*0.034*	*470*	*19*	*0.07*	*Varies*
SB-2-0.5	0.5	8/10/2017	ND<0.002	ND<0.002	**0.012**	ND<0.001	**0.0110**	**0.0021**	**0.0010**	ND<0.002	**0.0011**	<varies
SB-5-0.5	0.5	8/10/2017	ND<0.002	**0.0029**	**0.029**	ND<0.001	**0.0434**	**0.0070**	ND<0.001	**0.0028**	**0.0040**	<varies
SB-9-0.5	0.5	8/10/2017	ND<0.002	ND<0.002	**0.0037**	ND<0.001	**0.0104**	ND<0.002	ND<0.001	ND<0.002	ND<0.001	<varies
SB-16-0.5	0.5	8/11/2017	ND<0.002	ND<0.002	ND<0.002	ND<0.001	ND<0.0085	ND<0.002	ND<0.001	ND<0.002	ND<0.001	<varies
SB-17-0.5	0.5	8/10/2017	ND<0.002	ND<0.002	**0.0093**	**0.0012**	**0.0144**	**0.0036**	ND<0.001	ND<0.002	**0.0011**	<varies
SB-20-0.5	0.5	8/10/2017	ND<0.002	ND<0.002	ND<0.002	ND<0.001	ND<0.0085	ND<0.002	ND<0.001	ND<0.002	ND<0.001	<varies
SB-22-0.5	0.5	8/11/2017	ND<0.002	ND<0.002	ND<0.002	ND<0.001	ND<0.0085	ND<0.002	ND<0.001	ND<0.002	ND<0.001	<varies
SB-23-0.5	0.5	8/11/2017	ND<0.002	ND<0.002	ND<0.002	ND<0.001	ND<0.0085	ND<0.002	ND<0.001	ND<0.002	ND<0.001	<varies
SB-25-0.5	0.5	8/10/2017	ND<0.002	ND<0.002	**0.012**	ND<0.001	ND<0.0085	**0.0033**	ND<0.001	ND<0.002	ND<0.001	<varies
SB-29-0.5	0.5	8/11/2017	ND<0.002	ND<0.002	ND<0.002	ND<0.001	ND<0.0085	ND<0.002	ND<0.001	ND<0.002	ND<0.001	<varies
SB-31-0.5	0.5	8/11/2017	ND<0.002	ND<0.002	**0.0027**	ND<0.001	ND<0.0085	ND<0.002	ND<0.001	ND<0.002	ND<0.001	<varies
SB-33-0.5	0.5	8/10/2017	ND<0.002	**0.013**	**0.0092**	ND<0.001	**0.0398**	**0.0021**	**0.0010**	ND<0.002	**0.0011**	<varies

NA - Not analyzed
< - Indicates the concentration was not detected above the laboratory method detection limit. concentrations reported in mg/kg = milligrams per kilogram
(1) EPA Method 8081A
(2) Refer to Figure 2 for sample locations
(3) Summation of Chlordane, alpha-Chlordane, and gamma-Chlordane
(4) - Refers to the more conservative value between DTSC Note 3 June 2016) and United States Environmenal Protection Agency Regional Screening Levels (Region 9) (May 2016)

Table 4
Summary of Soil Vapor Analytical Results - TPHg, VOCs, & Methane
443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185803982

Sample ID	Location	Sampling Date	Sampling Depth (1)	VOCs (µg/m^3) (2)								Methane (%LEL) (3)
				TPHg (aromatic)	PCE	TCE	Benzene	Toluene	Ethylbenzene	Total Xylenes	Other VOCs	
DTSC HERO Note 3 or EPA RSLs for Residential Land Use (µg/m^3) (4)				*31000*	460	480	97	310,000	1,100	100,000	varies	--
Orange County Fire Authority Threshold for Combustible Gases				--	--	--	--	--	--	--	--	0.5 (5)
SB-1-5-SV	Former ASTs	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-1-15-SV	Former ASTs	8/14/2017	15	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-3-5-SV	Existing Car Crusher	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-10-5-SV	Misc. 461 S Van Buren	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-15-5-SV	Former UST	8/14/2017	5	<40,000	**50**	<20	<20	<200	<100	<200	<varies	0
SB-15-5-SV Rep	Former UST	8/14/2017	5	<40,000	**70**	<20	<20	<200	<100	<200	<varies	0
SB-15-15-SV	Former UST	8/14/2017	5	<40,000	**30**	<20	<20	<200	<100	<200	<varies	0
SB-16-5-SV	South Boundary, Near Offsite Well	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-20A-5-SV	Misc. Central Portion of Property	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-28-5-SV	Mondotte 2 Oil Well	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-28-15-SV	Mondotte 2 Oil Well	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-33-5-SV	Z19 Oil Well	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-33-15-SV	Z19 Oil Well	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0

NOTES:
(1) Sample depth is reported as feet below ground surface
(2) Soil vapor analyzed using EPA Test Method 8260.
(3) Field measurement using GEM 200 Plus Combustible Gas Meter
(4) DTSC HERO NOTE 3 or Environmental Protection Agency Regional Screeening Levels for Residential Soil Vapor, updated June 2017 (with an attenuation factor of 0.001)
(5) Mandatory Procedures for Mitigation, OCFA *Combustible Soil Gas Hazard Mitigation* , dated January 1, 2017
< - Indicates the concentration was not detected above the listed laboratory method reporting limit.
BOLD indicates analyte is present above the laboratory practical quantiation limit.

Abbreviations:
NA - Not Analyzed
DCE - Dichloroethene
PCE - Tetrachlorethylene
TCA - Trichlorethane
TCE - Trichloroethylene
TMB - Trimethylbenzene
TPH - Total Petroleum Hydrocarbons
VOCs - Volatile Organic Compounds
LEL - Lower Explosive Limit

FIGURES



N

CALIFORNIA

1 1/2 0 1

SCALE IN MILE

1000 0 1000 2000 3000 4000 5000 6000 7000

SCALE IN FEET

REFERENCE: USGS 7.5 X 7.5 MINUTE □UADRANGLE□ORANGE, 1980.

Stantec

25864-F BUSINESS CENTER DRIVE
REDLANDS, CALIFORNIA
PH (909) 335-6116 FAX (909) 335-6120

FOR:
THE OLSON COMPANY

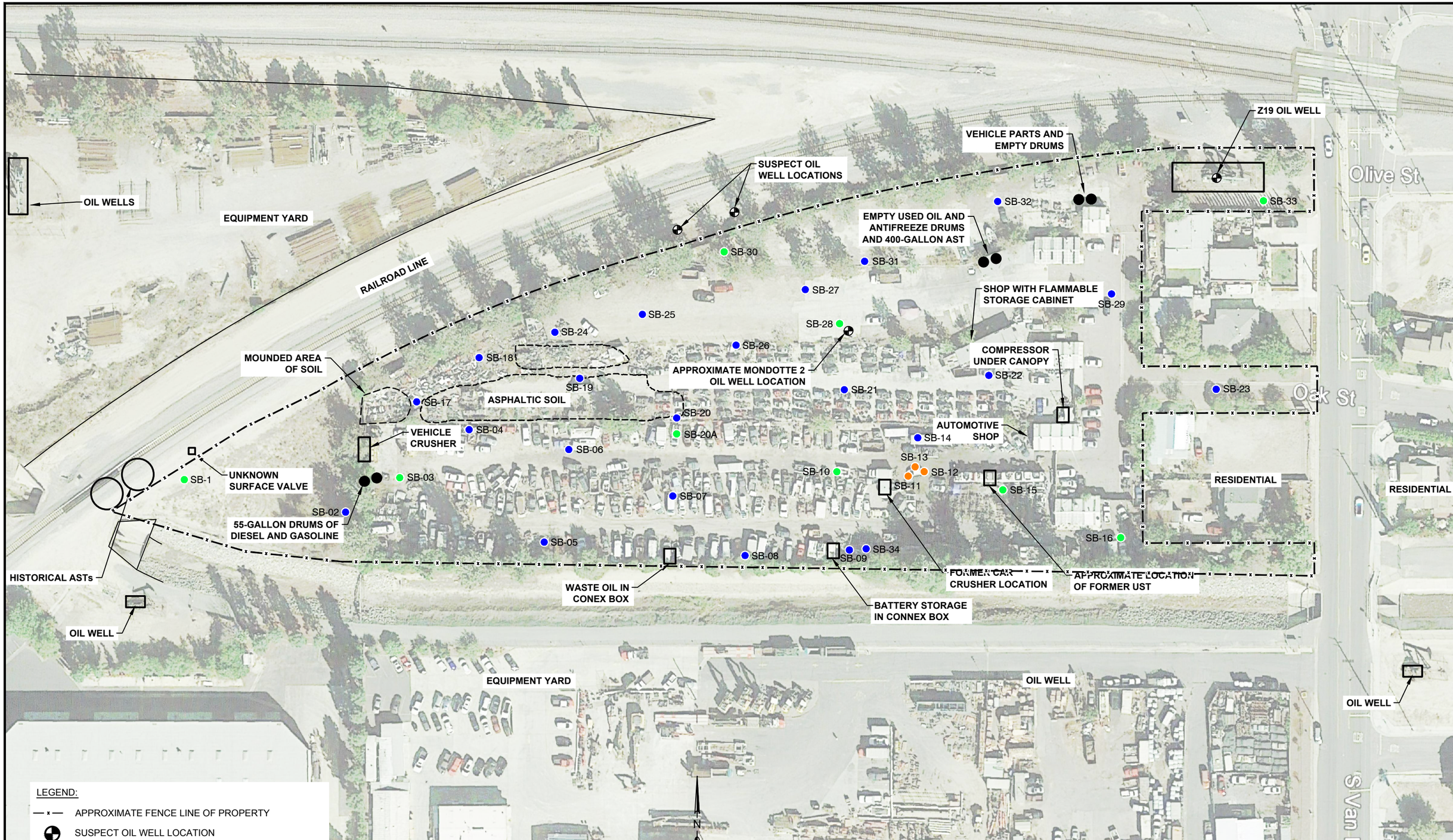
433 SOUTH VAN BUREN STREET,
PLACENTIA, CALIFRNIA

SITE LOCATION MAP

FIGURE: **1**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185803982	JS	DM	KE	08/04/17

FILEPATH:V:\1858\active\185803982\05_report_deliv\dwgs_design\cad_figures\olson_placentia_figures.dwg modified by jsargent on Aug 04, 2017 at 15:13



Stantec

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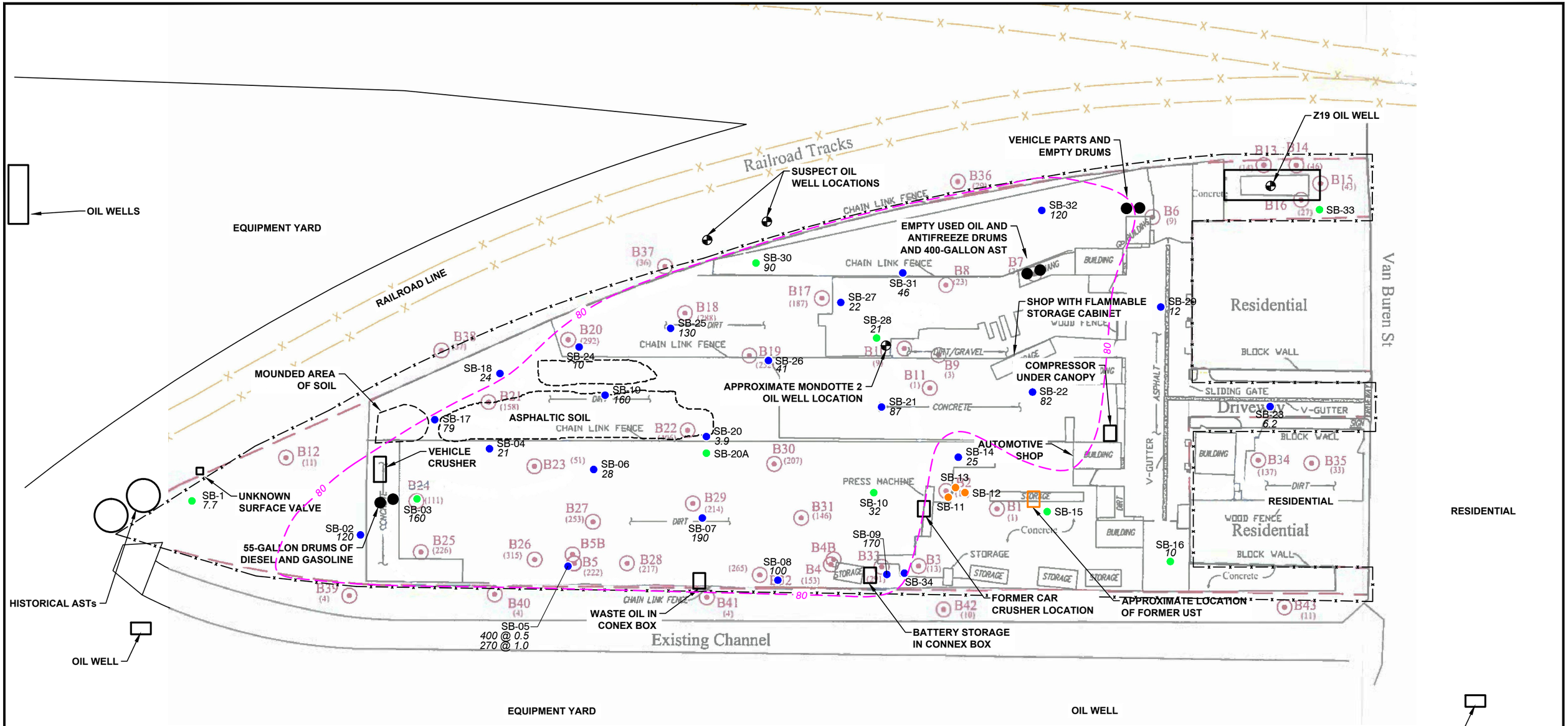
FOR: THE OLSON COMPANY 443 SOUTH VAN BUREN STREET PLACENTIA, CALIFORNIA		SITE MAP		FIGURE: 2
JOB NUMBER: 185803982	DRAWN BY: STA	CHECKED BY: DM	APPROVED BY: KM	DATE: 08/21/17

FILEPATH:V:\1857\active_OTHER OFFICES\04-REDLANDS\OLSON\PLACENTIA\FIG 2_SITE MAP_OLSON_PLACENTIA_08-21-2017.dwg | Layout Tab: 11X17 LS | Drafter: saguinaldo | Aug 25, 2017 at 12:32



LEGEND:

- APPROXIMATE FENCE LINE OF PROPERTY
- SUSPECT OIL WELL LOCATION
- Soil/Soil Vapor Boring - VOCs and Methane (Stantec, 2017)
- Shallow Soil Sample (Stantec, 2017)
- Shallow Soil Sample - TPH and VOCs (Stantec, 2017)
- 80 Lead Concentration Contour
- 7.7 Lead Sample Result
- All Concentrations Reported in Units of milligrams per kilogram(mg/kg)

N

0 80 160

APPROXIMATE SCALE IN FEET

Stantec

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FOR: THE OLSON COMPANY 443 SOUTH VAN BUREN STREET PLACENTIA, CALIFORNIA		SITE MAP WITH LEAD DATA (0.5 feet bgs)		FIGURE: 3
JOB NUMBER: 185803982	DRAWN BY: STA	CHECKED BY: DM	APPROVED BY: KM	DATE: 08/21/17

FILEPATH:V:\1857\active_OTHER OFFICES\04-REDLANDS\OLSON\PLACENTIA\FIG 3_SITE MAP WITH LEAD DATA_OLSON_PLACENTIA_08-21-2017.dwg | Layout Tab: 11X17 LS | Drafter: saguinaldo | Aug 25, 2017 at 12:36

APPENDIX A
LABORATORY DATA SHEETS AND QA/QC RESULTS

August 18, 2017

Dion Monge
Stantec
25864-F Business Center Drive
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Tel: (909) 335-6116
Fax:(909) 335-6120

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1702928
Client Reference : Olson/Placentia, 185803982

Enclosed are the results for sample(s) received on August 10, 2017 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,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-1-0.5	1702928-01	Soil	8/10/17 7:50	8/10/17 14:52
SB-1-1.0	1702928-02	Soil	8/10/17 7:52	8/10/17 14:52
SB-2-0.5	1702928-04	Soil	8/10/17 7:50	8/10/17 14:52
SB-2-1.0	1702928-05	Soil	8/10/17 7:53	8/10/17 14:52
SB-3-0.5	1702928-07	Soil	8/10/17 8:25	8/10/17 14:52
SB-3-1.0	1702928-08	Soil	8/10/17 8:31	8/10/17 14:52
SB-4-0.5	1702928-10	Soil	8/10/17 8:44	8/10/17 14:52
SB-4-1.0	1702928-11	Soil	8/10/17 8:46	8/10/17 14:52
SB-5-0.5	1702928-13	Soil	8/10/17 9:22	8/10/17 14:52
SB-5-1.0	1702928-14	Soil	8/10/17 9:24	8/10/17 14:52
SB-5-1.5	1702928-15	Soil	8/10/17 9:26	8/10/17 14:52
SB-6-0.5	1702928-16	Soil	8/10/17 9:24	8/10/17 14:52
SB-6-1.0	1702928-17	Soil	8/10/17 9:25	8/10/17 14:52
SB-7-0.5	1702928-19	Soil	8/10/17 9:34	8/10/17 14:52
SB-7-1.0	1702928-20	Soil	8/10/17 9:36	8/10/17 14:52
SB-8-0.5	1702928-22	Soil	8/10/17 9:43	8/10/17 14:52
SB-8-1.0	1702928-23	Soil	8/10/17 9:45	8/10/17 14:52
SB-9-0.5	1702928-25	Soil	8/10/17 9:48	8/10/17 14:52
SB-9-1.0	1702928-26	Soil	8/10/17 9:50	8/10/17 14:52
SB-10-0.5	1702928-28	Soil	8/10/17 9:54	8/10/17 14:52
SB-10-1.0	1702928-29	Soil	8/10/17 9:56	8/10/17 14:52
SB-11-1.0	1702928-31	Soil	8/10/17 10:03	8/10/17 14:52
SB-13-1.0	1702928-33	Soil	8/10/17 10:18	8/10/17 14:52
SB-14-0.5	1702928-35	Soil	8/10/17 10:27	8/10/17 14:52
SB-14-1.0	1702928-36	Soil	8/10/17 10:28	8/10/17 14:52
SB-17-0.5	1702928-38	Soil	8/10/17 8:41	8/10/17 14:52
SB-17-1.0	1702928-39	Soil	8/10/17 8:43	8/10/17 14:52
SB-18-0.5	1702928-41	Soil	8/10/17 8:25	8/10/17 14:52
SB-18-1.0	1702928-42	Soil	8/10/17 8:29	8/10/17 14:52
SB-19-0.5	1702928-44	Soil	8/10/17 8:47	8/10/17 14:52
SB-19-1.0	1702928-45	Soil	8/10/17 8:49	8/10/17 14:52
SB-20-0.5	1702928-47	Soil	8/10/17 10:48	8/10/17 14:52
SB-20-1.0	1702928-48	Soil	8/10/17 10:49	8/10/17 14:52
SB-24-0.5	1702928-50	Soil	8/10/17 10:47	8/10/17 14:52
SB-24-1.0	1702928-51	Soil	8/10/17 10:49	8/10/17 14:52
SB-25-0.5	1702928-53	Soil	8/10/17 10:52	8/10/17 14:52
SB-25-1.0	1702928-54	Soil	8/10/17 10:54	8/10/17 14:52

Certificate of Analysis

Stantec		Project Number :	Olson/Placentia, 185803982
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SB-26-0.5	1702928-56	Soil	8/10/17 11:03	8/10/17 14:52
SB-26-1.0	1702928-57	Soil	8/10/17 11:05	8/10/17 14:52
SB-27-0.5	1702928-59	Soil	8/10/17 11:15	8/10/17 14:52
SB-27-1.0	1702928-60	Soil	8/10/17 11:17	8/10/17 14:52
SB-33-0.5	1702928-62	Soil	8/10/17 11:48	8/10/17 14:52

CASE NARRATIVE

Documentation pertaining to additional analyses/change order available upon request.

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-1-0.5

Lab ID: 1702928-01

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Arsenic	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Barium	**28**	1.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Beryllium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Cadmium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Chromium	**7.8**	1.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Cobalt	**4.0**	1.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Copper	**5.3**	2.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Lead	**7.7**	1.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Molybdenum	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Nickel	**5.1**	1.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Selenium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Silver	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Thallium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Vanadium	**18**	1.0	1	B7H0253	08/14/2017	08/14/17 14:24	
Zinc	**30**	1.0	1	B7H0253	08/14/2017	08/14/17 14:24	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0232	08/11/2017	08/14/17 11:16	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-1-1.0

Lab ID: 1702928-02

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Arsenic	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Barium	**28**	1.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Beryllium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Cadmium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Chromium	**8.0**	1.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Cobalt	**3.6**	1.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Copper	**5.2**	2.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Lead	**6.8**	1.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Molybdenum	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Nickel	**4.9**	1.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Selenium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Silver	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Thallium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Vanadium	**16**	1.0	1	B7H0253	08/14/2017	08/14/17 14:27	
Zinc	**25**	1.0	1	B7H0253	08/14/2017	08/14/17 14:27	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0232	08/11/2017	08/14/17 11:24	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7H0221	08/11/2017	08/11/17 10:13	
Surrogate: 4-Bromofluorobenzene	*102 %*	*36 - 125*		B7H0221	08/11/2017	*08/11/17 10:13*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**85**	10	1	B7H0236	08/11/2017	08/14/17 19:49	
ORO	**49**	10	1	B7H0236	08/11/2017	08/14/17 19:49	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-1-1.0

Lab ID: 1702928-02

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*156 %*	*47 - 157*		B7H0236	08/11/2017	*08/14/17 19:49*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,1,1-Trichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,1,2-Trichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,1-Dichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,1-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,1-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,2,3-Trichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,2,3-Trichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,2,4-Trichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,2,4-Trimethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,2-Dibromo-3-chloropropane	ND	10	1	B7H0225	08/11/2017	08/11/17 11:23	
1,2-Dibromoethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,2-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,2-Dichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,2-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,3,5-Trimethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,3-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,3-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
1,4-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
2,2-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
2-Chlorotoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
4-Chlorotoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
4-Isopropyltoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Benzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Bromobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Bromochloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Bromodichloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Bromoform	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Bromomethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Carbon disulfide	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-1-1.0

Lab ID: 1702928-02

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon tetrachloride	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Chlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Chloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Chloroform	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Chloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
cis-1,2-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
cis-1,3-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Di-isopropyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Dibromochloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Dibromomethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Dichlorodifluoromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Ethyl Acetate	ND	50	1	B7H0225	08/11/2017	08/11/17 11:23	
Ethyl Ether	ND	50	1	B7H0225	08/11/2017	08/11/17 11:23	
Ethyl tert-butyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Ethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Freon-113	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Hexachlorobutadiene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Isopropylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
m,p-Xylene	ND	10	1	B7H0225	08/11/2017	08/11/17 11:23	
Methylene chloride	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
MTBE	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
n-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
n-Propylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Naphthalene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
o-Xylene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
sec-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Styrene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
tert-Amyl methyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
tert-Butanol	ND	100	1	B7H0225	08/11/2017	08/11/17 11:23	
tert-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Tetrachloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Toluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
trans-1,2-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
trans-1,3-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Trichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Trichlorofluoromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Vinyl acetate	ND	50	1	B7H0225	08/11/2017	08/11/17 11:23	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-1-1.0

Lab ID: 1702928-02

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

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl chloride		ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:23	
Surrogate: 1,2-Dichloroethane-d4	*109 %*		*12 - 186*		B7H0225	08/11/2017	*08/11/17 11:23*	
Surrogate: 4-Bromofluorobenzene	*91.0 %*		*23 - 162*		B7H0225	08/11/2017	*08/11/17 11:23*	
Surrogate: Dibromofluoromethane	*112 %*		*23 - 179*		B7H0225	08/11/2017	*08/11/17 11:23*	
Surrogate: Toluene-d8	*104 %*		*26 - 164*		B7H0225	08/11/2017	*08/11/17 11:23*	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-2-0.5

Lab ID: 1702928-04

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**120**	1.0	1	B7H0226	08/11/2017	08/14/17 09:54	

TCLP Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.25	5	B7H0335	08/17/2017	08/17/17 12:01	D1

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	1.0	20	B7H0368	08/18/2017	08/18/17 10:20	D1

Organochlorine Pesticides by EPA 8081

Analyst: CO

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	ND	2.0	1	B7H0244	08/14/2017	08/14/17 15:52	
4,4´-DDE [2C]	ND	2.0	1	B7H0244	08/14/2017	08/14/17 15:52	
4,4´-DDT	**12**	2.0	1	B7H0244	08/14/2017	08/14/17 15:52	
Aldrin	ND	1.0	1	B7H0244	08/14/2017	08/14/17 15:52	
alpha-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 15:52	
alpha-Chlordane [2C]	ND	1.0	1	B7H0244	08/14/2017	08/14/17 15:52	
beta-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 15:52	
Chlordane	**11**	8.5	1	B7H0244	08/14/2017	08/14/17 15:52	
delta-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 15:52	
Dieldrin [2C]	**2.1**	2.0	1	B7H0244	08/14/2017	08/14/17 15:52	
Endosulfan I [2C]	**1.0**	1.0	1	B7H0244	08/14/2017	08/14/17 15:52	
Endosulfan II	ND	2.0	1	B7H0244	08/14/2017	08/14/17 15:52	
Endosulfan sulfate	ND	2.0	1	B7H0244	08/14/2017	08/14/17 15:52	
Endrin	ND	2.0	1	B7H0244	08/14/2017	08/14/17 15:52	
Endrin aldehyde	ND	2.0	1	B7H0244	08/14/2017	08/14/17 15:52	
Endrin ketone	ND	2.0	1	B7H0244	08/14/2017	08/14/17 15:52	
gamma-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 15:52	
gamma-Chlordane [2C]	ND	1.0	1	B7H0244	08/14/2017	08/14/17 15:52	
Heptachlor	ND	1.0	1	B7H0244	08/14/2017	08/14/17 15:52	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-2-0.5

Lab ID: 1702928-04

Organochlorine Pesticides by EPA 8081 **Analyst: CO**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Heptachlor epoxide		**1.1**	1.0	1	B7H0244	08/14/2017	08/14/17 15:52	
Methoxychlor		ND	5.0	1	B7H0244	08/14/2017	08/14/17 15:52	
Toxaphene		ND	50	1	B7H0244	08/14/2017	08/14/17 15:52	
Surrogate: Decachlorobiphenyl	*38.9 %*		*27 - 123*		B7H0244	08/14/2017	*08/14/17 15:52*	
Surrogate: Tetrachloro-m-xylene	*39.3 %*		*26 - 108*		B7H0244	08/14/2017	*08/14/17 15:52*	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-2-1.0

Lab ID: 1702928-05

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**8.3**	1.0	1	B7H0226	08/11/2017	08/14/17 09:57	

Certificate of Analysis

Stantec		Project Number :	Olson/Placentia, 185803982
25864-F Business Center Drive		Report To :	Dion Monge
Redlands , CA 92374		Reported :	08/18/2017

Client Sample ID SB-3-0.5

Lab ID: 1702928-07

Total Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**160**	1.0	1	B7H0226	08/11/2017	08/14/17 09:58	

TCLP Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.25	5	B7H0335	08/17/2017	08/17/17 12:03	D1

STLC Metals by ICP-AES by EPA 6010B — **Analyst: GO**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**12**	1.0	20	B7H0368	08/18/2017	08/18/17 10:22	D1

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-3-1.0

Lab ID: 1702928-08

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**18**	1.0	1	B7H0226	08/11/2017	08/14/17 10:02	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7H0221	08/11/2017	08/11/17 10:31	
Surrogate: 4-Bromofluorobenzene *101 %*		*36 - 125*		B7H0221	08/11/2017	*08/11/17 10:31*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**79**	10	1	B7H0236	08/11/2017	08/14/17 19:14	
ORO	**110**	10	1	B7H0236	08/11/2017	08/14/17 19:14	
Surrogate: p-Terphenyl *93.0 %*		*47 - 157*		B7H0236	08/11/2017	*08/14/17 19:14*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,1,1-Trichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,1,2-Trichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,1-Dichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,1-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,1-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,2,3-Trichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,2,3-Trichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,2,4-Trichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,2,4-Trimethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,2-Dibromo-3-chloropropane	ND	10	1	B7H0225	08/11/2017	08/11/17 11:42	
1,2-Dibromoethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,2-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,2-Dichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,2-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-3-1.0

Lab ID: 1702928-08

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,3,5-Trimethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,3-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,3-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
1,4-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
2,2-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
2-Chlorotoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
4-Chlorotoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
4-Isopropyltoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Benzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Bromobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Bromochloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Bromodichloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Bromoform	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Bromomethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Carbon disulfide	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Carbon tetrachloride	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Chlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Chloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Chloroform	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Chloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
cis-1,2-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
cis-1,3-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Di-isopropyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Dibromochloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Dibromomethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Dichlorodifluoromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Ethyl Acetate	ND	50	1	B7H0225	08/11/2017	08/11/17 11:42	
Ethyl Ether	ND	50	1	B7H0225	08/11/2017	08/11/17 11:42	
Ethyl tert-butyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Ethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Freon-113	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Hexachlorobutadiene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Isopropylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
m,p-Xylene	ND	10	1	B7H0225	08/11/2017	08/11/17 11:42	
Methylene chloride	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
MTBE	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
n-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-3-1.0

Lab ID: 1702928-08

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
n-Propylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Naphthalene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
o-Xylene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
sec-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Styrene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
tert-Amyl methyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
tert-Butanol	ND	100	1	B7H0225	08/11/2017	08/11/17 11:42	
tert-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Tetrachloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Toluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
trans-1,2-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
trans-1,3-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Trichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Trichlorofluoromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Vinyl acetate	ND	50	1	B7H0225	08/11/2017	08/11/17 11:42	
Vinyl chloride	ND	5.0	1	B7H0225	08/11/2017	08/11/17 11:42	
Surrogate: 1,2-Dichloroethane-d4	*103 %*	*12 - 186*		B7H0225	08/11/2017	*08/11/17 11:42*	
Surrogate: 4-Bromofluorobenzene	*85.5 %*	*23 - 162*		B7H0225	08/11/2017	*08/11/17 11:42*	
Surrogate: Dibromofluoromethane	*115 %*	*23 - 179*		B7H0225	08/11/2017	*08/11/17 11:42*	
Surrogate: Toluene-d8	*99.0 %*	*26 - 164*		B7H0225	08/11/2017	*08/11/17 11:42*	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-4-0.5

Lab ID: 1702928-10

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Arsenic	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Barium	**44**	1.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Beryllium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Cadmium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Chromium	**12**	1.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Cobalt	**6.1**	1.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Copper	**11**	2.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Lead	**21**	1.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Molybdenum	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Nickel	**9.3**	1.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Selenium	**1.1**	1.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Silver	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Thallium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Vanadium	**29**	1.0	1	B7H0253	08/14/2017	08/14/17 14:28	
Zinc	**54**	1.0	1	B7H0253	08/14/2017	08/14/17 14:28	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0232	08/11/2017	08/14/17 11:32	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-4-1.0

Lab ID: 1702928-11

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Arsenic	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Barium	**91**	1.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Beryllium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Cadmium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Chromium	**19**	1.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Cobalt	**10**	1.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Copper	**20**	2.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Lead	**4.4**	1.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Molybdenum	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Nickel	**13**	1.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Selenium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Silver	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Thallium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Vanadium	**40**	1.0	1	B7H0253	08/14/2017	08/14/17 14:29	
Zinc	**52**	1.0	1	B7H0253	08/14/2017	08/14/17 14:29	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0232	08/11/2017	08/14/17 11:33	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-5-0.5

Lab ID: 1702928-13

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**400**	1.0	1	B7H0226	08/11/2017	08/14/17 10:03	

TCLP Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**0.46**	0.25	5	B7H0335	08/17/2017	08/17/17 12:04	D1

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**23**	1.0	20	B7H0368	08/18/2017	08/18/17 10:23	D1

Organochlorine Pesticides by EPA 8081

Analyst: CO

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:03	
4,4´-DDE [2C]	**2.9**	2.0	1	B7H0244	08/14/2017	08/14/17 16:03	
4,4´-DDT [2C]	**29**	2.0	1	B7H0244	08/14/2017	08/14/17 16:03	
Aldrin	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:03	
alpha-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:03	
alpha-Chlordane	**2.8**	1.0	1	B7H0244	08/14/2017	08/14/17 16:03	
beta-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:03	
Chlordane	**38**	8.5	1	B7H0244	08/14/2017	08/14/17 16:03	
delta-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:03	
Dieldrin [2C]	**7.0**	2.0	1	B7H0244	08/14/2017	08/14/17 16:03	
Endosulfan I	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:03	
Endosulfan II	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:03	
Endosulfan sulfate	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:03	
Endrin	**2.8**	2.0	1	B7H0244	08/14/2017	08/14/17 16:03	
Endrin aldehyde	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:03	
Endrin ketone	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:03	
gamma-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:03	
gamma-Chlordane [2C]	**2.6**	1.0	1	B7H0244	08/14/2017	08/14/17 16:03	
Heptachlor	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:03	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-5-0.5

Lab ID: 1702928-13

Organochlorine Pesticides by EPA 8081 **Analyst: CO**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Heptachlor epoxide		**4.0**	1.0	1	B7H0244	08/14/2017	08/14/17 16:03	
Methoxychlor		ND	5.0	1	B7H0244	08/14/2017	08/14/17 16:03	
Toxaphene		ND	50	1	B7H0244	08/14/2017	08/14/17 16:03	
Surrogate: Decachlorobiphenyl	*52.3 %*		*27 - 123*		B7H0244	08/14/2017	*08/14/17 16:03*	
Surrogate: Tetrachloro-m-xylene	*50.9 %*		*26 - 108*		B7H0244	08/14/2017	*08/14/17 16:03*	

Certificate of Analysis

Stantec		Project Number :	Olson/Placentia, 185803982
25864-F Business Center Drive		Report To :	Dion Monge
Redlands , CA 92374		Reported :	08/18/2017

Client Sample ID SB-5-1.0

Lab ID: 1702928-14

Total Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**270**	1.0	1	B7H0226	08/11/2017	08/14/17 10:04	

TCLP Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**0.38**	0.25	5	B7H0335	08/17/2017	08/17/17 12:05	D1

STLC Metals by ICP-AES by EPA 6010B — **Analyst: GO**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**14**	1.0	20	B7H0368	08/18/2017	08/18/17 10:25	D1

Certificate of Analysis

Stantec		Project Number :	Olson/Placentia, 185803982
25864-F Business Center Drive		Report To :	Dion Monge
Redlands , CA 92374		Reported :	08/18/2017

Client Sample ID SB-5-1.5

Lab ID: 1702928-15

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**10**	1.0	1	B7H0337	08/17/2017	08/17/17 15:17	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-6-0.5

Lab ID: 1702928-16

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**28**	1.0	1	B7H0226	08/11/2017	08/14/17 10:05	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-6-1.0

Lab ID: 1702928-17

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**3.0**	1.0	1	B7H0226	08/11/2017	08/14/17 10:06	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-7-0.5

Lab ID: 1702928-19

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**190**	1.0	1	B7H0226	08/11/2017	08/14/17 10:08	

TCLP Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.25	5	B7H0335	08/17/2017	08/17/17 12:07	D1

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**14**	1.0	20	B7H0368	08/18/2017	08/18/17 10:26	D1

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-7-1.0

Lab ID: 1702928-20

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**30**	1.0	1	B7H0226	08/11/2017	08/14/17 10:09	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-8-0.5

Lab ID: 1702928-22

Total Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**100**	1.0	1	B7H0226	08/11/2017	08/14/17 10:10	

TCLP Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.25	5	B7H0335	08/17/2017	08/17/17 12:08	D1

STLC Metals by ICP-AES by EPA 6010B — **Analyst: GO**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**6.3**	1.0	20	B7H0368	08/18/2017	08/18/17 10:27	D1

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-8-1.0

Lab ID: 1702928-23

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**13**	1.0	1	B7H0226	08/11/2017	08/14/17 10:11	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-9-0.5

Lab ID: 1702928-25

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**170**	1.0	1	B7H0226	08/11/2017	08/14/17 10:12	

TCLP Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.25	5	B7H0335	08/17/2017	08/17/17 12:10	D1

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**13**	1.0	20	B7H0368	08/18/2017	08/18/17 10:29	D1

Organochlorine Pesticides by EPA 8081

Analyst: CO

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:45	
4,4´-DDE	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:45	
4,4´-DDT [2C]	**3.7**	2.0	1	B7H0244	08/14/2017	08/14/17 16:45	
Aldrin	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:45	
alpha-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:45	
alpha-Chlordane [2C]	**1.1**	1.0	1	B7H0244	08/14/2017	08/14/17 16:45	
beta-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:45	
Chlordane	**9.3**	8.5	1	B7H0244	08/14/2017	08/14/17 16:45	
delta-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:45	
Dieldrin [2C]	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:45	
Endosulfan I	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:45	
Endosulfan II	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:45	
Endosulfan sulfate	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:45	
Endrin	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:45	
Endrin aldehyde	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:45	
Endrin ketone	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:45	
gamma-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:45	
gamma-Chlordane	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:45	
Heptachlor	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:45	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-9-0.5

Lab ID: 1702928-25

Organochlorine Pesticides by EPA 8081

Analyst: CO

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Heptachlor epoxide		ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:45	
Methoxychlor		ND	5.0	1	B7H0244	08/14/2017	08/14/17 16:45	
Toxaphene		ND	50	1	B7H0244	08/14/2017	08/14/17 16:45	
Surrogate: Decachlorobiphenyl	*45.6 %*		*27 - 123*		B7H0244	08/14/2017	*08/14/17 16:45*	
Surrogate: Tetrachloro-m-xylene	*41.2 %*		*26 - 108*		B7H0244	08/14/2017	*08/14/17 16:45*	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
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Client Sample ID SB-9-1.0

Lab ID: 1702928-26

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**29**	1.0	1	B7H0226	08/11/2017	08/14/17 10:16	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-10-0.5

Lab ID: 1702928-28

Total Metals by ICP-AES EPA 6010B **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**32**	1.0	1	B7H0226	08/11/2017	08/14/17 10:17	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-10-1.0

Lab ID: 1702928-29

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**5.2**	1.0	1	B7H0226	08/11/2017	08/14/17 10:18	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-11-1.0

Lab ID: 1702928-31

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7H0221	08/11/2017	08/11/17 10:49	
Surrogate: 4-Bromofluorobenzene	*100 %*		*36 - 125*		B7H0221	08/11/2017	*08/11/17 10:49*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		ND	10	1	B7H0236	08/11/2017	08/14/17 18:05	
ORO		ND	10	1	B7H0236	08/11/2017	08/14/17 18:05	
Surrogate: p-Terphenyl	*80.2 %*		*47 - 157*		B7H0236	08/11/2017	*08/14/17 18:05*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,1,1-Trichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,1,2-Trichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,1-Dichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,1-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,1-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,2,3-Trichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,2,3-Trichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,2,4-Trichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,2,4-Trimethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,2-Dibromo-3-chloropropane	ND	10	1	B7H0225	08/11/2017	08/11/17 12:01	
1,2-Dibromoethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,2-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,2-Dichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,2-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,3,5-Trimethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,3-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,3-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
1,4-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
2,2-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
2-Chlorotoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-11-1.0

Lab ID: 1702928-31

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
4-Isopropyltoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Benzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Bromobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Bromochloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Bromodichloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Bromoform	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Bromomethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Carbon disulfide	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Carbon tetrachloride	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Chlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Chloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Chloroform	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Chloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
cis-1,2-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
cis-1,3-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Di-isopropyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Dibromochloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Dibromomethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Dichlorodifluoromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Ethyl Acetate	ND	50	1	B7H0225	08/11/2017	08/11/17 12:01	
Ethyl Ether	ND	50	1	B7H0225	08/11/2017	08/11/17 12:01	
Ethyl tert-butyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Ethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Freon-113	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Hexachlorobutadiene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Isopropylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
m,p-Xylene	ND	10	1	B7H0225	08/11/2017	08/11/17 12:01	
Methylene chloride	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
MTBE	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
n-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
n-Propylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Naphthalene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
o-Xylene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
sec-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Styrene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
tert-Amyl methyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-11-1.0

Lab ID: 1702928-31

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7H0225	08/11/2017	08/11/17 12:01	
tert-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Tetrachloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Toluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
trans-1,2-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
trans-1,3-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Trichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Trichlorofluoromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Vinyl acetate	ND	50	1	B7H0225	08/11/2017	08/11/17 12:01	
Vinyl chloride	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:01	
Surrogate: 1,2-Dichloroethane-d4	*108 %*	*12 - 186*		B7H0225	08/11/2017	*08/11/17 12:01*	
Surrogate: 4-Bromofluorobenzene	*94.5 %*	*23 - 162*		B7H0225	08/11/2017	*08/11/17 12:01*	
Surrogate: Dibromofluoromethane	*120 %*	*23 - 179*		B7H0225	08/11/2017	*08/11/17 12:01*	
Surrogate: Toluene-d8	*105 %*	*26 - 164*		B7H0225	08/11/2017	*08/11/17 12:01*	

Certificate of Analysis

Stantec		Project Number :	Olson/Placentia, 185803982
25864-F Business Center Drive		Report To :	Dion Monge
Redlands , CA 92374		Reported :	08/18/2017

Client Sample ID SB-13-1.0

Lab ID: 1702928-33

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7H0221	08/11/2017	08/11/17 11:08	
Surrogate: 4-Bromofluorobenzene	*100 %*		*36 - 125*		B7H0221	08/11/2017	*08/11/17 11:08*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**73**	10	1	B7H0236	08/11/2017	08/14/17 18:39	
ORO		**86**	10	1	B7H0236	08/11/2017	08/14/17 18:39	
Surrogate: p-Terphenyl	*87.8 %*		*47 - 157*		B7H0236	08/11/2017	*08/14/17 18:39*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,1,1-Trichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,1,2-Trichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,1-Dichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,1-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,1-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,2,3-Trichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,2,3-Trichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,2,4-Trichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,2,4-Trimethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,2-Dibromo-3-chloropropane	ND	10	1	B7H0225	08/11/2017	08/11/17 12:19	
1,2-Dibromoethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,2-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,2-Dichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,2-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,3,5-Trimethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,3-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,3-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
1,4-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
2,2-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
2-Chlorotoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-13-1.0

Lab ID: 1702928-33

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
4-Isopropyltoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Benzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Bromobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Bromochloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Bromodichloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Bromoform	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Bromomethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Carbon disulfide	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Carbon tetrachloride	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Chlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Chloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Chloroform	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Chloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
cis-1,2-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
cis-1,3-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Di-isopropyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Dibromochloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Dibromomethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Dichlorodifluoromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Ethyl Acetate	ND	50	1	B7H0225	08/11/2017	08/11/17 12:19	
Ethyl Ether	ND	50	1	B7H0225	08/11/2017	08/11/17 12:19	
Ethyl tert-butyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Ethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Freon-113	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Hexachlorobutadiene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Isopropylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
m,p-Xylene	ND	10	1	B7H0225	08/11/2017	08/11/17 12:19	
Methylene chloride	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
MTBE	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
n-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
n-Propylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Naphthalene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
o-Xylene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
sec-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Styrene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
tert-Amyl methyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	

Certificate of Analysis

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Client Sample ID SB-13-1.0

Lab ID: 1702928-33

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7H0225	08/11/2017	08/11/17 12:19	
tert-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Tetrachloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Toluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
trans-1,2-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
trans-1,3-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Trichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Trichlorofluoromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Vinyl acetate	ND	50	1	B7H0225	08/11/2017	08/11/17 12:19	
Vinyl chloride	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:19	
Surrogate: 1,2-Dichloroethane-d4	*112 %*	*12 - 186*		B7H0225	08/11/2017	*08/11/17 12:19*	
Surrogate: 4-Bromofluorobenzene	*96.5 %*	*23 - 162*		B7H0225	08/11/2017	*08/11/17 12:19*	
Surrogate: Dibromofluoromethane	*118 %*	*23 - 179*		B7H0225	08/11/2017	*08/11/17 12:19*	
Surrogate: Toluene-d8	*99.8 %*	*26 - 164*		B7H0225	08/11/2017	*08/11/17 12:19*	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-14-0.5

Lab ID: 1702928-35

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**25**	1.0	1	B7H0226	08/11/2017	08/14/17 10:19	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-14-1.0

Lab ID: 1702928-36

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**68**	1.0	1	B7H0226	08/11/2017	08/14/17 10:20	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-17-0.5

Lab ID: 1702928-38

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Arsenic	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Barium	**52**	1.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Beryllium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Cadmium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Chromium	**13**	1.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Cobalt	**7.0**	1.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Copper	**15**	2.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Lead	**79**	1.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Molybdenum	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Nickel	**13**	1.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Selenium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Silver	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Thallium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Vanadium	**28**	1.0	1	B7H0253	08/14/2017	08/14/17 14:31	
Zinc	**100**	1.0	1	B7H0253	08/14/2017	08/14/17 14:31	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0232	08/11/2017	08/14/17 11:35	

Organochlorine Pesticides by EPA 8081

Analyst: CO

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4′-DDD	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:59	
4,4′-DDE	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:59	
4,4′-DDT [2C]	**9.3**	2.0	1	B7H0244	08/14/2017	08/14/17 16:59	
Aldrin [2C]	**1.2**	1.0	1	B7H0244	08/14/2017	08/14/17 16:59	
alpha-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:59	
alpha-Chlordane [2C]	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:59	
beta-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:59	
Chlordane	**13**	8.5	1	B7H0244	08/14/2017	08/14/17 16:59	
delta-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:59	
Dieldrin	**3.6**	2.0	1	B7H0244	08/14/2017	08/14/17 16:59	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-17-0.5

Lab ID: 1702928-38

Organochlorine Pesticides by EPA 8081 **Analyst: CO**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Endosulfan I	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:59	
Endosulfan II	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:59	
Endosulfan sulfate	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:59	
Endrin	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:59	
Endrin aldehyde	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:59	
Endrin ketone	ND	2.0	1	B7H0244	08/14/2017	08/14/17 16:59	
gamma-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:59	
gamma-Chlordane [2C]	**1.4**	1.0	1	B7H0244	08/14/2017	08/14/17 16:59	
Heptachlor	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:59	
Heptachlor epoxide	ND	1.0	1	B7H0244	08/14/2017	08/14/17 16:59	
Methoxychlor	ND	5.0	1	B7H0244	08/14/2017	08/14/17 16:59	
Toxaphene	ND	50	1	B7H0244	08/14/2017	08/14/17 16:59	
Surrogate: Decachlorobiphenyl	*36.2 %*	*27 - 123*		B7H0244	08/14/2017	*08/14/17 16:59*	
Surrogate: Tetrachloro-m-xylene	*43.4 %*	*26 - 108*		B7H0244	08/14/2017	*08/14/17 16:59*	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-17-1.0

Lab ID: 1702928-39

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Arsenic	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Barium	**52**	1.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Beryllium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Cadmium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Chromium	**13**	1.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Cobalt	**7.2**	1.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Copper	**11**	2.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Lead	**37**	1.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Molybdenum	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Nickel	**10**	1.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Selenium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Silver	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Thallium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Vanadium	**30**	1.0	1	B7H0253	08/14/2017	08/14/17 14:32	
Zinc	**62**	1.0	1	B7H0253	08/14/2017	08/14/17 14:32	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0232	08/11/2017	08/14/17 11:37	

Certificate of Analysis

Stantec		Project Number :	Olson/Placentia, 185803982
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Redlands , CA 92374		Reported :	08/18/2017

Client Sample ID SB-18-0.5

Lab ID: 1702928-41

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**24**	1.0	1	B7H0226	08/11/2017	08/14/17 10:22	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-18-1.0

Lab ID: 1702928-42

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**11**	1.0	1	B7H0226	08/11/2017	08/14/17 10:23	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-19-0.5

Lab ID: 1702928-44

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Arsenic	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Barium	**63**	1.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Beryllium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Cadmium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Chromium	**17**	1.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Cobalt	**7.4**	1.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Copper	**14**	2.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Lead	**160**	1.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Molybdenum	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Nickel	**12**	1.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Selenium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Silver	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Thallium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Vanadium	**29**	1.0	1	B7H0253	08/14/2017	08/14/17 14:35	
Zinc	**87**	1.0	1	B7H0253	08/14/2017	08/14/17 14:35	

TCLP Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.25	5	B7H0335	08/17/2017	08/17/17 12:11	D1

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**11**	1.0	20	B7H0368	08/18/2017	08/18/17 10:30	D1

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0232	08/11/2017	08/14/17 11:39	

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Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-19-1.0

Lab ID: 1702928-45

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Arsenic	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Barium	**72**	1.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Beryllium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Cadmium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Chromium	**15**	1.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Cobalt	**9.0**	1.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Copper	**11**	2.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Lead	**26**	1.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Molybdenum	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Nickel	**11**	1.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Selenium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Silver	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Thallium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Vanadium	**34**	1.0	1	B7H0253	08/14/2017	08/14/17 14:37	
Zinc	**51**	1.0	1	B7H0253	08/14/2017	08/14/17 14:37	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0232	08/11/2017	08/14/17 11:41	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-20-0.5

Lab ID: 1702928-47

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Arsenic	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Barium	**52**	1.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Beryllium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Cadmium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Chromium	**12**	1.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Cobalt	**7.2**	1.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Copper	**8.3**	2.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Lead	**3.9**	1.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Molybdenum	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Nickel	**8.6**	1.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Selenium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Silver	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Thallium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Vanadium	**30**	1.0	1	B7H0253	08/14/2017	08/14/17 14:38	
Zinc	**41**	1.0	1	B7H0253	08/14/2017	08/14/17 14:38	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0232	08/11/2017	08/14/17 11:43	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7H0221	08/11/2017	08/11/17 11:26	
Surrogate: 4-Bromofluorobenzene	*95.3 %*	*36 - 125*		B7H0221	08/11/2017	*08/11/17 11:26*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**90**	10	1	B7H0236	08/11/2017	08/14/17 16:55	
ORO	**270**	10	1	B7H0236	08/11/2017	08/14/17 16:55	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-20-0.5

Lab ID: 1702928-47

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*149 %*	*47 - 157*		B7H0236	08/11/2017	*08/14/17 16:55*	

Organochlorine Pesticides by EPA 8081

Analyst: CO

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4′-DDD	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:10	
4,4′-DDE [2C]	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:10	
4,4′-DDT	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:10	
Aldrin	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:10	
alpha-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:10	
alpha-Chlordane	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:10	
beta-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:10	
Chlordane	ND	8.5	1	B7H0244	08/14/2017	08/14/17 17:10	
delta-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:10	
Dieldrin [2C]	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:10	
Endosulfan I	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:10	
Endosulfan II	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:10	
Endosulfan sulfate	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:10	
Endrin	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:10	
Endrin aldehyde	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:10	
Endrin ketone	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:10	
gamma-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:10	
gamma-Chlordane	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:10	
Heptachlor	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:10	
Heptachlor epoxide	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:10	
Methoxychlor	ND	5.0	1	B7H0244	08/14/2017	08/14/17 17:10	
Toxaphene	ND	50	1	B7H0244	08/14/2017	08/14/17 17:10	
Surrogate: Decachlorobiphenyl	*40.7 %*	*27 - 123*		B7H0244	08/14/2017	*08/14/17 17:10*	
Surrogate: Tetrachloro-m-xylene	*52.4 %*	*26 - 108*		B7H0244	08/14/2017	*08/14/17 17:10*	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-20-0.5

Lab ID: 1702928-47

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,1,1-Trichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,1,2-Trichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,1-Dichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,1-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,1-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,2,3-Trichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,2,3-Trichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,2,4-Trichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,2,4-Trimethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,2-Dibromo-3-chloropropane	ND	10	1	B7H0225	08/11/2017	08/11/17 12:38	
1,2-Dibromoethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,2-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,2-Dichloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,2-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,3,5-Trimethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,3-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,3-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
1,4-Dichlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
2,2-Dichloropropane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
2-Chlorotoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
4-Chlorotoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
4-Isopropyltoluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Benzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Bromobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Bromochloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Bromodichloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Bromoform	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Bromomethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Carbon disulfide	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Carbon tetrachloride	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Chlorobenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Chloroethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Chloroform	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Chloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
cis-1,2-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-20-0.5

Lab ID: 1702928-47

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Di-isopropyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Dibromochloromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Dibromomethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Dichlorodifluoromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Ethyl Acetate	ND	50	1	B7H0225	08/11/2017	08/11/17 12:38	
Ethyl Ether	ND	50	1	B7H0225	08/11/2017	08/11/17 12:38	
Ethyl tert-butyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Ethylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Freon-113	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Hexachlorobutadiene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Isopropylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
m,p-Xylene	**23**	10	1	B7H0225	08/11/2017	08/11/17 12:38	
Methylene chloride	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
MTBE	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
n-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
n-Propylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Naphthalene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
o-Xylene	**7.5**	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
sec-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Styrene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
tert-Amyl methyl ether	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
tert-Butanol	ND	100	1	B7H0225	08/11/2017	08/11/17 12:38	
tert-Butylbenzene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Tetrachloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Toluene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
trans-1,2-Dichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
trans-1,3-Dichloropropene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Trichloroethene	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Trichlorofluoromethane	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Vinyl acetate	ND	50	1	B7H0225	08/11/2017	08/11/17 12:38	
Vinyl chloride	ND	5.0	1	B7H0225	08/11/2017	08/11/17 12:38	
Surrogate: 1,2-Dichloroethane-d4	*110 %*	*12 - 186*		B7H0225	08/11/2017	*08/11/17 12:38*	
Surrogate: 4-Bromofluorobenzene	*94.1 %*	*23 - 162*		B7H0225	08/11/2017	*08/11/17 12:38*	
Surrogate: Dibromofluoromethane	*117 %*	*23 - 179*		B7H0225	08/11/2017	*08/11/17 12:38*	
Surrogate: Toluene-d8	*102 %*	*26 - 164*		B7H0225	08/11/2017	*08/11/17 12:38*	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-20-1.0

Lab ID: 1702928-48

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Arsenic	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Barium	**45**	1.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Beryllium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Cadmium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Chromium	**12**	1.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Cobalt	**6.9**	1.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Copper	**7.9**	2.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Lead	**2.0**	1.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Molybdenum	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Nickel	**8.6**	1.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Selenium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Silver	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Thallium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Vanadium	**29**	1.0	1	B7H0253	08/14/2017	08/14/17 14:39	
Zinc	**34**	1.0	1	B7H0253	08/14/2017	08/14/17 14:39	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0232	08/11/2017	08/14/17 11:44	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-24-0.5

Lab ID: 1702928-50

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**10**	1.0	1	B7H0227	08/11/2017	08/14/17 10:26	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Client Sample ID SB-24-1.0

Lab ID: 1702928-51

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**2.8**	1.0	1	B7H0227	08/11/2017	08/14/17 10:33	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-25-0.5

Lab ID: 1702928-53

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Arsenic	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Barium	**68**	1.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Beryllium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Cadmium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Chromium	**15**	1.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Cobalt	**8.1**	1.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Copper	**19**	2.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Lead	**130**	1.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Molybdenum	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Nickel	**11**	1.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Selenium	**1.6**	1.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Silver	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Thallium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Vanadium	**31**	1.0	1	B7H0253	08/14/2017	08/14/17 14:40	
Zinc	**450**	1.0	1	B7H0253	08/14/2017	08/14/17 14:40	

TCLP Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.25	5	B7H0335	08/17/2017	08/17/17 12:13	D1

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**9.4**	1.0	20	B7H0368	08/18/2017	08/18/17 10:34	D1

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0232	08/11/2017	08/14/17 11:46	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-25-0.5

Lab ID: 1702928-53

Organochlorine Pesticides by EPA 8081 **Analyst: CO**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:20	
4,4´-DDE [2C]	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:20	
4,4´-DDT [2C]	**12**	2.0	1	B7H0244	08/14/2017	08/14/17 17:20	
Aldrin	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:20	
alpha-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:20	
alpha-Chlordane	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:20	
beta-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:20	
Chlordane	ND	8.5	1	B7H0244	08/14/2017	08/14/17 17:20	
delta-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:20	
Dieldrin [2C]	**3.3**	2.0	1	B7H0244	08/14/2017	08/14/17 17:20	
Endosulfan I	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:20	
Endosulfan II	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:20	
Endosulfan sulfate	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:20	
Endrin	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:20	
Endrin aldehyde	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:20	
Endrin ketone	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:20	
gamma-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:20	
gamma-Chlordane	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:20	
Heptachlor	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:20	
Heptachlor epoxide	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:20	
Methoxychlor	ND	5.0	1	B7H0244	08/14/2017	08/14/17 17:20	
Toxaphene	ND	50	1	B7H0244	08/14/2017	08/14/17 17:20	
Surrogate: Decachlorobiphenyl	*30.0 %*	*27 - 123*		B7H0244	08/14/2017	*08/14/17 17:20*	
Surrogate: Tetrachloro-m-xylene	*34.8 %*	*26 - 108*		B7H0244	08/14/2017	*08/14/17 17:20*	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-25-1.0

Lab ID: 1702928-54

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Arsenic	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Barium	**65**	1.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Beryllium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Cadmium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Chromium	**15**	1.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Cobalt	**8.9**	1.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Copper	**9.0**	2.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Lead	**3.6**	1.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Molybdenum	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Nickel	**10**	1.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Selenium	**1.1**	1.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Silver	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Thallium	ND	1.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Vanadium	**34**	1.0	1	B7H0253	08/14/2017	08/14/17 14:41	
Zinc	**46**	1.0	1	B7H0253	08/14/2017	08/14/17 14:41	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0232	08/11/2017	08/14/17 11:48	

Certificate of Analysis

Stantec		Project Number :	Olson/Placentia, 185803982
25864-F Business Center Drive		Report To :	Dion Monge
Redlands , CA 92374		Reported :	08/18/2017

Client Sample ID SB-26-0.5

Lab ID: 1702928-56

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Cadmium	ND	1.0	1	B7H0227	08/11/2017	08/14/17 10:34	
Lead	**41**	1.0	1	B7H0227	08/11/2017	08/14/17 10:34	

Certificate of Analysis

Stantec		Project Number :	Olson/Placentia, 185803982
25864-F Business Center Drive		Report To :	Dion Monge
Redlands , CA 92374		Reported :	08/18/2017

Client Sample ID SB-26-1.0

Lab ID: 1702928-57

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Cadmium	ND	1.0	1	B7H0227	08/11/2017	08/14/17 10:35	
Lead	**7.9**	1.0	1	B7H0227	08/11/2017	08/14/17 10:35	

Certificate of Analysis

Stantec		Project Number :	Olson/Placentia, 185803982
25864-F Business Center Drive		Report To :	Dion Monge
Redlands , CA 92374		Reported :	08/18/2017

Client Sample ID SB-27-0.5

Lab ID: 1702928-59

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Cadmium	ND	1.0	1	B7H0227	08/11/2017	08/14/17 10:36	
Lead	**22**	1.0	1	B7H0227	08/11/2017	08/14/17 10:36	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-27-1.0

Lab ID: 1702928-60

Total Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Cadmium	ND	1.0	1	B7H0227	08/11/2017	08/14/17 10:37	
Lead	**8.6**	1.0	1	B7H0227	08/11/2017	08/14/17 10:37	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Client Sample ID SB-33-0.5

Lab ID: 1702928-62

Organochlorine Pesticides by EPA 8081 **Analyst: CO**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD [2C]	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:31	
4,4´-DDE [2C]	**13**	2.0	1	B7H0244	08/14/2017	08/14/17 17:31	
4,4´-DDT [2C]	**9.2**	2.0	1	B7H0244	08/14/2017	08/14/17 17:31	
Aldrin	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:31	
alpha-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:31	
alpha-Chlordane	**3.4**	1.0	1	B7H0244	08/14/2017	08/14/17 17:31	
beta-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:31	
Chlordane [2C]	**33**	8.5	1	B7H0244	08/14/2017	08/14/17 17:31	
delta-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:31	
Dieldrin	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:31	
Endosulfan I	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:31	
Endosulfan II	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:31	
Endosulfan sulfate	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:31	
Endrin	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:31	
Endrin aldehyde	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:31	
Endrin ketone	ND	2.0	1	B7H0244	08/14/2017	08/14/17 17:31	
gamma-BHC	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:31	
gamma-Chlordane [2C]	**3.4**	1.0	1	B7H0244	08/14/2017	08/14/17 17:31	
Heptachlor	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:31	
Heptachlor epoxide	ND	1.0	1	B7H0244	08/14/2017	08/14/17 17:31	
Methoxychlor	ND	5.0	1	B7H0244	08/14/2017	08/14/17 17:31	
Toxaphene	ND	50	1	B7H0244	08/14/2017	08/14/17 17:31	
Surrogate: Decachlorobiphenyl	*40.7 %*	*27 - 123*		B7H0244	08/14/2017	*08/14/17 17:31*	
Surrogate: Tetrachloro-m-xylene	*45.8 %*	*26 - 108*		B7H0244	08/14/2017	*08/14/17 17:31*	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Redlands , CA 92374	Reported : 08/18/2017

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 B7H0226 - EPA 3050B_S										
Blank (B7H0226-BLK1)					Prepared: 8/11/2017 Analyzed: 8/14/2017					
Cadmium	ND	1.0	0.09							
Lead	ND	1.0	0.19							
LCS (B7H0226-BS1)					Prepared: 8/11/2017 Analyzed: 8/14/2017					
Cadmium	42.9689	1.0	0.09	50.0000		85.9	80 - 120			
Lead	44.1523	1.0	0.19	50.0000		88.3	80 - 120			
Matrix Spike (B7H0226-MS1)			**Source: 1702928-04**		Prepared: 8/11/2017 Analyzed: 8/14/2017					
Cadmium	94.5034	1.0	0.09	125.000	0.513404	75.2	53 - 102			
Lead	223.141	1.0	0.19	125.000	124.877	78.6	34 - 129			
Matrix Spike Dup (B7H0226-MSD1)			**Source: 1702928-04**		Prepared: 8/11/2017 Analyzed: 8/14/2017					
Cadmium	89.0160	1.0	0.09	125.000	0.513404	70.8	53 - 102	5.98	20	
Lead	214.536	1.0	0.19	125.000	124.877	71.7	34 - 129	3.93	20	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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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 B7H0227 - EPA 3050B_S										
Blank (B7H0227-BLK1)						Prepared: 8/11/2017 Analyzed: 8/14/2017				
Cadmium	ND	1.0	0.09							
Lead	ND	1.0	0.19							
LCS (B7H0227-BS1)						Prepared: 8/11/2017 Analyzed: 8/14/2017				
Cadmium	43.1837	1.0	0.09	50.0000		86.4	80 - 120			
Lead	44.1668	1.0	0.19	50.0000		88.3	80 - 120			
Matrix Spike (B7H0227-MS1)			**Source: 1702928-50**			Prepared: 8/11/2017 Analyzed: 8/14/2017				
Cadmium	81.0150	1.0	0.09	125.000	0.235864	64.6	53 - 102			
Lead	96.8659	1.0	0.19	125.000	10.4089	69.2	34 - 129			
Matrix Spike Dup (B7H0227-MSD1)			**Source: 1702928-50**			Prepared: 8/11/2017 Analyzed: 8/14/2017				
Cadmium	76.9204	1.0	0.09	125.000	0.235864	61.3	53 - 102	5.19	20	
Lead	89.2168	1.0	0.19	125.000	10.4089	63.0	34 - 129	8.22	20	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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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 B7H0337 - EPA 3050B_S										
Blank (B7H0337-BLK1)					Prepared: 8/17/2017 Analyzed: 8/17/2017					
Cadmium	ND	1.0	0.09							
Lead	ND	1.0	0.19							
LCS (B7H0337-BS1)					Prepared: 8/17/2017 Analyzed: 8/17/2017					
Cadmium	45.2514	1.0	0.09	50.0000		90.5	80 - 120			
Lead	46.0925	1.0	0.19	50.0000		92.2	80 - 120			
Matrix Spike (B7H0337-MS1)			**Source: 1702928-15**		Prepared: 8/17/2017 Analyzed: 8/17/2017					
Cadmium	101.005	1.0	0.09	125.000	0.260300	80.6	53 - 102			
Lead	108.891	1.0	0.19	125.000	10.4389	78.8	34 - 129			
Matrix Spike Dup (B7H0337-MSD1)			**Source: 1702928-15**		Prepared: 8/17/2017 Analyzed: 8/17/2017					
Cadmium	98.8691	1.0	0.09	125.000	0.260300	78.9	53 - 102	2.14	20	
Lead	108.336	1.0	0.19	125.000	10.4389	78.3	34 - 129	0.511	20	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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Title 22 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 B7H0253 - EPA 3050B_S										
Blank (B7H0253-BLK1)						Prepared: 8/14/2017 Analyzed: 8/14/2017				
Antimony	ND	2.0	0.44							
Arsenic	ND	1.0	0.70							
Barium	ND	1.0	0.10							
Beryllium	ND	1.0	0.04							
Cadmium	ND	1.0	0.09							
Chromium	ND	1.0	0.12							
Cobalt	ND	1.0	0.10							
Copper	ND	2.0	0.11							
Lead	ND	1.0	0.19							
Molybdenum	ND	1.0	0.13							
Nickel	ND	1.0	0.10							
Selenium	ND	1.0	0.88							
Silver	ND	1.0	0.07							
Thallium	ND	1.0	0.42							
Vanadium	ND	1.0	0.19							
Zinc	ND	1.0	0.18							
LCS (B7H0253-BS1)						Prepared: 8/14/2017 Analyzed: 8/14/2017				
Antimony	44.8970	2.0	0.44	50.0000		89.8	80 - 120			
Arsenic	42.7976	1.0	0.70	50.0000		85.6	80 - 120			
Barium	46.8368	1.0	0.10	50.0000		93.7	80 - 120			
Beryllium	44.0666	1.0	0.04	50.0000		88.1	80 - 120			
Cadmium	43.7144	1.0	0.09	50.0000		87.4	80 - 120			
Chromium	46.6085	1.0	0.12	50.0000		93.2	80 - 120			
Cobalt	46.6065	1.0	0.10	50.0000		93.2	80 - 120			
Copper	45.0694	2.0	0.11	50.0000		90.1	80 - 120			
Lead	45.2872	1.0	0.19	50.0000		90.6	80 - 120			
Molybdenum	45.6725	1.0	0.13	50.0000		91.3	80 - 120			
Nickel	45.3839	1.0	0.10	50.0000		90.8	80 - 120			
Selenium	42.9764	1.0	0.88	50.0000		86.0	80 - 120			
Silver	43.7381	1.0	0.07	50.0000		87.5	80 - 120			
Thallium	45.9766	1.0	0.42	50.0000		92.0	80 - 120			
Vanadium	45.7558	1.0	0.19	50.0000		91.5	80 - 120			
Zinc	42.9671	1.0	0.18	50.0000		85.9	80 - 120			
Matrix Spike (B7H0253-MS1)			**Source: 1702928-01**			Prepared: 8/14/2017 Analyzed: 8/14/2017				
Antimony	89.5455	2.0	0.43	124.378	ND	72.0	34 - 103			
Arsenic	95.2503	1.0	0.70	124.378	ND	76.6	59 - 103			
Barium	126.593	1.0	0.10	124.378	28.1127	79.2	30 - 134			
Beryllium	96.5579	1.0	0.04	124.378	ND	77.6	62 - 105			
Cadmium	94.3131	1.0	0.09	124.378	ND	75.8	53 - 102			
Chromium	106.646	1.0	0.12	124.378	7.78678	79.5	51 - 111			

Stantec	Project Number : Olson/Placentia, 185803982
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Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0253 - EPA 3050B_S (continued)										
Matrix Spike (B7H0253-MS1) - Continued			**Source: 1702928-01**		Prepared: 8/14/2017 Analyzed: 8/14/2017					
Cobalt	101.949	1.0	0.10	124.378	3.95570	78.8	55 - 105			
Copper	104.951	2.0	0.11	124.378	5.28364	80.1	53 - 126			
Lead	102.845	1.0	0.19	124.378	7.72672	76.5	34 - 129			
Molybdenum	99.0412	1.0	0.13	124.378	ND	79.6	57 - 105			
Nickel	101.653	1.0	0.10	124.378	5.07867	77.6	49 - 109			
Selenium	93.6190	1.0	0.88	124.378	ND	75.3	57 - 99			
Silver	97.1698	1.0	0.07	124.378	ND	78.1	64 - 105			
Thallium	88.2539	1.0	0.42	124.378	ND	71.0	46 - 105			
Vanadium	114.118	1.0	0.19	124.378	17.5223	77.7	60 - 109			
Zinc	121.571	1.0	0.18	124.378	29.5358	74.0	29 - 122			
Matrix Spike Dup (B7H0253-MSD1)			**Source: 1702928-01**		Prepared: 8/14/2017 Analyzed: 8/14/2017					
Antimony	93.9738	2.0	0.43	124.378	ND	75.6	34 - 103	4.83	20	
Arsenic	98.8546	1.0	0.70	124.378	ND	79.5	59 - 103	3.71	20	
Barium	135.312	1.0	0.10	124.378	28.1127	86.2	30 - 134	6.66	20	
Beryllium	99.9827	1.0	0.04	124.378	ND	80.4	62 - 105	3.49	20	
Cadmium	98.3991	1.0	0.09	124.378	ND	79.1	53 - 102	4.24	20	
Chromium	112.432	1.0	0.12	124.378	7.78678	84.1	51 - 111	5.28	20	
Cobalt	105.585	1.0	0.10	124.378	3.95570	81.7	55 - 105	3.50	20	
Copper	112.889	2.0	0.11	124.378	5.28364	86.5	53 - 126	7.29	20	
Lead	107.784	1.0	0.19	124.378	7.72672	80.4	34 - 129	4.69	20	
Molybdenum	102.646	1.0	0.13	124.378	ND	82.5	57 - 105	3.57	20	
Nickel	104.909	1.0	0.10	124.378	5.07867	80.3	49 - 109	3.15	20	
Selenium	98.2953	1.0	0.88	124.378	ND	79.0	57 - 99	4.87	20	
Silver	103.559	1.0	0.07	124.378	ND	83.3	64 - 105	6.37	20	
Thallium	91.1998	1.0	0.42	124.378	ND	73.3	46 - 105	3.28	20	
Vanadium	123.714	1.0	0.19	124.378	17.5223	85.4	60 - 109	8.07	20	
Zinc	126.304	1.0	0.18	124.378	29.5358	77.8	29 - 122	3.82	20	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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TCLP Metals by ICP-AES 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 B7H0335 - EPA 3010A_S										
Blank (B7H0335-BLK1)					Prepared: 8/17/2017 Analyzed: 8/17/2017					
Lead	ND	0.050	0.0028							
Blank (B7H0335-BLK2)					Prepared: 8/17/2017 Analyzed: 8/17/2017					
Lead	ND	0.050	0.0028							
LCS (B7H0335-BS1)					Prepared: 8/17/2017 Analyzed: 8/17/2017					
Lead	0.986270	0.050	0.0028	1.00000		98.6	80 - 120			
Duplicate (B7H0335-DUP1)			**Source: 1702804-02**		Prepared: 8/17/2017 Analyzed: 8/17/2017					
Lead	0.333310	0.25	0.014		0.338849			1.65	20	
Duplicate (B7H0335-DUP2)			**Source: 1702928-53**		Prepared: 8/17/2017 Analyzed: 8/17/2017					
Lead	0.249496	0.25	0.014		0.240428			3.70	20	
Matrix Spike (B7H0335-MS1)			**Source: 1702804-02**		Prepared: 8/17/2017 Analyzed: 8/17/2017					
Lead	2.72062	0.25	0.014	2.50000	0.338849	95.3	78 - 109			
Matrix Spike (B7H0335-MS2)			**Source: 1702928-53**		Prepared: 8/17/2017 Analyzed: 8/17/2017					
Lead	2.55446	0.25	0.014	2.50000	0.240428	92.6	78 - 109			
Matrix Spike Dup (B7H0335-MSD1)			**Source: 1702804-02**		Prepared: 8/17/2017 Analyzed: 8/17/2017					
Lead	2.70010	0.25	0.014	2.50000	0.338849	94.4	78 - 109	0.757	20	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
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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 B7H0368 - STLC_S Extraction										
Blank (B7H0368-BLK1)					Prepared: 8/18/2017 Analyzed: 8/18/2017					
Lead	ND	1.0	0.057							
LCS (B7H0368-BS1)					Prepared: 8/18/2017 Analyzed: 8/18/2017					
Lead	1.87784			2.00000		93.9	80 - 120			
LCS Dup (B7H0368-BSD1)					Prepared: 8/18/2017 Analyzed: 8/18/2017					
Lead	1.89656			2.00000		94.8	80 - 120	0.992	20	

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Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0232 - EPA 7471_S										
Blank (B7H0232-BLK1)					Prepared: 8/11/2017 Analyzed: 8/14/2017					
Mercury	ND	0.10	0.005							
LCS (B7H0232-BS1)					Prepared: 8/11/2017 Analyzed: 8/14/2017					
Mercury	0.803953	0.10	0.005	0.833333		96.5	80 - 120			
Matrix Spike (B7H0232-MS1)			**Source: 1702928-01**		Prepared: 8/11/2017 Analyzed: 8/14/2017					
Mercury	0.898405	0.10	0.005	0.833333	0.016928	106	70 - 130			
Matrix Spike Dup (B7H0232-MSD1)			**Source: 1702928-01**		Prepared: 8/11/2017 Analyzed: 8/14/2017					
Mercury	0.883402	0.10	0.005	0.833333	0.016928	104	70 - 130	1.68	20	
Post Spike (B7H0232-PS1)			**Source: 1702928-01**		Prepared: 8/11/2017 Analyzed: 8/14/2017					
Mercury	0.005962			5.00000E-3	0.000203	115	85 - 115			M1

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

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0221 - GCVOA_S										
Blank (B7H0221-BLK1)						Prepared: 8/11/2017 Analyzed: 8/11/2017				
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2019*			*0.200000*		*101*	*36 - 125*			
LCS (B7H0221-BS1)						Prepared: 8/11/2017 Analyzed: 8/11/2017				
Gasoline Range Organics	4.54900	1.0	0.20	5.00000		91.0	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2010*			*0.200000*		*101*	*36 - 125*			
Matrix Spike (B7H0221-MS1)			**Source: 1702928-02**			Prepared: 8/11/2017 Analyzed: 8/11/2017				
Gasoline Range Organics	3.90800	1.0	0.20	5.00000	ND	78.2	32 - 161			
Surrogate: 4-Bromofluorobenzene	*0.2132*			*0.200000*		*107*	*36 - 125*			
Matrix Spike Dup (B7H0221-MSD1)			**Source: 1702928-02**			Prepared: 8/11/2017 Analyzed: 8/11/2017				
Gasoline Range Organics	3.81400	1.0	0.20	5.00000	ND	76.3	32 - 161	2.43	20	
Surrogate: 4-Bromofluorobenzene	*0.1975*			*0.200000*		*98.7*	*36 - 125*			

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Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0236 - GCSEMI_DRO_S										
Blank (B7H0236-BLK1)						Prepared: 8/11/2017 Analyzed: 8/14/2017				
DRO	ND	10	10							
ORO	ND	10	10							
Surrogate: p-Terphenyl	*131.5*			*160.000*		*82.2*	*47 - 157*			
LCS (B7H0236-BS1)						Prepared: 8/11/2017 Analyzed: 8/14/2017				
DRO	1563.81	10	10	1000.00		156	36 - 164			
Surrogate: p-Terphenyl	*145.9*			*160.000*		*91.2*	*47 - 157*			
Matrix Spike (B7H0236-MS1)			**Source: 1702928-31**			Prepared: 8/11/2017 Analyzed: 8/14/2017				
DRO	1330.43	10	10	1000.00	ND	133	21 - 179			
Surrogate: p-Terphenyl	*125.9*			*160.000*		*78.7*	*47 - 157*			
Matrix Spike Dup (B7H0236-MSD1)			**Source: 1702928-31**			Prepared: 8/11/2017 Analyzed: 8/14/2017				
DRO	1445.40	10	10	1000.00	ND	145	21 - 179	8.28	20	
Surrogate: p-Terphenyl	*144.8*			*160.000*		*90.5*	*47 - 157*			

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Organochlorine Pesticides by EPA 8081 - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0244 - GCSEMI_PCB/PEST_S										
Blank (B7H0244-BLK1)							Prepared: 8/14/2017 Analyzed: 8/14/2017			
4,4′-DDD	ND	2.0	0.22							
4,4′-DDD [2C]	ND	2.0	0.22							
4,4′-DDE	ND	2.0	0.20							
4,4′-DDE [2C]	ND	2.0	0.20							
4,4′-DDT	ND	2.0	0.13							
4,4′-DDT [2C]	ND	2.0	0.13							
Aldrin	ND	1.0	0.27							
Aldrin [2C]	ND	1.0	0.27							
alpha-BHC	ND	1.0	0.20							
alpha-BHC [2C]	ND	1.0	0.20							
alpha-Chlordane	ND	1.0	0.21							
alpha-Chlordane [2C]	ND	1.0	0.21							
beta-BHC	ND	1.0	0.23							
beta-BHC [2C]	ND	1.0	0.23							
Chlordane	ND	8.5	0.90							
Chlordane [2C]	ND	8.5	0.90							
delta-BHC	ND	1.0	0.21							
delta-BHC [2C]	ND	1.0	0.21							
Dieldrin	ND	2.0	0.25							
Dieldrin [2C]	ND	2.0	0.25							
Endosulfan I	ND	1.0	0.21							
Endosulfan I [2C]	ND	1.0	0.21							
Endosulfan II	ND	2.0	0.22							
Endosulfan II [2C]	ND	2.0	0.22							
Endosulfan sulfate	ND	2.0	0.21							
Endosulfan Sulfate [2C]	ND	2.0	0.21							
Endrin	ND	2.0	0.23							
Endrin [2C]	ND	2.0	0.23							
Endrin aldehyde	ND	2.0	0.28							
Endrin aldehyde [2C]	ND	2.0	0.28							
Endrin ketone	ND	2.0	0.20							
Endrin ketone [2C]	ND	2.0	0.20							
gamma-BHC	ND	1.0	0.20							
gamma-BHC [2C]	ND	1.0	0.20							
gamma-Chlordane	ND	1.0	0.23							
gamma-Chlordane [2C]	ND	1.0	0.23							
Heptachlor	ND	1.0	0.19							
Heptachlor [2C]	ND	1.0	0.19							
Heptachlor epoxide	ND	1.0	0.20							
Heptachlor epoxide [2C]	ND	1.0	0.20							
Methoxychlor	ND	5.0	0.18							

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Organochlorine Pesticides by EPA 8081 - 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 B7H0244 - GCSEMI_PCB/PEST_S (continued)										
Blank (B7H0244-BLK1) - Continued					Prepared: 8/14/2017 Analyzed: 8/14/2017					
Methoxychlor [2C]	ND	5.0	0.18							
Toxaphene	ND	50	8.2							
Toxaphene [2C]	ND	50	8.2							
Surrogate: Decachlorobiphenyl	*9.126*			*16.6667*		*54.8*	*27 - 123*			
Surrogate: Decachlorobiphenyl [	*10.97*			*16.6667*		*65.8*	*27 - 123*			
Surrogate: Tetrachloro-m-xylene	*10.79*			*16.6667*		*64.7*	*26 - 108*			
Surrogate: Tetrachloro-m-xylene	*11.76*			*16.6667*		*70.6*	*26 - 108*			
LCS (B7H0244-BS1)					Prepared: 8/14/2017 Analyzed: 8/14/2017					
4,4′-DDD	15.5967	2.0	0.22	16.6667		93.6	53 - 125			
4,4′-DDD [2C]	16.7213	2.0	0.22	16.6667		100	53 - 125			
4,4′-DDE	12.9795	2.0	0.20	16.6667		77.9	54 - 113			
4,4′-DDE [2C]	14.2030	2.0	0.20	16.6667		85.2	54 - 113			
4,4′-DDT	5.56967	2.0	0.13	16.6667		33.4	25 - 127			
4,4′-DDT [2C]	6.09933	2.0	0.13	16.6667		36.6	25 - 127			
Aldrin	13.4885	1.0	0.27	16.6667		80.9	59 - 107			
Aldrin [2C]	14.3513	1.0	0.27	16.6667		86.1	59 - 107			
alpha-BHC	14.4028	1.0	0.20	16.6667		86.4	59 - 104			
alpha-BHC [2C]	15.3137	1.0	0.20	16.6667		91.9	59 - 104			
alpha-Chlordane	12.9415	1.0	0.21	16.6667		77.6	54 - 110			
alpha-Chlordane [2C]	13.9525	1.0	0.21	16.6667		83.7	54 - 110			
beta-BHC	13.4368	1.0	0.23	16.6667		80.6	57 - 103			
beta-BHC [2C]	14.9187	1.0	0.23	16.6667		89.5	57 - 103			
delta-BHC	15.2023	1.0	0.21	16.6667		91.2	16 - 120			
delta-BHC [2C]	15.6897	1.0	0.21	16.6667		94.1	16 - 120			
Dieldrin	12.0748	2.0	0.25	16.6667		72.4	61 - 109			
Dieldrin [2C]	13.0252	2.0	0.25	16.6667		78.2	61 - 109			
Endosulfan I	12.5105	1.0	0.21	16.6667		75.1	60 - 106			
Endosulfan I [2C]	13.0250	1.0	0.21	16.6667		78.1	60 - 106			
Endosulfan II	12.7868	2.0	0.22	16.6667		76.7	59 - 108			
Endosulfan II [2C]	13.6895	2.0	0.22	16.6667		82.1	59 - 108			
Endosulfan sulfate	12.0858	2.0	0.21	16.6667		72.5	54 - 110			
Endosulfan Sulfate [2C]	12.8163	2.0	0.21	16.6667		76.9	54 - 110			
Endrin	11.3268	2.0	0.23	16.6667		68.0	63 - 112			
Endrin [2C]	12.3750	2.0	0.23	16.6667		74.2	63 - 112			
Endrin aldehyde	12.3177	2.0	0.28	16.6667		73.9	64 - 119			
Endrin aldehyde [2C]	13.1112	2.0	0.28	16.6667		78.7	64 - 119			
Endrin ketone	12.2817	2.0	0.20	16.6667		73.7	54 - 115			
Endrin ketone [2C]	13.1180	2.0	0.20	16.6667		78.7	54 - 115			
gamma-BHC	13.8825	1.0	0.20	16.6667		83.3	60 - 107			
gamma-BHC [2C]	14.4085	1.0	0.20	16.6667		86.5	60 - 107			

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Organochlorine Pesticides by EPA 8081 - 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 B7H0244 - GCSEMI_PCB/PEST_S (continued)										
LCS (B7H0244-BS1) - Continued						Prepared: 8/14/2017 Analyzed: 8/14/2017				
gamma-Chlordane	12.5437	1.0	0.23	16.6667		75.3	57 - 106			
gamma-Chlordane [2C]	13.6860	1.0	0.23	16.6667		82.1	57 - 106			
Heptachlor	12.5783	1.0	0.19	16.6667		75.5	54 - 114			
Heptachlor [2C]	13.8980	1.0	0.19	16.6667		83.4	54 - 114			
Heptachlor epoxide	13.0600	1.0	0.20	16.6667		78.4	61 - 106			
Heptachlor epoxide [2C]	13.6937	1.0	0.20	16.6667		82.2	61 - 106			
Methoxychlor	7.31233	5.0	0.18	16.6667		43.9	18 - 138			
Methoxychlor [2C]	6.98800	5.0	0.18	16.6667		41.9	18 - 138			
Surrogate: Decachlorobiphenyl	*10.61*			*16.6667*		*63.6*	*27 - 123*			
Surrogate: Decachlorobiphenyl [	*11.07*			*16.6667*		*66.4*	*27 - 123*			
Surrogate: Tetrachloro-m-xylene	*14.49*			*16.6667*		*87.0*	*26 - 108*			
Surrogate: Tetrachloro-m-xylene	*16.25*			*16.6667*		*97.5*	*26 - 108*			
Matrix Spike (B7H0244-MS1)			**Source: 1702928-47**			Prepared: 8/14/2017 Analyzed: 8/14/2017				
4,4′-DDD	5.44350	2.0	0.22	16.6667	ND	32.7	25 - 141			
4,4′-DDD [2C]	7.37250	2.0	0.22	16.6667	ND	44.2	25 - 141			
4,4′-DDE	5.96233	2.0	0.20	16.6667	ND	35.8	22 - 141			
4,4′-DDE [2C]	7.29483	2.0	0.20	16.6667	ND	43.8	22 - 141			
4,4′-DDT	5.42183	2.0	0.13	16.6667	0.481000	29.6	15 - 136			
4,4′-DDT [2C]	6.37517	2.0	0.13	16.6667	0.321333	36.3	15 - 136			
Aldrin	5.91250	1.0	0.27	16.6667	ND	35.5	33 - 118			
Aldrin [2C]	7.01967	1.0	0.27	16.6667	ND	42.1	33 - 118			
alpha-BHC	5.52500	1.0	0.20	16.6667	ND	33.1	30 - 116			
alpha-BHC [2C]	6.39050	1.0	0.20	16.6667	ND	38.3	30 - 116			
alpha-Chlordane	5.45583	1.0	0.21	16.6667	ND	32.7	30 - 123			
alpha-Chlordane [2C]	6.49633	1.0	0.21	16.6667	ND	39.0	30 - 123			
beta-BHC	3.68400	1.0	0.23	16.6667	ND	22.1	24 - 121			M1
beta-BHC [2C]	4.76633	1.0	0.23	16.6667	ND	28.6	24 - 121			
delta-BHC	2.31133	1.0	0.21	16.6667	ND	13.9	7 - 120			
delta-BHC [2C]	2.78033	1.0	0.21	16.6667	ND	16.7	7 - 120			
Dieldrin	3.07000	2.0	0.25	16.6667	ND	18.4	25 - 136			M1
Dieldrin [2C]	3.72867	2.0	0.25	16.6667	ND	22.4	25 - 136			M1
Endosulfan I	3.76867	1.0	0.21	16.6667	ND	22.6	18 - 134			
Endosulfan I [2C]	4.35500	1.0	0.21	16.6667	ND	26.1	18 - 134			
Endosulfan II	1.22100	2.0	0.22	16.6667	ND	7.33	28 - 128			M1
Endosulfan II [2C]	1.58967	2.0	0.22	16.6667	ND	9.54	28 - 128			M1
Endosulfan sulfate	0.926333	2.0	0.21	16.6667	ND	5.56	5 - 145			
Endosulfan Sulfate [2C]	1.12300	2.0	0.21	16.6667	ND	6.74	5 - 145			
Endrin	3.32833	2.0	0.23	16.6667	ND	20.0	26 - 142			M1
Endrin [2C]	4.03517	2.0	0.23	16.6667	ND	24.2	26 - 142			M1
Endrin aldehyde	0.900167	2.0	0.28	16.6667	ND	5.40	8 - 146			M1

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0244 - GCSEMI_PCB/PEST_S (continued)										
Matrix Spike (B7H0244-MS1) - Continued			**Source: 1702928-47**			Prepared: 8/14/2017 Analyzed: 8/14/2017				
Endrin aldehyde [2C]	1.00533	2.0	0.28	16.6667	ND	6.03	8 - 146			M1
Endrin ketone	1.15967	2.0	0.20	16.6667	ND	6.96	16 - 139			M1
Endrin ketone [2C]	1.56900	2.0	0.20	16.6667	ND	9.41	16 - 139			M1
gamma-BHC	4.71833	1.0	0.20	16.6667	ND	28.3	30 - 122			M1
gamma-BHC [2C]	5.55683	1.0	0.20	16.6667	ND	33.3	30 - 122			
gamma-Chlordane	5.67017	1.0	0.23	16.6667	ND	34.0	18 - 132			
gamma-Chlordane [2C]	5.95700	1.0	0.23	16.6667	ND	35.7	18 - 132			
Heptachlor	6.22117	1.0	0.19	16.6667	ND	37.3	34 - 122			
Heptachlor [2C]	7.32250	1.0	0.19	16.6667	ND	43.9	34 - 122			
Heptachlor epoxide	3.98067	1.0	0.20	16.6667	ND	23.9	21 - 135			
Heptachlor epoxide [2C]	4.80667	1.0	0.20	16.6667	ND	28.8	21 - 135			
Methoxychlor	2.62883	5.0	0.18	16.6667	ND	15.8	8 - 162			
Methoxychlor [2C]	2.58367	5.0	0.18	16.6667	ND	15.5	8 - 162			
Surrogate: Decachlorobiphenyl	*5.062*			*16.6667*		*30.4*	*27 - 123*			
Surrogate: Decachlorobiphenyl [	*6.020*			*16.6667*		*36.1*	*27 - 123*			
Surrogate: Tetrachloro-m-xylene	*6.361*			*16.6667*		*38.2*	*26 - 108*			
Surrogate: Tetrachloro-m-xylene	*7.142*			*16.6667*		*42.8*	*26 - 108*			
Matrix Spike Dup (B7H0244-MSD1)			**Source: 1702928-47**			Prepared: 8/14/2017 Analyzed: 8/14/2017				
4,4′-DDD	6.36000	2.0	0.22	16.6667	ND	38.2	25 - 141	15.5	20	
4,4′-DDD [2C]	6.61000	2.0	0.22	16.6667	ND	39.7	25 - 141	10.9	20	
4,4′-DDE	7.18717	2.0	0.20	16.6667	ND	43.1	22 - 141	18.6	20	
4,4′-DDE [2C]	6.56150	2.0	0.20	16.6667	ND	39.4	22 - 141	10.6	20	
4,4′-DDT	6.43400	2.0	0.13	16.6667	0.481000	35.7	15 - 136	17.1	20	
4,4′-DDT [2C]	5.82517	2.0	0.13	16.6667	0.321333	33.0	15 - 136	9.02	20	
Aldrin	7.31617	1.0	0.27	16.6667	ND	43.9	33 - 118	21.2	20	M1
Aldrin [2C]	6.35817	1.0	0.27	16.6667	ND	38.1	33 - 118	9.89	20	
alpha-BHC	6.52100	1.0	0.20	16.6667	ND	39.1	30 - 116	16.5	20	
alpha-BHC [2C]	6.07367	1.0	0.20	16.6667	ND	36.4	30 - 116	5.08	20	
alpha-Chlordane	6.58317	1.0	0.21	16.6667	ND	39.5	30 - 123	18.7	20	
alpha-Chlordane [2C]	5.82650	1.0	0.21	16.6667	ND	35.0	30 - 123	10.9	20	
beta-BHC	4.45433	1.0	0.23	16.6667	ND	26.7	24 - 121	18.9	20	
beta-BHC [2C]	4.49133	1.0	0.23	16.6667	ND	26.9	24 - 121	5.94	20	
delta-BHC	2.91683	1.0	0.21	16.6667	ND	17.5	7 - 120	23.2	20	M1
delta-BHC [2C]	2.61100	1.0	0.21	16.6667	ND	15.7	7 - 120	6.28	20	
Dieldrin	3.75333	2.0	0.25	16.6667	ND	22.5	25 - 136	20.0	20	M1
Dieldrin [2C]	3.40283	2.0	0.25	16.6667	ND	20.4	25 - 136	9.14	20	M1
Endosulfan I	4.59200	1.0	0.21	16.6667	ND	27.6	18 - 134	19.7	20	
Endosulfan I [2C]	3.92950	1.0	0.21	16.6667	ND	23.6	18 - 134	10.3	20	
Endosulfan II	1.50833	2.0	0.22	16.6667	ND	9.05	28 - 128	21.1	20	M1
Endosulfan II [2C]	1.50183	2.0	0.22	16.6667	ND	9.01	28 - 128	5.68	20	M1

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0244 - GCSEMI_PCB/PEST_S (continued)										
Matrix Spike Dup (B7H0244-MSD1) - Continued			**Source: 1702928-47**		Prepared: 8/14/2017 Analyzed: 8/14/2017					
Endosulfan sulfate	1.14833	2.0	0.21	16.6667	ND	6.89	5 - 145	21.4	20	M1
Endosulfan Sulfate [2C]	1.09950	2.0	0.21	16.6667	ND	6.60	5 - 145	2.11	20	
Endrin	4.03283	2.0	0.23	16.6667	ND	24.2	26 - 142	19.1	20	M1
Endrin [2C]	3.70133	2.0	0.23	16.6667	ND	22.2	26 - 142	8.63	20	M1
Endrin aldehyde	1.18700	2.0	0.28	16.6667	ND	7.12	8 - 146	27.5	20	M1
Endrin aldehyde [2C]	0.980833	2.0	0.28	16.6667	ND	5.88	8 - 146	2.47	20	M1
Endrin ketone	1.43617	2.0	0.20	16.6667	ND	8.62	16 - 139	21.3	20	M1
Endrin ketone [2C]	1.54783	2.0	0.20	16.6667	ND	9.29	16 - 139	1.36	20	M1
gamma-BHC	5.73250	1.0	0.20	16.6667	ND	34.4	30 - 122	19.4	20	
gamma-BHC [2C]	5.16650	1.0	0.20	16.6667	ND	31.0	30 - 122	7.28	20	
gamma-Chlordane	6.87400	1.0	0.23	16.6667	ND	41.2	18 - 132	19.2	20	
gamma-Chlordane [2C]	5.36900	1.0	0.23	16.6667	ND	32.2	18 - 132	10.4	20	
Heptachlor	7.60217	1.0	0.19	16.6667	ND	45.6	34 - 122	20.0	20	
Heptachlor [2C]	6.67150	1.0	0.19	16.6667	ND	40.0	34 - 122	9.30	20	
Heptachlor epoxide	4.87300	1.0	0.20	16.6667	ND	29.2	21 - 135	20.2	20	M1
Heptachlor epoxide [2C]	4.38117	1.0	0.20	16.6667	ND	26.3	21 - 135	9.26	20	
Methoxychlor	3.28000	5.0	0.18	16.6667	ND	19.7	8 - 162	22.0	20	M1
Methoxychlor [2C]	2.50100	5.0	0.18	16.6667	ND	15.0	8 - 162	3.25	20	
Surrogate: Decachlorobiphenyl	*6.106*			*16.6667*		*36.6*	*27 - 123*			
Surrogate: Decachlorobiphenyl [	*5.458*			*16.6667*		*32.7*	*27 - 123*			
Surrogate: Tetrachloro-m-xylene	*6.920*			*16.6667*		*41.5*	*26 - 108*			
Surrogate: Tetrachloro-m-xylene	*7.145*			*16.6667*		*42.9*	*26 - 108*			

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Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0225 - MSVOA_S										
Blank (B7H0225-BLK1)					Prepared: 8/11/2017 Analyzed: 8/11/2017					
1,1,1,2-Tetrachloroethane	ND	5.0	0.63							
1,1,1-Trichloroethane	ND	5.0	0.63							
1,1,2,2-Tetrachloroethane	ND	5.0	0.92							
1,1,2-Trichloroethane	ND	5.0	1.4							
1,1-Dichloroethane	ND	5.0	1.5							
1,1-Dichloroethene	ND	5.0	0.69							
1,1-Dichloropropene	ND	5.0	2.4							
1,2,3-Trichloropropane	ND	5.0	1.2							
1,2,3-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trichlorobenzene	ND	5.0	0.96							
1,2,4-Trimethylbenzene	ND	5.0	0.53							
1,2-Dibromo-3-chloropropane	ND	10	1.1							
1,2-Dibromoethane	ND	5.0	0.80							
1,2-Dichlorobenzene	ND	5.0	0.51							
1,2-Dichloroethane	ND	5.0	0.53							
1,2-Dichloropropane	ND	5.0	0.76							
1,3,5-Trimethylbenzene	ND	5.0	0.58							
1,3-Dichlorobenzene	ND	5.0	0.63							
1,3-Dichloropropane	ND	5.0	0.59							
1,4-Dichlorobenzene	ND	5.0	0.73							
2,2-Dichloropropane	ND	5.0	0.68							
2-Chlorotoluene	ND	5.0	0.68							
4-Chlorotoluene	ND	5.0	0.62							
4-Isopropyltoluene	ND	5.0	0.63							
Benzene	ND	5.0	0.59							
Bromobenzene	ND	5.0	1.9							
Bromochloromethane	ND	5.0	3.1							
Bromodichloromethane	ND	5.0	1.0							
Bromoform	ND	5.0	0.70							
Bromomethane	ND	5.0	4.2							
Carbon disulfide	ND	5.0	1.2							
Carbon tetrachloride	ND	5.0	1.1							
Chlorobenzene	ND	5.0	0.64							
Chloroethane	ND	5.0	1.9							
Chloroform	ND	5.0	1.4							
Chloromethane	ND	5.0	1.9							
cis-1,2-Dichloroethene	ND	5.0	0.87							
cis-1,3-Dichloropropene	ND	5.0	0.79							
Di-isopropyl ether	ND	5.0	0.51							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	0.99							

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0225 - MSVOA_S (continued)										
Blank (B7H0225-BLK1) - Continued						Prepared: 8/11/2017 Analyzed: 8/11/2017				
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	9.7							
Ethyl Ether	ND	50	7.3							
Ethyl tert-butyl ether	ND	5.0	1.4							
Ethylbenzene	ND	5.0	0.65							
Freon-113	ND	5.0	1.0							
Hexachlorobutadiene	ND	5.0	0.78							
Isopropylbenzene	ND	5.0	0.59							
m,p-Xylene	ND	10	1.2							
Methylene chloride	ND	5.0	1.4							
MTBE	ND	5.0	0.50							
n-Butylbenzene	ND	5.0	0.75							
n-Propylbenzene	ND	5.0	0.55							
Naphthalene	ND	5.0	1.2							
o-Xylene	ND	5.0	0.86							
sec-Butylbenzene	ND	5.0	0.79							
Styrene	ND	5.0	0.82							
tert-Amyl methyl ether	ND	5.0	1.5							
tert-Butanol	ND	100	5.9							
tert-Butylbenzene	ND	5.0	0.57							
Tetrachloroethene	ND	5.0	0.65							
Toluene	ND	5.0	0.80							
trans-1,2-Dichloroethene	ND	5.0	1.5							
trans-1,3-Dichloropropene	ND	5.0	0.63							
Trichloroethene	ND	5.0	1.1							
Trichlorofluoromethane	ND	5.0	0.89							
Vinyl acetate	ND	50	5.7							
Vinyl chloride	ND	5.0	2.0							
Surrogate: 1,2-Dichloroethane-d4	*52.74*			*50.0000*		*105*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*47.88*			*50.0000*		*95.8*	*23 - 162*			
Surrogate: Dibromofluoromethan	*56.46*			*50.0000*		*113*	*23 - 179*			
Surrogate: Toluene-d8	*51.12*			*50.0000*		*102*	*26 - 164*			
LCS (B7H0225-BS1)						Prepared: 8/11/2017 Analyzed: 8/11/2017				
1,1,1,2-Tetrachloroethane	52.6200	5.0	0.63	50.0000		105	78 - 119			
1,1,1-Trichloroethane	59.8500	5.0	0.63	50.0000		120	75 - 123			
1,1,2,2-Tetrachloroethane	40.9900	5.0	0.92	50.0000		82.0	65 - 117			
1,1,2-Trichloroethane	50.9600	5.0	1.4	50.0000		102	79 - 108			
1,1-Dichloroethane	52.4100	5.0	1.5	50.0000		105	69 - 120			
1,1-Dichloroethene	51.2500	5.0	0.69	50.0000		102	59 - 126			
1,1-Dichloropropene	52.3700	5.0	2.4	50.0000		105	76 - 121			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0225 - MSVOA_S (continued)										
LCS (B7H0225-BS1) - Continued					Prepared: 8/11/2017 Analyzed: 8/11/2017					
1,2,3-Trichloropropane	42.4200	5.0	1.2	50.0000		84.8	66 - 118			
1,2,3-Trichlorobenzene	53.6000	5.0	1.1	50.0000		107	75 - 116			
1,2,4-Trichlorobenzene	55.4300	5.0	0.96	50.0000		111	79 - 121			
1,2,4-Trimethylbenzene	48.5400	5.0	0.53	50.0000		97.1	80 - 118			
1,2-Dibromo-3-chloropropane	43.9600	10	1.1	50.0000		87.9	65 - 122			
1,2-Dibromoethane	51.5500	5.0	0.80	50.0000		103	77 - 115			
1,2-Dichlorobenzene	51.3300	5.0	0.51	50.0000		103	81 - 115			
1,2-Dichloroethane	55.5900	5.0	0.53	50.0000		111	70 - 122			
1,2-Dichloropropane	48.9800	5.0	0.76	50.0000		98.0	77 - 110			
1,3,5-Trimethylbenzene	47.3600	5.0	0.58	50.0000		94.7	79 - 119			
1,3-Dichlorobenzene	49.8900	5.0	0.63	50.0000		99.8	81 - 116			
1,3-Dichloropropane	47.1800	5.0	0.59	50.0000		94.4	79 - 113			
1,4-Dichlorobenzene	50.5100	5.0	0.73	50.0000		101	80 - 117			
2,2-Dichloropropane	57.1500	5.0	0.68	50.0000		114	70 - 129			
2-Chlorotoluene	45.6000	5.0	0.68	50.0000		91.2	76 - 119			
4-Chlorotoluene	46.3700	5.0	0.62	50.0000		92.7	79 - 119			
4-Isopropyltoluene	49.3000	5.0	0.63	50.0000		98.6	80 - 122			
Benzene	101.380	5.0	0.59	100.000		101	79 - 111			
Bromobenzene	47.9900	5.0	1.9	50.0000		96.0	77 - 114			
Bromochloromethane	58.4700	5.0	3.1	50.0000		117	69 - 117			
Bromodichloromethane	53.8500	5.0	1.0	50.0000		108	79 - 114			
Bromoform	51.1300	5.0	0.70	50.0000		102	72 - 122			
Bromomethane	54.0200	5.0	4.2	50.0000		108	47 - 176			
Carbon disulfide	55.0500	5.0	1.2	50.0000		110	50 - 133			
Carbon tetrachloride	58.1000	5.0	1.1	50.0000		116	68 - 143			
Chlorobenzene	50.1200	5.0	0.64	50.0000		100	81 - 113			
Chloroethane	56.7300	5.0	1.9	50.0000		113	47 - 148			
Chloroform	59.1800	5.0	1.4	50.0000		118	77 - 116			L4
Chloromethane	48.0700	5.0	1.9	50.0000		96.1	39 - 141			
cis-1,2-Dichloroethene	55.4200	5.0	0.87	50.0000		111	68 - 120			
cis-1,3-Dichloropropene	50.4900	5.0	0.79	50.0000		101	74 - 113			
Di-isopropyl ether	48.8600	5.0	0.51	50.0000		97.7	62 - 124			
Dibromochloromethane	51.0300	5.0	1.0	50.0000		102	78 - 114			
Dibromomethane	56.1100	5.0	0.99	50.0000		112	74 - 112			L4
Dichlorodifluoromethane	47.5500	5.0	2.2	50.0000		95.1	49 - 138			
Ethyl Acetate	514.810	50	9.7	500.000		103	63 - 131			
Ethyl Ether	519.740	50	7.3	500.000		104	56 - 123			
Ethyl tert-butyl ether	55.6200	5.0	1.4	50.0000		111	68 - 121			
Ethylbenzene	100.290	5.0	0.65	100.000		100	82 - 112			
Freon-113	57.0700	5.0	1.0	50.0000		114	65 - 133			
Hexachlorobutadiene	54.8700	5.0	0.78	50.0000		110	76 - 131			
Isopropylbenzene	44.4100	5.0	0.59	50.0000		88.8	77 - 122			

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Volatile Organic Compounds by EPA 8260B - 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 B7H0225 - MSVOA_S (continued)										
LCS (B7H0225-BS1) - Continued					Prepared: 8/11/2017 Analyzed: 8/11/2017					
m,p-Xylene	103.880	10	1.2	100.000		104	80 - 116			
Methylene chloride	40.2900	5.0	1.4	50.0000		80.6	67 - 144			
MTBE	52.1000	5.0	0.50	50.0000		104	62 - 120			
n-Butylbenzene	50.0000	5.0	0.75	50.0000		100	78 - 134			
n-Propylbenzene	45.1000	5.0	0.55	50.0000		90.2	77 - 125			
Naphthalene	52.0200	5.0	1.2	50.0000		104	66 - 125			
o-Xylene	101.910	5.0	0.86	100.000		102	80 - 113			
sec-Butylbenzene	47.2400	5.0	0.79	50.0000		94.5	79 - 124			
Styrene	51.0700	5.0	0.82	50.0000		102	82 - 117			
tert-Amyl methyl ether	54.7700	5.0	1.5	50.0000		110	62 - 118			
tert-Butanol	222.410	100	5.9	250.000		89.0	35 - 127			
tert-Butylbenzene	46.7900	5.0	0.57	50.0000		93.6	78 - 121			
Tetrachloroethene	50.3700	5.0	0.65	50.0000		101	75 - 124			
Toluene	104.560	5.0	0.80	100.000		105	79 - 115			
trans-1,2-Dichloroethene	52.4200	5.0	1.5	50.0000		105	65 - 127			
trans-1,3-Dichloropropene	52.8400	5.0	0.63	50.0000		106	73 - 115			
Trichloroethene	54.0800	5.0	1.1	50.0000		108	77 - 119			
Trichlorofluoromethane	66.0300	5.0	0.89	50.0000		132	57 - 134			
Vinyl acetate	532.590	50	5.7	500.000		107	62 - 147			
Vinyl chloride	47.7600	5.0	2.0	50.0000		95.5	53 - 133			
Surrogate: 1,2-Dichloroethane-d4	*57.33*			*50.0000*		*115*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*50.00*			*50.0000*		*100*	*23 - 162*			
Surrogate: Dibromofluoromethan	*60.33*			*50.0000*		*121*	*23 - 179*			
Surrogate: Toluene-d8	*52.60*			*50.0000*		*105*	*26 - 164*			
Matrix Spike (B7H0225-MS1)			**Source: 1702928-02**		Prepared: 8/11/2017 Analyzed: 8/11/2017					
1,1,1,2-Tetrachloroethane	42.1500	5.0	0.63	50.0000	ND	84.3	45 - 124			
1,1,1-Trichloroethane	50.8900	5.0	0.63	50.0000	ND	102	53 - 125			
1,1,2,2-Tetrachloroethane	32.3000	5.0	0.92	50.0000	ND	64.6	42 - 117			
1,1,2-Trichloroethane	41.2200	5.0	1.4	50.0000	ND	82.4	48 - 120			
1,1-Dichloroethane	44.6000	5.0	1.5	50.0000	ND	89.2	54 - 116			
1,1-Dichloroethene	46.8400	5.0	0.69	50.0000	ND	93.7	47 - 123			
1,1-Dichloropropene	44.9600	5.0	2.4	50.0000	ND	89.9	48 - 126			
1,2,3-Trichloropropane	33.5100	5.0	1.2	50.0000	ND	67.0	46 - 118			
1,2,3-Trichlorobenzene	26.0100	5.0	1.1	50.0000	ND	52.0	1 - 132			
1,2,4-Trichlorobenzene	28.1200	5.0	0.96	50.0000	ND	56.2	2 - 138			
1,2,4-Trimethylbenzene	34.4700	5.0	0.53	50.0000	ND	68.9	32 - 129			
1,2-Dibromo-3-chloropropane	36.7300	10	1.1	50.0000	ND	73.5	34 - 130			
1,2-Dibromoethane	41.5600	5.0	0.80	50.0000	ND	83.1	45 - 125			
1,2-Dichlorobenzene	33.1200	5.0	0.51	50.0000	ND	66.2	25 - 130			
1,2-Dichloroethane	47.3100	5.0	0.53	50.0000	ND	94.6	51 - 119			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0225 - MSVOA_S (continued)										
Matrix Spike (B7H0225-MS1) - Continued			**Source: 1702928-02**		Prepared: 8/11/2017 Analyzed: 8/11/2017					
1,2-Dichloropropane	39.1100	5.0	0.76	50.0000	ND	78.2	54 - 113			
1,3,5-Trimethylbenzene	35.4600	5.0	0.58	50.0000	ND	70.9	34 - 128			
1,3-Dichlorobenzene	33.6000	5.0	0.63	50.0000	ND	67.2	26 - 130			
1,3-Dichloropropane	38.4300	5.0	0.59	50.0000	ND	76.9	53 - 117			
1,4-Dichlorobenzene	33.2800	5.0	0.73	50.0000	ND	66.6	26 - 130			
2,2-Dichloropropane	49.1700	5.0	0.68	50.0000	ND	98.3	52 - 128			
2-Chlorotoluene	33.1000	5.0	0.68	50.0000	ND	66.2	34 - 126			
4-Chlorotoluene	32.6000	5.0	0.62	50.0000	ND	65.2	32 - 128			
4-Isopropyltoluene	35.6900	5.0	0.63	50.0000	ND	71.4	28 - 133			
Benzene	82.4200	5.0	0.59	100.000	ND	82.4	55 - 113			
Bromobenzene	35.0500	5.0	1.9	50.0000	ND	70.1	36 - 122			
Bromochloromethane	46.4400	5.0	3.1	50.0000	ND	92.9	50 - 118			
Bromodichloromethane	42.9800	5.0	1.0	50.0000	ND	86.0	51 - 117			
Bromoform	40.2000	5.0	0.70	50.0000	ND	80.4	39 - 130			
Bromomethane	44.5400	5.0	4.2	50.0000	ND	89.1	38 - 151			
Carbon disulfide	47.5000	5.0	1.2	50.0000	ND	95.0	38 - 126			
Carbon tetrachloride	48.3700	5.0	1.1	50.0000	ND	96.7	43 - 141			
Chlorobenzene	39.3000	5.0	0.64	50.0000	ND	78.6	42 - 122			
Chloroethane	48.3300	5.0	1.9	50.0000	ND	96.7	42 - 129			
Chloroform	47.1800	5.0	1.4	50.0000	ND	94.4	56 - 117			
Chloromethane	41.6100	5.0	1.9	50.0000	ND	83.2	35 - 127			
cis-1,2-Dichloroethene	46.3100	5.0	0.87	50.0000	ND	92.6	50 - 118			
cis-1,3-Dichloropropene	40.5500	5.0	0.79	50.0000	ND	81.1	45 - 118			
Di-isopropyl ether	40.4200	5.0	0.51	50.0000	ND	80.8	51 - 119			
Dibromochloromethane	41.3300	5.0	1.0	50.0000	ND	82.7	47 - 120			
Dibromomethane	43.7600	5.0	0.99	50.0000	ND	87.5	48 - 118			
Dichlorodifluoromethane	42.5700	5.0	2.2	50.0000	ND	85.1	43 - 126			
Ethyl Acetate	300.950	50	9.7	500.000	ND	60.2	22 - 145			
Ethyl Ether	441.890	50	7.3	500.000	ND	88.4	49 - 114			
Ethyl tert-butyl ether	45.4400	5.0	1.4	50.0000	ND	90.9	54 - 120			
Ethylbenzene	80.4800	5.0	0.65	100.000	ND	80.5	42 - 123			
Freon-113	50.8000	5.0	1.0	50.0000	ND	102	45 - 132			
Hexachlorobutadiene	33.0200	5.0	0.78	50.0000	ND	66.0	4 - 135			
Isopropylbenzene	35.2600	5.0	0.59	50.0000	ND	70.5	40 - 127			
m,p-Xylene	82.1100	10	1.2	100.000	ND	82.1	39 - 127			
Methylene chloride	32.7600	5.0	1.4	50.0000	ND	65.5	51 - 140			
MTBE	43.7000	5.0	0.50	50.0000	ND	87.4	52 - 120			
n-Butylbenzene	33.4500	5.0	0.75	50.0000	ND	66.9	19 - 141			
n-Propylbenzene	34.1100	5.0	0.55	50.0000	ND	68.2	34 - 131			
Naphthalene	29.3200	5.0	1.2	50.0000	ND	58.6	11 - 136			
o-Xylene	79.1000	5.0	0.86	100.000	ND	79.1	40 - 124			
sec-Butylbenzene	34.1000	5.0	0.79	50.0000	ND	68.2	29 - 132			

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Volatile Organic Compounds by EPA 8260B - 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 B7H0225 - MSVOA_S (continued)										
Matrix Spike (B7H0225-MS1) - Continued			**Source: 1702928-02**		Prepared: 8/11/2017 Analyzed: 8/11/2017					
Styrene	38.4600	5.0	0.82	50.0000	ND	76.9	36 - 130			
tert-Amyl methyl ether	44.3800	5.0	1.5	50.0000	ND	88.8	49 - 119			
tert-Butanol	216.500	100	5.9	250.000	ND	86.6	29 - 138			
tert-Butylbenzene	35.5500	5.0	0.57	50.0000	ND	71.1	34 - 129			
Tetrachloroethene	41.2000	5.0	0.65	50.0000	ND	82.4	37 - 132			
Toluene	83.3900	5.0	0.80	100.000	ND	83.4	48 - 122			
trans-1,2-Dichloroethene	44.7000	5.0	1.5	50.0000	ND	89.4	51 - 123			
trans-1,3-Dichloropropene	39.0000	5.0	0.63	50.0000	ND	78.0	38 - 125			
Trichloroethene	43.4700	5.0	1.1	50.0000	ND	86.9	41 - 136			
Trichlorofluoromethane	57.6200	5.0	0.89	50.0000	ND	115	44 - 126			
Vinyl acetate	102.800	50	5.7	500.000	ND	20.6	0 - 154			
Vinyl chloride	43.7400	5.0	2.0	50.0000	ND	87.5	47 - 122			
Surrogate: 1,2-Dichloroethane-d4	*61.78*			*50.0000*		*124*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*48.50*			*50.0000*		*97.0*	*23 - 162*			
Surrogate: Dibromofluoromethan	*59.03*			*50.0000*		*118*	*23 - 179*			
Surrogate: Toluene-d8	*49.76*			*50.0000*		*99.5*	*26 - 164*			
Matrix Spike Dup (B7H0225-MSD1)			**Source: 1702928-02**		Prepared: 8/11/2017 Analyzed: 8/11/2017					
1,1,1,2-Tetrachloroethane	41.8300	5.0	0.63	50.0000	ND	83.7	45 - 124	0.762	20	
1,1,1-Trichloroethane	49.0800	5.0	0.63	50.0000	ND	98.2	53 - 125	3.62	20	
1,1,2,2-Tetrachloroethane	31.4800	5.0	0.92	50.0000	ND	63.0	42 - 117	2.57	20	
1,1,2-Trichloroethane	39.1100	5.0	1.4	50.0000	ND	78.2	48 - 120	5.25	20	
1,1-Dichloroethane	43.8400	5.0	1.5	50.0000	ND	87.7	54 - 116	1.72	20	
1,1-Dichloroethene	44.6700	5.0	0.69	50.0000	ND	89.3	47 - 123	4.74	20	
1,1-Dichloropropene	44.1100	5.0	2.4	50.0000	ND	88.2	48 - 126	1.91	20	
1,2,3-Trichloropropane	34.3400	5.0	1.2	50.0000	ND	68.7	46 - 118	2.45	20	
1,2,3-Trichlorobenzene	24.1100	5.0	1.1	50.0000	ND	48.2	1 - 132	7.58	20	
1,2,4-Trichlorobenzene	25.6900	5.0	0.96	50.0000	ND	51.4	2 - 138	9.03	20	
1,2,4-Trimethylbenzene	33.9700	5.0	0.53	50.0000	ND	67.9	32 - 129	1.46	20	
1,2-Dibromo-3-chloropropane	34.2700	10	1.1	50.0000	ND	68.5	34 - 130	6.93	20	
1,2-Dibromoethane	40.7200	5.0	0.80	50.0000	ND	81.4	45 - 125	2.04	20	
1,2-Dichlorobenzene	32.4900	5.0	0.51	50.0000	ND	65.0	25 - 130	1.92	20	
1,2-Dichloroethane	43.4100	5.0	0.53	50.0000	ND	86.8	51 - 119	8.60	20	
1,2-Dichloropropane	38.1200	5.0	0.76	50.0000	ND	76.2	54 - 113	2.56	20	
1,3,5-Trimethylbenzene	34.6400	5.0	0.58	50.0000	ND	69.3	34 - 128	2.34	20	
1,3-Dichlorobenzene	32.9900	5.0	0.63	50.0000	ND	66.0	26 - 130	1.83	20	
1,3-Dichloropropane	37.9000	5.0	0.59	50.0000	ND	75.8	53 - 117	1.39	20	
1,4-Dichlorobenzene	33.1600	5.0	0.73	50.0000	ND	66.3	26 - 130	0.361	20	
2,2-Dichloropropane	47.7800	5.0	0.68	50.0000	ND	95.6	52 - 128	2.87	20	
2-Chlorotoluene	32.9600	5.0	0.68	50.0000	ND	65.9	34 - 126	0.424	20	
4-Chlorotoluene	32.6300	5.0	0.62	50.0000	ND	65.3	32 - 128	0.0920	20	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Volatile Organic Compounds by EPA 8260B - 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 B7H0225 - MSVOA_S (continued)										
Matrix Spike Dup (B7H0225-MSD1) - Continued			**Source: 1702928-02**		Prepared: 8/11/2017 Analyzed: 8/11/2017					
4-Isopropyltoluene	34.6200	5.0	0.63	50.0000	ND	69.2	28 - 133	3.04	20	
Benzene	81.0100	5.0	0.59	100.000	ND	81.0	55 - 113	1.73	20	
Bromobenzene	34.5500	5.0	1.9	50.0000	ND	69.1	36 - 122	1.44	20	
Bromochloromethane	47.0700	5.0	3.1	50.0000	ND	94.1	50 - 118	1.35	20	
Bromodichloromethane	41.3000	5.0	1.0	50.0000	ND	82.6	51 - 117	3.99	20	
Bromoform	40.0300	5.0	0.70	50.0000	ND	80.1	39 - 130	0.424	20	
Bromomethane	43.3000	5.0	4.2	50.0000	ND	86.6	38 - 151	2.82	20	
Carbon disulfide	45.5400	5.0	1.2	50.0000	ND	91.1	38 - 126	4.21	20	
Carbon tetrachloride	48.1100	5.0	1.1	50.0000	ND	96.2	43 - 141	0.539	20	
Chlorobenzene	38.6500	5.0	0.64	50.0000	ND	77.3	42 - 122	1.67	20	
Chloroethane	47.0000	5.0	1.9	50.0000	ND	94.0	42 - 129	2.79	20	
Chloroform	46.9400	5.0	1.4	50.0000	ND	93.9	56 - 117	0.510	20	
Chloromethane	39.7700	5.0	1.9	50.0000	ND	79.5	35 - 127	4.52	20	
cis-1,2-Dichloroethene	44.5700	5.0	0.87	50.0000	ND	89.1	50 - 118	3.83	20	
cis-1,3-Dichloropropene	37.4400	5.0	0.79	50.0000	ND	74.9	45 - 118	7.98	20	
Di-isopropyl ether	40.0400	5.0	0.51	50.0000	ND	80.1	51 - 119	0.945	20	
Dibromochloromethane	40.3000	5.0	1.0	50.0000	ND	80.6	47 - 120	2.52	20	
Dibromomethane	42.1600	5.0	0.99	50.0000	ND	84.3	48 - 118	3.72	20	
Dichlorodifluoromethane	40.8600	5.0	2.2	50.0000	ND	81.7	43 - 126	4.10	20	
Ethyl Acetate	250.980	50	9.7	500.000	ND	50.2	22 - 145	18.1	20	
Ethyl Ether	426.550	50	7.3	500.000	ND	85.3	49 - 114	3.53	20	
Ethyl tert-butyl ether	42.7100	5.0	1.4	50.0000	ND	85.4	54 - 120	6.19	20	
Ethylbenzene	79.2100	5.0	0.65	100.000	ND	79.2	42 - 123	1.59	20	
Freon-113	49.2500	5.0	1.0	50.0000	ND	98.5	45 - 132	3.10	20	
Hexachlorobutadiene	30.6100	5.0	0.78	50.0000	ND	61.2	4 - 135	7.58	20	
Isopropylbenzene	35.1500	5.0	0.59	50.0000	ND	70.3	40 - 127	0.312	20	
m,p-Xylene	80.5300	10	1.2	100.000	ND	80.5	39 - 127	1.94	20	
Methylene chloride	31.7500	5.0	1.4	50.0000	ND	63.5	51 - 140	3.13	20	
MTBE	42.4600	5.0	0.50	50.0000	ND	84.9	52 - 120	2.88	20	
n-Butylbenzene	31.9200	5.0	0.75	50.0000	ND	63.8	19 - 141	4.68	20	
n-Propylbenzene	33.8800	5.0	0.55	50.0000	ND	67.8	34 - 131	0.677	20	
Naphthalene	28.5200	5.0	1.2	50.0000	ND	57.0	11 - 136	2.77	20	
o-Xylene	77.4600	5.0	0.86	100.000	ND	77.5	40 - 124	2.10	20	
sec-Butylbenzene	33.8600	5.0	0.79	50.0000	ND	67.7	29 - 132	0.706	20	
Styrene	37.7600	5.0	0.82	50.0000	ND	75.5	36 - 130	1.84	20	
tert-Amyl methyl ether	42.7900	5.0	1.5	50.0000	ND	85.6	49 - 119	3.65	20	
tert-Butanol	205.500	100	5.9	250.000	ND	82.2	29 - 138	5.21	20	
tert-Butylbenzene	35.2800	5.0	0.57	50.0000	ND	70.6	34 - 129	0.762	20	
Tetrachloroethene	42.1000	5.0	0.65	50.0000	ND	84.2	37 - 132	2.16	20	
Toluene	83.2400	5.0	0.80	100.000	ND	83.2	48 - 122	0.180	20	
trans-1,2-Dichloroethene	44.2300	5.0	1.5	50.0000	ND	88.5	51 - 123	1.06	20	
trans-1,3-Dichloropropene	41.1800	5.0	0.63	50.0000	ND	82.4	38 - 125	5.44	20	

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

Volatile Organic Compounds by EPA 8260B - 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 B7H0225 - MSVOA_S (continued)										
Matrix Spike Dup (B7H0225-MSD1) - Continued			**Source: 1702928-02**		Prepared: 8/11/2017 Analyzed: 8/11/2017					
Trichloroethene	43.0000	5.0	1.1	50.0000	ND	86.0	41 - 136	1.09	20	
Trichlorofluoromethane	56.8100	5.0	0.89	50.0000	ND	114	44 - 126	1.42	20	
Vinyl acetate	51.0700	50	5.7	500.000	ND	10.2	0 - 154	67.2	20	R
Vinyl chloride	40.6400	5.0	2.0	50.0000	ND	81.3	47 - 122	7.35	20	
Surrogate: 1,2-Dichloroethane-d4	*62.87*			*50.0000*		*126*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*49.49*			*50.0000*		*99.0*	*23 - 162*			
Surrogate: Dibromofluoromethan	*60.15*			*50.0000*		*120*	*23 - 179*			
Surrogate: Toluene-d8	*51.64*			*50.0000*		*103*	*26 - 164*			

Certificate of Analysis

Stantec	Project Number : Olson/Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/18/2017

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.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
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)
TX1	TX-NELAP (TCEQ)

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.

CHAIN OF CUSTODY FORM

Stantec

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

Page 1 of 5

Client Name/Address:
Stantec
25864 Business Center Drive
Suite F
Redlands, CA 92374

Project/PO Number: Olson / Placentia 1858 03982

Project Manager: Dion Monge

Phone Number: : (909)335-6116

Email Address: Dion.Monge@Stantec.com

Fax Number: 909)335-6120

Sampler: M. Bolen / Cove Parker

Analysis Required

1702928	Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Title 22 Metals 6020/Mercury 7471	Total Lead by 6010	Totl Cadmium by 6010	VOCs by EPA Method 8260B	~~TPH (carbon chain)~~ ~~BTEX & oxygenates~~ TPH G/d/o	Pesticides 8081A				Special Instructions
-01	SB-1-0.5	Soil	Jar	1	8/10/17	0750	ICE	X									
-02	SB-1-1.0					0752		X			X	X					
-03	SB-1-1.5					0754											Hold
-04	SB-2-0.5					0750			X				X				
-05	-2-1.0					0753			X								
-06	-2-1.5					0754											Hold
-07	SB-3-0.5					0825			X								
-08	-3-1.0					0831			X		X	X					
-09	-3-1.5					0834											Hold
-10	SB-4-0.5					0844		X									
-11	-4-1.0					0846		X									
-12	-4-1.5					0848											Hold
-13	SB-5-0.5					0922			X				X				
-14	-5-1.0					0924			X								

Relinquished By:	Date/Time:	Received By:	Date/ Time:
[signature]	8/10/17 / 1452	[signature]	8/10/17 1452
[signature]	8/10/17 1549	MFR [signature]	8/10/17 1549
		Received in Lab By:	Date/ Time;

Turnaround Time: (Check)
same day
24 hours
48 hours
72 hrs Metals, Pb, Cd, Pest
5 days X TPH VOCs
normal

Sample Integrity: (Check)
intact _____ on ice YES

5.4, 5.2
ice + blue 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.

CHAIN OF CUSTODY FORM

Stantec

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

Page 2 of 5

Client Name/Address:
Stantec
25864 Business Center Drive
Suite F
Redlands, CA 92374

Project/PO Number: Olson - Placentia 185803982

Project Manager: Dion Monge

Phone Number: : (909)335-6116

Email Address:

Fax Number: 909)335-6120

Sampler:

Analysis Required

1702928	Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Title 22 Metals 6020/Mercury 7471	Total Lead by 6010	Totl Cadmium by 6010	VOCs by EPA Method 8260B	TPH (carbon chain)+ BTEX & oxygenates TPH G/D	Pesticides 8081A				Special Instructions
-15	SB-5-1.5	Soil	Jar	1	8/10/17	0926	ICE										Hold
-16	SB-6-0.5					0924			X								
-17	-6-1.0					0925			X								
-18	-6-1.5					0926											Hold
-19	SB-7-0.5					0934			X								
-20	-7-1.0					0936			X								
-21	-7-1.5					0938											Hold
-22	SB-8-0.5					0943			X								
-23	-8-1.0					0945			X								
-24	-8-1.5					0947											Hold
-25	SB-9-0.5					0948			X				X				
-26	-9-1.0					0950			X								
-27	-9-1.5					0952											Hold
-28	SB-10-0.5					0954			X								

Relinquished By:	Date/Time:	Received By:	Date/ Time:
[signature]	8/10/17 1452	[signature]	8/10/17 1452
[signature]	8/10/17 1549	MFR [signature]	8/10/17 1549
		Received in Lab By:	Date/ Time;

Turnaround Time: (Check)
same day
24 hours
5 days TPH VOCs
48 hours metals, pb, normal
72 hrs Cd, post

Sample Integrity: (Check)
intact _____ on ice yes

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.

CHAIN OF CUSTODY FORM

Stantec

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

Page 3 of 5

Client Name/Address:
Stantec
25864 Business Center Drive
Suite F
Redlands, CA 92374

Project/PO Number: Olson - Placentia 185803982

Project Manager: Pion Monge

Phone Number: : (909)335-6116

Email Address:

Fax Number: 909)335-6120

Sampler:

Analysis Required

1702928	Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Title 22 Metals 6020/Mercury 7471	Total Lead by 6010	Totl Cadmium by 6010	VOCs by EPA Method 8260B	~~TPH (carbon chain)~~ ~~BTEX & oxygenates~~ TPH 9/8/10	Pesticides 8081A				Special Instructions
-29	SB-10-1.0	Soil	Jar	1	8/10/17	0956	ICE		X								
-30	-10-1.5					0958											Hold
-31	SB-11-1.0					1003					X	X					
-32	-11-3.0					1007											Hold
-33	SB-13-1.0					1018					X	X					
-34	-13-3.0					1023											Hold
-35	SB-14-0.5					1027			X								
-36	-14-1.0					1028			X								
-37	-14-1.5					1030											Hold
-38	SB-17-0.5					0841		X					X				
-39	-17-1.0					0843		X									
-40	-17-1.5					0845											Hold
-41	SB-18-0.5					0825			X								
-42	-18-1.0					0829			X								

Relinquished By:	Date/Time:	Received By:	Date/ Time:	Turnaround	Time: (Check)
[signature]	8/10/17 / 1452	AM	8/10/17 1452	same day	
Relinquished By: AM	Date/Time: 8/10/17 1549	Received By: MFR [signature]	Date/Time: 8/10/A 1549	24 hours / 48 hours Metals, Pb, Cd, pest	5 days TPH VOCs / normal
Relinquished By:	Date/Time:	Received in Lab By:	Date/ Time;	Sample Integrity: (Check) intact ____	on ice YES

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.

CHAIN OF CUSTODY FORM

Stantec

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

Client Name/Address:
Stantec
25864 Business Center Drive
Suite F
Redlands, CA 92374

Project/PO Number: Olson - Placentia 185803982

Project Manager: Dion Monge

Phone Number: : (909)335-6116

Email Address:

Fax Number: 909)335-6120

Sampler:

Analysis Required

1702928	Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Title 22 Metals 6020/Mercury 7471	Total Lead by 6010	Totl Cadmium by 6010	VOCs by EPA Method 8260B	~~TPH (carbon chain)+ BTEX & oxygenates~~ TPH g/d/o	Pesticides 8081A				Special Instructions
-43	SB-18-1.5	Soil	Jar	1	8/10/17	0829	ICE										Hold
-44	SB-19-0.5					0847		X									
-45	-19-1.0					0849		X									
-46	-19-1.5					0851											Hold
-47	SB-20-0.5					1048		X			X	X	X				
-48	-20-1.0					1049		X									
-49	-20-1.5					1050											Hold
-50	SB-24-0.5					1047			X								
-51	-24-1.0					1049			X								
-52	-24-1.5					1051											Hold
-53	SB-25-0.5					1052		X					X				
-54	-25-1.0					1054		X									
-55	-25-1.5					1056											Hold
-56	SB-26-0.5					1103			X	X							

Relinquished By:	Date/Time:	Received By:	Date/ Time:
[signature]	8/10/17 1452	[signature]	8/10/17 1452
[signature]	8/10/17 1549	[signature]	8/10/17 1549
		Received in Lab By:	Date/ Time;

Turnaround Time: (Check)
same day
24 hours
48 hours
5 days TPH VOCs
72 hours metals, Pb, Cd, pest
normal

Sample Integrity: (Check)
intact _____ on ice Yes

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.

CHAIN OF CUSTODY FORM

Stantec

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

Client Name/Address:
Stantec
25864 Business Center Drive
Suite F
Redlands, CA 92374

Project/PO Number:
Olson - Placentia
185803982

Project Manager: Dion Monge

Phone Number: : (909)335-6116

Email Address:

Fax Number: 909)335-6120

Sampler:

1702928 Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Title 22 Metals 6020/Mercury 7471	Total Lead by 6010	Totl Cadmium by 6010	VOCs by EPA Method 8260B	TPH (carbon-chain)+ BTEX & oxygenates TPH 5/12/17	Pesticides 8081A				Special Instructions
-57 SB-26-1.0	Soil	Jar	1	5/10/17	1105	ICE		X	X							
-58 -26-1.5					1107											Hold
-59 SB-27-0.5					1115			X	X							
-60 -27-1.0					1117			X	X							
-61 -27-1.5					1120											Hold
-62 SB-33-0.5					1148							X				
-63 -33-1.0					1150											Hold
-64 -33-1.5					1152											Hold

Relinquished By:	Date/Time:	Received By:	Date/ Time:
	5/10/17 1452		5/10/17 1452
Relinquished By:	Date/Time:	Received By:	Date/Time:
	5/10/17 1549		5/10/17 1549
Relinquished By:	Date/Time:	Received in Lab By:	Date/ Time;

Turnaround Time: (Check)
same day
24 hours
48 hours
5 days
normal

TPH VOCs

Sample Integrity: (Check)
intact
on ice YES

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

August 22, 2017

Dion Monge
Stantec
25864-F Business Center Drive
Redlands, CA 92374
Tel: (909) 335-6116
Fax:(909) 335-6120

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1702944
Client Reference : 185803982

Enclosed are the results for sample(s) received on August 11, 2017 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,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-15-5	1702944-06	Soil	8/11/17 13:30	8/11/17 15:20
SB-16-0.5	1702944-09	Soil	8/11/17 10:36	8/11/17 15:20
SB-16-1	1702944-10	Soil	8/11/17 10:37	8/11/17 15:20
SB-21-0.5	1702944-14	Soil	8/11/17 12:46	8/11/17 15:20
SB-21-1	1702944-15	Soil	8/11/17 12:47	8/11/17 15:20
SB-22-0.5	1702944-17	Soil	8/11/17 12:57	8/11/17 15:20
SB-22-1	1702944-18	Soil	8/11/17 12:58	8/11/17 15:20
SB-23-0.5	1702944-20	Soil	8/11/17 10:12	8/11/17 15:20
SB-23-1	1702944-21	Soil	8/11/17 10:14	8/11/17 15:20
SB-28-4	1702944-23	Soil	8/11/17 12:10	8/11/17 15:20
SB-29-0.5	1702944-26	Soil	8/11/17 11:00	8/11/17 15:20
SB-29-1	1702944-27	Soil	8/11/17 11:02	8/11/17 15:20
SB-30-0.5	1702944-29	Soil	8/11/17 11:26	8/11/17 15:20
SB-30-1	1702944-30	Soil	8/11/17 11:27	8/11/17 15:20
SB-31-0.5	1702944-33	Soil	8/11/17 11:15	8/11/17 15:20
SB-31-1	1702944-34	Soil	8/11/17 11:16	8/11/17 15:20
SB-32-0.5	1702944-36	Soil	8/11/17 11:46	8/11/17 15:20
SB-32-1	1702944-37	Soil	8/11/17 11:48	8/11/17 15:20
SB-33-15	1702944-41	Soil	8/11/17 9:50	8/11/17 15:20
SB-12-1	1702944-42	Soil	8/11/17 15:09	8/11/17 15:20

CASE NARRATIVE

Documentation pertaining to additional analyses/change order available upon request.

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-15-5

Lab ID: 1702944-06

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7H0252	08/14/2017	08/14/17 10:58	
Surrogate: 4-Bromofluorobenzene	*99.3 %*		*36 - 125*		B7H0252	08/14/2017	*08/14/17 10:58*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**46**	10	1	B7H0276	08/14/2017	08/15/17 00:47	
ORO		**16**	10	1	B7H0276	08/14/2017	08/15/17 00:47	
Surrogate: p-Terphenyl	*132 %*		*47 - 157*		B7H0276	08/14/2017	*08/15/17 00:47*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,1,1-Trichloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,1,2-Trichloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,1-Dichloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,1-Dichloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,1-Dichloropropene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,2,3-Trichloropropane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,2,3-Trichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,2,4-Trichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,2,4-Trimethylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,2-Dibromo-3-chloropropane	ND	10	1	B7H0316	08/16/2017	08/16/17 12:37	
1,2-Dibromoethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,2-Dichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,2-Dichloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,2-Dichloropropane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,3,5-Trimethylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,3-Dichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,3-Dichloropropane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
1,4-Dichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
2,2-Dichloropropane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
2-Chlorotoluene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-15-5

Lab ID: 1702944-06

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
4-Isopropyltoluene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Benzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Bromobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Bromochloromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Bromodichloromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Bromoform	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Bromomethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Carbon disulfide	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Carbon tetrachloride	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Chlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Chloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Chloroform	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Chloromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
cis-1,2-Dichloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
cis-1,3-Dichloropropene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Di-isopropyl ether	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Dibromochloromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Dibromomethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Dichlorodifluoromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Ethyl Acetate	ND	50	1	B7H0316	08/16/2017	08/16/17 12:37	
Ethyl Ether	ND	50	1	B7H0316	08/16/2017	08/16/17 12:37	
Ethyl tert-butyl ether	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Ethylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Freon-113	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Hexachlorobutadiene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Isopropylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
m,p-Xylene	ND	10	1	B7H0316	08/16/2017	08/16/17 12:37	
Methylene chloride	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
MTBE	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
n-Butylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
n-Propylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Naphthalene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
o-Xylene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
sec-Butylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Styrene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
tert-Amyl methyl ether	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-15-5

Lab ID: 1702944-06

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7H0316	08/16/2017	08/16/17 12:37	
tert-Butylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Tetrachloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Toluene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
trans-1,2-Dichloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
trans-1,3-Dichloropropene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Trichloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Trichlorofluoromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Vinyl acetate	ND	50	1	B7H0316	08/16/2017	08/16/17 12:37	
Vinyl chloride	ND	5.0	1	B7H0316	08/16/2017	08/16/17 12:37	
Surrogate: 1,2-Dichloroethane-d4	*102 %*	*12 - 186*		B7H0316	08/16/2017	*08/16/17 12:37*	
Surrogate: 4-Bromofluorobenzene	*87.9 %*	*23 - 162*		B7H0316	08/16/2017	*08/16/17 12:37*	
Surrogate: Dibromofluoromethane	*102 %*	*23 - 179*		B7H0316	08/16/2017	*08/16/17 12:37*	
Surrogate: Toluene-d8	*99.2 %*	*26 - 164*		B7H0316	08/16/2017	*08/16/17 12:37*	

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-16-0.5

Lab ID: 1702944-09

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Arsenic	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Barium	**37**	1.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Chromium	**6.0**	1.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Cobalt	**3.2**	1.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Copper	**7.2**	2.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Lead	**10**	1.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Nickel	**10**	1.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Vanadium	**16**	1.0	1	B7H0254	08/14/2017	08/15/17 11:55	
Zinc	**28**	1.0	1	B7H0254	08/14/2017	08/15/17 11:55	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:04	

Organochlorine Pesticides by EPA 8081

Analyst: CO

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	ND	20	10	B7H0274	08/14/2017	08/14/17 18:23	D1
4,4´-DDE	ND	20	10	B7H0274	08/14/2017	08/14/17 18:23	D1
4,4´-DDT	ND	20	10	B7H0274	08/14/2017	08/14/17 18:23	D1
Aldrin	ND	10	10	B7H0274	08/14/2017	08/14/17 18:23	D1
alpha-BHC	ND	10	10	B7H0274	08/14/2017	08/14/17 18:23	D1
alpha-Chlordane	ND	10	10	B7H0274	08/14/2017	08/14/17 18:23	D1
beta-BHC	ND	10	10	B7H0274	08/14/2017	08/14/17 18:23	D1
Chlordane [2C]	ND	85	10	B7H0274	08/14/2017	08/14/17 18:23	D1
delta-BHC	ND	10	10	B7H0274	08/14/2017	08/14/17 18:23	D1
Dieldrin	ND	20	10	B7H0274	08/14/2017	08/14/17 18:23	D1

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-16-0.5

Lab ID: 1702944-09

Organochlorine Pesticides by EPA 8081 **Analyst: CO**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Endosulfan I	ND	10	10	B7H0274	08/14/2017	08/14/17 18:23	D1
Endosulfan II	ND	20	10	B7H0274	08/14/2017	08/14/17 18:23	D1
Endosulfan sulfate	ND	20	10	B7H0274	08/14/2017	08/14/17 18:23	D1
Endrin	ND	20	10	B7H0274	08/14/2017	08/14/17 18:23	D1
Endrin aldehyde	ND	20	10	B7H0274	08/14/2017	08/14/17 18:23	D1
Endrin ketone	ND	20	10	B7H0274	08/14/2017	08/14/17 18:23	D1
gamma-BHC	ND	10	10	B7H0274	08/14/2017	08/14/17 18:23	D1
gamma-Chlordane [2C]	ND	10	10	B7H0274	08/14/2017	08/14/17 18:23	D1
Heptachlor	ND	10	10	B7H0274	08/14/2017	08/14/17 18:23	D1
Heptachlor epoxide	ND	10	10	B7H0274	08/14/2017	08/14/17 18:23	D1
Methoxychlor	ND	50	10	B7H0274	08/14/2017	08/14/17 18:23	D1
Toxaphene	ND	500	10	B7H0274	08/14/2017	08/14/17 18:23	D1
Surrogate: Decachlorobiphenyl	*27.1 %*	*27 - 123*		B7H0274	08/14/2017	*08/14/17 18:23*	
Surrogate: Tetrachloro-m-xylene	*26.8 %*	*26 - 108*		B7H0274	08/14/2017	*08/14/17 18:23*	

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-16-1

Lab ID: 1702944-10

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Arsenic	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Barium	**29**	1.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Chromium	**7.0**	1.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Cobalt	**3.3**	1.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Copper	**4.8**	2.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Lead	**6.7**	1.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Nickel	**6.4**	1.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Vanadium	**14**	1.0	1	B7H0254	08/14/2017	08/15/17 11:56	
Zinc	**26**	1.0	1	B7H0254	08/14/2017	08/15/17 11:56	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:06	

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-21-0.5

Lab ID: 1702944-14

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Arsenic	**1.8**	1.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Barium	**100**	1.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Chromium	**14**	1.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Cobalt	**5.2**	1.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Copper	**22**	2.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Lead	**87**	1.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Molybdenum	**2.6**	1.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Nickel	**9.0**	1.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Vanadium	**25**	1.0	1	B7H0254	08/14/2017	08/15/17 11:57	
Zinc	**65**	1.0	1	B7H0254	08/14/2017	08/15/17 11:57	

TCLP Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.25	5	B7H0373	08/18/2017	08/18/17 15:50	D1

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**4.7**	1.0	20	B7H0402	08/19/2017	08/21/17 13:18	D1

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:12	

Certificate of Analysis

Stantec	Project Number : 185803982
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Client Sample ID SB-21-1

Lab ID: 1702944-15

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Arsenic	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Barium	**33**	1.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Chromium	**7.1**	1.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Cobalt	**4.2**	1.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Copper	**5.8**	2.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Lead	**13**	1.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Nickel	**5.1**	1.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Vanadium	**16**	1.0	1	B7H0254	08/14/2017	08/15/17 12:01	
Zinc	**28**	1.0	1	B7H0254	08/14/2017	08/15/17 12:01	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:14	

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-22-0.5

Lab ID: 1702944-17

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Arsenic	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Barium	**59**	1.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Chromium	**8.2**	1.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Cobalt	**4.2**	1.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Copper	**13**	2.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Lead	**82**	1.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Nickel	**7.9**	1.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Selenium	**1.2**	1.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Vanadium	**17**	1.0	1	B7H0254	08/14/2017	08/15/17 12:02	
Zinc	**87**	1.0	1	B7H0254	08/14/2017	08/15/17 12:02	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:17	

Organochlorine Pesticides by EPA 8081

Analyst: CO

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	ND	2.0	1	B7H0274	08/14/2017	08/16/17 10:35	
4,4´-DDE [2C]	ND	2.0	1	B7H0274	08/14/2017	08/16/17 10:35	
4,4´-DDT	ND	2.0	1	B7H0274	08/14/2017	08/16/17 10:35	
Aldrin	ND	1.0	1	B7H0274	08/14/2017	08/16/17 10:35	
alpha-BHC	ND	1.0	1	B7H0274	08/14/2017	08/16/17 10:35	
alpha-Chlordane	ND	1.0	1	B7H0274	08/14/2017	08/16/17 10:35	
beta-BHC	ND	1.0	1	B7H0274	08/14/2017	08/16/17 10:35	
Chlordane [2C]	ND	8.5	1	B7H0274	08/14/2017	08/16/17 10:35	
delta-BHC	ND	1.0	1	B7H0274	08/14/2017	08/16/17 10:35	
Dieldrin [2C]	ND	2.0	1	B7H0274	08/14/2017	08/16/17 10:35	

Certificate of Analysis

Stantec	Project Number : 185803982
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Client Sample ID SB-22-0.5

Lab ID: 1702944-17

Organochlorine Pesticides by EPA 8081 **Analyst: CO**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Endosulfan I	ND	1.0	1	B7H0274	08/14/2017	08/16/17 10:35	
Endosulfan II	ND	2.0	1	B7H0274	08/14/2017	08/16/17 10:35	
Endosulfan sulfate	ND	2.0	1	B7H0274	08/14/2017	08/16/17 10:35	
Endrin	ND	2.0	1	B7H0274	08/14/2017	08/16/17 10:35	
Endrin aldehyde	ND	2.0	1	B7H0274	08/14/2017	08/16/17 10:35	
Endrin ketone	ND	2.0	1	B7H0274	08/14/2017	08/16/17 10:35	
gamma-BHC	ND	1.0	1	B7H0274	08/14/2017	08/16/17 10:35	
gamma-Chlordane [2C]	ND	1.0	1	B7H0274	08/14/2017	08/16/17 10:35	
Heptachlor	ND	1.0	1	B7H0274	08/14/2017	08/16/17 10:35	
Heptachlor epoxide	ND	1.0	1	B7H0274	08/14/2017	08/16/17 10:35	
Methoxychlor	ND	5.0	1	B7H0274	08/14/2017	08/16/17 10:35	
Toxaphene	ND	50	1	B7H0274	08/14/2017	08/16/17 10:35	
Surrogate: Decachlorobiphenyl	*27.1 %*	*27 - 123*		B7H0274	08/14/2017	*08/16/17 10:35*	
Surrogate: Tetrachloro-m-xylene	*36.8 %*	*26 - 108*		B7H0274	08/14/2017	*08/16/17 10:35*	

Certificate of Analysis

Stantec	Project Number : 185803982
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Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-22-1

Lab ID: 1702944-18

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Arsenic	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Barium	**32**	1.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Chromium	**7.0**	1.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Cobalt	**4.3**	1.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Copper	**5.4**	2.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Lead	**2.5**	1.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Nickel	**5.1**	1.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Vanadium	**15**	1.0	1	B7H0254	08/14/2017	08/15/17 12:03	
Zinc	**28**	1.0	1	B7H0254	08/14/2017	08/15/17 12:03	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:19	

Certificate of Analysis

Stantec	Project Number : 185803982
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Client Sample ID SB-23-0.5

Lab ID: 1702944-20

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Arsenic	**2.2**	1.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Barium	**51**	1.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Chromium	**9.5**	1.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Cobalt	**4.8**	1.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Copper	**12**	2.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Lead	**6.2**	1.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Nickel	**14**	1.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Vanadium	**26**	1.0	1	B7H0254	08/14/2017	08/15/17 12:04	
Zinc	**35**	1.0	1	B7H0254	08/14/2017	08/15/17 12:04	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:21	

Organochlorine Pesticides by EPA 8081

Analyst: CO

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	ND	20	10	B7H0274	08/14/2017	08/16/17 10:45	D1
4,4´-DDE	ND	20	10	B7H0274	08/14/2017	08/16/17 10:45	D1
4,4´-DDT	ND	20	10	B7H0274	08/14/2017	08/16/17 10:45	D1
Aldrin	ND	10	10	B7H0274	08/14/2017	08/16/17 10:45	D1
alpha-BHC	ND	10	10	B7H0274	08/14/2017	08/16/17 10:45	D1
alpha-Chlordane	ND	10	10	B7H0274	08/14/2017	08/16/17 10:45	D1
beta-BHC	ND	10	10	B7H0274	08/14/2017	08/16/17 10:45	D1
Chlordane	ND	85	10	B7H0274	08/14/2017	08/16/17 10:45	D1
delta-BHC	ND	10	10	B7H0274	08/14/2017	08/16/17 10:45	D1
Dieldrin	ND	20	10	B7H0274	08/14/2017	08/16/17 10:45	D1

Certificate of Analysis

Stantec	Project Number : 185803982
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Client Sample ID SB-23-0.5

Lab ID: 1702944-20

Organochlorine Pesticides by EPA 8081 **Analyst: CO**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Endosulfan I	ND	10	10	B7H0274	08/14/2017	08/16/17 10:45	D1
Endosulfan II	ND	20	10	B7H0274	08/14/2017	08/16/17 10:45	D1
Endosulfan sulfate	ND	20	10	B7H0274	08/14/2017	08/16/17 10:45	D1
Endrin	ND	20	10	B7H0274	08/14/2017	08/16/17 10:45	D1
Endrin aldehyde	ND	20	10	B7H0274	08/14/2017	08/16/17 10:45	D1
Endrin ketone	ND	20	10	B7H0274	08/14/2017	08/16/17 10:45	D1
gamma-BHC	ND	10	10	B7H0274	08/14/2017	08/16/17 10:45	D1
gamma-Chlordane	ND	10	10	B7H0274	08/14/2017	08/16/17 10:45	D1
Heptachlor	ND	10	10	B7H0274	08/14/2017	08/16/17 10:45	D1
Heptachlor epoxide	ND	10	10	B7H0274	08/14/2017	08/16/17 10:45	D1
Methoxychlor	ND	50	10	B7H0274	08/14/2017	08/16/17 10:45	D1
Toxaphene	ND	500	10	B7H0274	08/14/2017	08/16/17 10:45	D1
Surrogate: Decachlorobiphenyl	*29.4 %*	*27 - 123*		B7H0274	08/14/2017	*08/16/17 10:45*	
Surrogate: Tetrachloro-m-xylene	*28.3 %*	*26 - 108*		B7H0274	08/14/2017	*08/16/17 10:45*	

Certificate of Analysis

Stantec	Project Number : 185803982
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Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-23-1

Lab ID: 1702944-21

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Arsenic	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Barium	**25**	1.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Chromium	**9.7**	1.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Cobalt	**3.0**	1.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Copper	**4.1**	2.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Lead	**2.2**	1.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Nickel	**6.3**	1.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Vanadium	**12**	1.0	1	B7H0254	08/14/2017	08/15/17 12:05	
Zinc	**18**	1.0	1	B7H0254	08/14/2017	08/15/17 12:05	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:23	

Certificate of Analysis

Stantec	Project Number : 185803982
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Client Sample ID SB-28-4

Lab ID: 1702944-23

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Arsenic	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Barium	**49**	1.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Chromium	**8.4**	1.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Cobalt	**4.9**	1.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Copper	**9.9**	2.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Lead	**21**	1.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Nickel	**32**	1.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Vanadium	**34**	1.0	1	B7H0254	08/14/2017	08/15/17 12:07	
Zinc	**100**	1.0	1	B7H0254	08/14/2017	08/15/17 12:07	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:25	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	**160**	50	50	B7H0252	08/14/2017	08/14/17 13:25	
Surrogate: 4-Bromofluorobenzene	*60.1 %*	*36 - 125*		B7H0252	08/14/2017	*08/14/17 13:25*	

Diesel Range Organics by EPA 8015B

Analyst: CR

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**84000**	250	25	B7H0276	08/14/2017	08/15/17 05:21	
ORO	**110000**	250	25	B7H0276	08/14/2017	08/15/17 05:21	

Certificate of Analysis

Stantec	Project Number : 185803982
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Client Sample ID SB-28-4

Lab ID: 1702944-23

Diesel Range Organics by EPA 8015B

Analyst: CR

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*47 - 157*		B7H0276	08/14/2017	*08/15/17 05:21*	S4

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,1,1-Trichloroethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,1,2-Trichloroethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,1-Dichloroethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,1-Dichloroethene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,1-Dichloropropene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,2,3-Trichloropropane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,2,3-Trichlorobenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,2,4-Trichlorobenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,2,4-Trimethylbenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,2-Dibromo-3-chloropropane	ND	10	1	B7H0343	08/17/2017	08/17/17 11:17	
1,2-Dibromoethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,2-Dichlorobenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,2-Dichloroethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,2-Dichloropropane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,3,5-Trimethylbenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,3-Dichlorobenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,3-Dichloropropane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
1,4-Dichlorobenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
2,2-Dichloropropane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
2-Chlorotoluene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
4-Chlorotoluene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
4-Isopropyltoluene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Benzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Bromobenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Bromochloromethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Bromodichloromethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Bromoform	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Bromomethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Carbon disulfide	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	

Certificate of Analysis

Stantec	Project Number : 185803982
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Client Sample ID SB-28-4

Lab ID: 1702944-23

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon tetrachloride	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Chlorobenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Chloroethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Chloroform	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Chloromethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
cis-1,2-Dichloroethene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
cis-1,3-Dichloropropene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Di-isopropyl ether	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Dibromochloromethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Dibromomethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Dichlorodifluoromethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Ethyl Acetate	ND	50	1	B7H0343	08/17/2017	08/17/17 11:17	
Ethyl Ether	ND	50	1	B7H0343	08/17/2017	08/17/17 11:17	
Ethyl tert-butyl ether	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Ethylbenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Freon-113	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Hexachlorobutadiene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Isopropylbenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
m,p-Xylene	ND	10	1	B7H0343	08/17/2017	08/17/17 11:17	
Methylene chloride	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
MTBE	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
n-Butylbenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
n-Propylbenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Naphthalene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
o-Xylene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
sec-Butylbenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Styrene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
tert-Amyl methyl ether	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
tert-Butanol	ND	100	1	B7H0343	08/17/2017	08/17/17 11:17	
tert-Butylbenzene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Tetrachloroethene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Toluene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
trans-1,2-Dichloroethene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
trans-1,3-Dichloropropene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Trichloroethene	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Trichlorofluoromethane	ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Vinyl acetate	ND	50	1	B7H0343	08/17/2017	08/17/17 11:17	

Certificate of Analysis

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Client Sample ID SB-28-4

Lab ID: 1702944-23

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

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl chloride		ND	5.0	1	B7H0343	08/17/2017	08/17/17 11:17	
Surrogate: 1,2-Dichloroethane-d4	*93.1 %*		*12 - 186*		B7H0343	08/17/2017	*08/17/17 11:17*	
Surrogate: 4-Bromofluorobenzene	*130 %*		*23 - 162*		B7H0343	08/17/2017	*08/17/17 11:17*	
Surrogate: Dibromofluoromethane	*91.1 %*		*23 - 179*		B7H0343	08/17/2017	*08/17/17 11:17*	
Surrogate: Toluene-d8	*101 %*		*26 - 164*		B7H0343	08/17/2017	*08/17/17 11:17*	

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-29-0.5

Lab ID: 1702944-26

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Arsenic	**1.9**	1.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Barium	**54**	1.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Chromium	**9.5**	1.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Cobalt	**4.9**	1.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Copper	**11**	2.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Lead	**12**	1.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Nickel	**14**	1.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Vanadium	**26**	1.0	1	B7H0254	08/14/2017	08/15/17 12:08	
Zinc	**44**	1.0	1	B7H0254	08/14/2017	08/15/17 12:08	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:27	

Organochlorine Pesticides by EPA 8081

Analyst: CO

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD	ND	20	10	B7H0274	08/14/2017	08/14/17 18:55	D1
4,4´-DDE	ND	20	10	B7H0274	08/14/2017	08/14/17 18:55	D1
4,4´-DDT	ND	20	10	B7H0274	08/14/2017	08/14/17 18:55	D1
Aldrin	ND	10	10	B7H0274	08/14/2017	08/14/17 18:55	D1
alpha-BHC	ND	10	10	B7H0274	08/14/2017	08/14/17 18:55	D1
alpha-Chlordane	ND	10	10	B7H0274	08/14/2017	08/14/17 18:55	D1
beta-BHC	ND	10	10	B7H0274	08/14/2017	08/14/17 18:55	D1
Chlordane [2C]	ND	85	10	B7H0274	08/14/2017	08/14/17 18:55	D1
delta-BHC	ND	10	10	B7H0274	08/14/2017	08/14/17 18:55	D1
Dieldrin [2C]	ND	20	10	B7H0274	08/14/2017	08/14/17 18:55	D1

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Stantec	Project Number : 185803982
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Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-29-0.5

Lab ID: 1702944-26

Organochlorine Pesticides by EPA 8081 **Analyst: CO**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Endosulfan I		ND	10	10	B7H0274	08/14/2017	08/14/17 18:55	D1
Endosulfan II		ND	20	10	B7H0274	08/14/2017	08/14/17 18:55	D1
Endosulfan sulfate		ND	20	10	B7H0274	08/14/2017	08/14/17 18:55	D1
Endrin		ND	20	10	B7H0274	08/14/2017	08/14/17 18:55	D1
Endrin aldehyde		ND	20	10	B7H0274	08/14/2017	08/14/17 18:55	D1
Endrin ketone [2C]		ND	20	10	B7H0274	08/14/2017	08/14/17 18:55	D1
gamma-BHC		ND	10	10	B7H0274	08/14/2017	08/14/17 18:55	D1
gamma-Chlordane		ND	10	10	B7H0274	08/14/2017	08/14/17 18:55	D1
Heptachlor		ND	10	10	B7H0274	08/14/2017	08/14/17 18:55	D1
Heptachlor epoxide		ND	10	10	B7H0274	08/14/2017	08/14/17 18:55	D1
Methoxychlor		ND	50	10	B7H0274	08/14/2017	08/14/17 18:55	D1
Toxaphene		ND	500	10	B7H0274	08/14/2017	08/14/17 18:55	D1
Surrogate: Decachlorobiphenyl	*49.9 %*		*27 - 123*		B7H0274	08/14/2017	*08/14/17 18:55*	
Surrogate: Tetrachloro-m-xylene [2C	*30.8 %*		*26 - 108*		B7H0274	08/14/2017	*08/14/17 18:55*	

Certificate of Analysis

Stantec	Project Number : 185803982
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Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-29-1

Lab ID: 1702944-27

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Arsenic	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Barium	**42**	1.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Chromium	**9.0**	1.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Cobalt	**5.4**	1.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Copper	**7.3**	2.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Lead	**5.0**	1.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Nickel	**6.6**	1.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Vanadium	**20**	1.0	1	B7H0254	08/14/2017	08/15/17 12:09	
Zinc	**33**	1.0	1	B7H0254	08/14/2017	08/15/17 12:09	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:29	

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Stantec	Project Number : 185803982
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Client Sample ID SB-30-0.5

Lab ID: 1702944-29

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Arsenic	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Barium	**80**	1.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Cadmium	**1.2**	1.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Chromium	**14**	1.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Cobalt	**7.1**	1.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Copper	**23**	2.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Lead	**90**	1.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Nickel	**12**	1.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Vanadium	**26**	1.0	1	B7H0254	08/14/2017	08/15/17 12:10	
Zinc	**90**	1.0	1	B7H0254	08/14/2017	08/15/17 12:10	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:31	

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Stantec	Project Number : 185803982
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Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-30-1

Lab ID: 1702944-30

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Arsenic	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Barium	**63**	1.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Chromium	**14**	1.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Cobalt	**7.9**	1.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Copper	**12**	2.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Lead	**16**	1.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Nickel	**10**	1.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Vanadium	**28**	1.0	1	B7H0254	08/14/2017	08/15/17 12:11	
Zinc	**53**	1.0	1	B7H0254	08/14/2017	08/15/17 12:11	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:38	

Certificate of Analysis

Stantec	Project Number : 185803982
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Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-31-0.5

Lab ID: 1702944-33

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Arsenic	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Barium	**57**	1.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Cadmium	**1.5**	1.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Chromium	**11**	1.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Cobalt	**5.7**	1.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Copper	**14**	2.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Lead	**46**	1.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Nickel	**8.3**	1.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Vanadium	**22**	1.0	1	B7H0254	08/14/2017	08/15/17 12:15	
Zinc	**73**	1.0	1	B7H0254	08/14/2017	08/15/17 12:15	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:40	

Organochlorine Pesticides by EPA 8081

Analyst: CO

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4´-DDD [2C]	ND	2.0	1	B7H0274	08/14/2017	08/14/17 19:05	
4,4´-DDE [2C]	ND	2.0	1	B7H0274	08/14/2017	08/14/17 19:05	
4,4´-DDT	**2.7**	2.0	1	B7H0274	08/14/2017	08/14/17 19:05	
Aldrin	ND	1.0	1	B7H0274	08/14/2017	08/14/17 19:05	
alpha-BHC	ND	1.0	1	B7H0274	08/14/2017	08/14/17 19:05	
alpha-Chlordane [2C]	ND	1.0	1	B7H0274	08/14/2017	08/14/17 19:05	
beta-BHC	ND	1.0	1	B7H0274	08/14/2017	08/14/17 19:05	
Chlordane	ND	8.5	1	B7H0274	08/14/2017	08/14/17 19:05	
delta-BHC	ND	1.0	1	B7H0274	08/14/2017	08/14/17 19:05	
Dieldrin [2C]	ND	2.0	1	B7H0274	08/14/2017	08/14/17 19:05	

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-31-0.5

Lab ID: 1702944-33

Organochlorine Pesticides by EPA 8081 **Analyst: CO**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Endosulfan I	ND	1.0	1	B7H0274	08/14/2017	08/14/17 19:05	
Endosulfan II	ND	2.0	1	B7H0274	08/14/2017	08/14/17 19:05	
Endosulfan sulfate	ND	2.0	1	B7H0274	08/14/2017	08/14/17 19:05	
Endrin	ND	2.0	1	B7H0274	08/14/2017	08/14/17 19:05	
Endrin aldehyde	ND	2.0	1	B7H0274	08/14/2017	08/14/17 19:05	
Endrin ketone	ND	2.0	1	B7H0274	08/14/2017	08/14/17 19:05	
gamma-BHC	ND	1.0	1	B7H0274	08/14/2017	08/14/17 19:05	
gamma-Chlordane [2C]	ND	1.0	1	B7H0274	08/14/2017	08/14/17 19:05	
Heptachlor	ND	1.0	1	B7H0274	08/14/2017	08/14/17 19:05	
Heptachlor epoxide	ND	1.0	1	B7H0274	08/14/2017	08/14/17 19:05	
Methoxychlor	ND	5.0	1	B7H0274	08/14/2017	08/14/17 19:05	
Toxaphene	ND	50	1	B7H0274	08/14/2017	08/14/17 19:05	
Surrogate: Decachlorobiphenyl	*32.3 %*	*27 - 123*		B7H0274	08/14/2017	*08/14/17 19:05*	
Surrogate: Tetrachloro-m-xylene [2C	*41.4 %*	*26 - 108*		B7H0274	08/14/2017	*08/14/17 19:05*	

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-31-1

Lab ID: 1702944-34

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Arsenic	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Barium	**59**	1.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Chromium	**14**	1.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Cobalt	**7.9**	1.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Copper	**11**	2.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Lead	**7.9**	1.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Nickel	**10**	1.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Vanadium	**29**	1.0	1	B7H0254	08/14/2017	08/15/17 12:16	
Zinc	**53**	1.0	1	B7H0254	08/14/2017	08/15/17 12:16	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:42	

Certificate of Analysis

Stantec	Project Number : 185803982
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Client Sample ID SB-32-0.5

Lab ID: 1702944-36

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Arsenic	**1.7**	1.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Barium	**53**	1.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Chromium	**13**	1.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Cobalt	**5.6**	1.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Copper	**13**	2.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Lead	**120**	1.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Nickel	**8.5**	1.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Vanadium	**23**	1.0	1	B7H0254	08/14/2017	08/15/17 12:17	
Zinc	**73**	1.0	1	B7H0254	08/14/2017	08/15/17 12:17	

TCLP Metals by ICP-AES EPA 6010B

Analyst: KEK

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.25	5	B7H0373	08/18/2017	08/18/17 15:56	D1

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**7.6**	1.0	20	B7H0402	08/19/2017	08/21/17 13:22	D1

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:44	

Certificate of Analysis

Stantec	Project Number : 185803982
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Client Sample ID SB-32-1

Lab ID: 1702944-37

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: GO**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Arsenic	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Barium	**50**	1.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Beryllium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Cadmium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Chromium	**11**	1.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Cobalt	**6.7**	1.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Copper	**9.3**	2.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Lead	**6.3**	1.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Molybdenum	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Nickel	**8.2**	1.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Selenium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Silver	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Thallium	ND	1.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Vanadium	**24**	1.0	1	B7H0254	08/14/2017	08/15/17 12:18	
Zinc	**40**	1.0	1	B7H0254	08/14/2017	08/15/17 12:18	

Mercury by AA (Cold Vapor) EPA 7471A — **Analyst: KEK**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7H0257	08/14/2017	08/15/17 11:46	

Certificate of Analysis

Stantec	Project Number : 185803982
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Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-33-15

Lab ID: 1702944-41

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7H0252	08/14/2017	08/14/17 11:16	
Surrogate: 4-Bromofluorobenzene	*107 %*		*36 - 125*		B7H0252	08/14/2017	*08/14/17 11:16*	

Diesel Range Organics by EPA 8015B

Analyst: CR

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**30**	10	1	B7H0276	08/14/2017	08/15/17 00:30	
ORO		**12**	10	1	B7H0276	08/14/2017	08/15/17 00:30	
Surrogate: p-Terphenyl	*126 %*		*47 - 157*		B7H0276	08/14/2017	*08/15/17 00:30*	S4

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,1,1-Trichloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,1,2-Trichloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,1-Dichloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,1-Dichloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,1-Dichloropropene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,2,3-Trichloropropane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,2,3-Trichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,2,4-Trichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,2,4-Trimethylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,2-Dibromo-3-chloropropane	ND	10	1	B7H0316	08/16/2017	08/16/17 13:53	
1,2-Dibromoethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,2-Dichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,2-Dichloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,2-Dichloropropane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,3,5-Trimethylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,3-Dichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,3-Dichloropropane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
1,4-Dichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
2,2-Dichloropropane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
2-Chlorotoluene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
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Client Sample ID SB-33-15

Lab ID: 1702944-41

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
4-Isopropyltoluene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Benzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Bromobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Bromochloromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Bromodichloromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Bromoform	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Bromomethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Carbon disulfide	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Carbon tetrachloride	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Chlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Chloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Chloroform	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Chloromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
cis-1,2-Dichloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
cis-1,3-Dichloropropene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Di-isopropyl ether	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Dibromochloromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Dibromomethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Dichlorodifluoromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Ethyl Acetate	ND	50	1	B7H0316	08/16/2017	08/16/17 13:53	
Ethyl Ether	ND	50	1	B7H0316	08/16/2017	08/16/17 13:53	
Ethyl tert-butyl ether	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Ethylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Freon-113	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Hexachlorobutadiene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Isopropylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
m,p-Xylene	ND	10	1	B7H0316	08/16/2017	08/16/17 13:53	
Methylene chloride	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
MTBE	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
n-Butylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
n-Propylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Naphthalene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
o-Xylene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
sec-Butylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Styrene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
tert-Amyl methyl ether	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	

Certificate of Analysis

Stantec	Project Number : 185803982
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Lab ID: 1702944-41

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7H0316	08/16/2017	08/16/17 13:53	
tert-Butylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Tetrachloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Toluene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
trans-1,2-Dichloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
trans-1,3-Dichloropropene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Trichloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Trichlorofluoromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Vinyl acetate	ND	50	1	B7H0316	08/16/2017	08/16/17 13:53	
Vinyl chloride	ND	5.0	1	B7H0316	08/16/2017	08/16/17 13:53	
Surrogate: 1,2-Dichloroethane-d4	*87.7 %*	*12 - 186*		B7H0316	08/16/2017	*08/16/17 13:53*	
Surrogate: 4-Bromofluorobenzene	*88.9 %*	*23 - 162*		B7H0316	08/16/2017	*08/16/17 13:53*	
Surrogate: Dibromofluoromethane	*93.4 %*	*23 - 179*		B7H0316	08/16/2017	*08/16/17 13:53*	
Surrogate: Toluene-d8	*109 %*	*26 - 164*		B7H0316	08/16/2017	*08/16/17 13:53*	

Certificate of Analysis

Stantec	Project Number : 185803982
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Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-12-1

Lab ID: 1702944-42

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7H0252	08/14/2017	08/14/17 10:39	
Surrogate: 4-Bromofluorobenzene	*105 %*		*36 - 125*		B7H0252	08/14/2017	*08/14/17 10:39*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**170**	10	1	B7H0276	08/14/2017	08/15/17 01:05	
ORO		**87**	10	1	B7H0276	08/14/2017	08/15/17 01:05	
Surrogate: p-Terphenyl	*150 %*		*47 - 157*		B7H0276	08/14/2017	*08/15/17 01:05*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,1,1-Trichloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,1,2-Trichloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,1-Dichloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,1-Dichloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,1-Dichloropropene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,2,3-Trichloropropane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,2,3-Trichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,2,4-Trichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,2,4-Trimethylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,2-Dibromo-3-chloropropane	ND	10	1	B7H0316	08/16/2017	08/16/17 10:31	
1,2-Dibromoethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,2-Dichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,2-Dichloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,2-Dichloropropane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,3,5-Trimethylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,3-Dichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,3-Dichloropropane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
1,4-Dichlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
2,2-Dichloropropane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
2-Chlorotoluene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	

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Client Sample ID SB-12-1

Lab ID: 1702944-42

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
4-Isopropyltoluene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Benzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Bromobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Bromochloromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Bromodichloromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Bromoform	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Bromomethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Carbon disulfide	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Carbon tetrachloride	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Chlorobenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Chloroethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Chloroform	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Chloromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
cis-1,2-Dichloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
cis-1,3-Dichloropropene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Di-isopropyl ether	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Dibromochloromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Dibromomethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Dichlorodifluoromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Ethyl Acetate	ND	50	1	B7H0316	08/16/2017	08/16/17 10:31	
Ethyl Ether	ND	50	1	B7H0316	08/16/2017	08/16/17 10:31	
Ethyl tert-butyl ether	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Ethylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Freon-113	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Hexachlorobutadiene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Isopropylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
m,p-Xylene	ND	10	1	B7H0316	08/16/2017	08/16/17 10:31	
Methylene chloride	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
MTBE	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
n-Butylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
n-Propylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Naphthalene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
o-Xylene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
sec-Butylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Styrene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
tert-Amyl methyl ether	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	

Certificate of Analysis

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Lab ID: 1702944-42

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7H0316	08/16/2017	08/16/17 10:31	
tert-Butylbenzene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Tetrachloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Toluene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
trans-1,2-Dichloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
trans-1,3-Dichloropropene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Trichloroethene	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Trichlorofluoromethane	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Vinyl acetate	ND	50	1	B7H0316	08/16/2017	08/16/17 10:31	
Vinyl chloride	ND	5.0	1	B7H0316	08/16/2017	08/16/17 10:31	
Surrogate: 1,2-Dichloroethane-d4	*92.1 %*	*12 - 186*		B7H0316	08/16/2017	*08/16/17 10:31*	
Surrogate: 4-Bromofluorobenzene	*91.5 %*	*23 - 162*		B7H0316	08/16/2017	*08/16/17 10:31*	
Surrogate: Dibromofluoromethane	*83.2 %*	*23 - 179*		B7H0316	08/16/2017	*08/16/17 10:31*	
Surrogate: Toluene-d8	*108 %*	*26 - 164*		B7H0316	08/16/2017	*08/16/17 10:31*	

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QUALITY CONTROL SECTION

Title 22 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 B7H0254 - EPA 3050B_S										
Blank (B7H0254-BLK1)						Prepared: 8/14/2017 Analyzed: 8/15/2017				
Antimony	ND	2.0	0.44							
Arsenic	ND	1.0	0.70							
Barium	ND	1.0	0.10							
Beryllium	ND	1.0	0.04							
Cadmium	ND	1.0	0.09							
Chromium	ND	1.0	0.12							
Cobalt	ND	1.0	0.10							
Copper	ND	2.0	0.11							
Lead	ND	1.0	0.19							
Molybdenum	ND	1.0	0.13							
Nickel	ND	1.0	0.10							
Selenium	ND	1.0	0.88							
Silver	ND	1.0	0.07							
Thallium	ND	1.0	0.42							
Vanadium	ND	1.0	0.19							
Zinc	ND	1.0	0.18							
LCS (B7H0254-BS1)						Prepared: 8/14/2017 Analyzed: 8/15/2017				
Antimony	44.9878	2.0	0.44	50.0000		90.0	80 - 120			
Arsenic	42.7570	1.0	0.70	50.0000		85.5	80 - 120			
Barium	45.4214	1.0	0.10	50.0000		90.8	80 - 120			
Beryllium	44.2096	1.0	0.04	50.0000		88.4	80 - 120			
Cadmium	42.9739	1.0	0.09	50.0000		85.9	80 - 120			
Chromium	46.3812	1.0	0.12	50.0000		92.8	80 - 120			
Cobalt	45.8003	1.0	0.10	50.0000		91.6	80 - 120			
Copper	45.8396	2.0	0.11	50.0000		91.7	80 - 120			
Lead	43.7469	1.0	0.19	50.0000		87.5	80 - 120			
Molybdenum	44.1820	1.0	0.13	50.0000		88.4	80 - 120			
Nickel	45.0174	1.0	0.10	50.0000		90.0	80 - 120			
Selenium	40.8533	1.0	0.88	50.0000		81.7	80 - 120			
Silver	43.8724	1.0	0.07	50.0000		87.7	80 - 120			
Thallium	44.6906	1.0	0.42	50.0000		89.4	80 - 120			
Vanadium	45.6176	1.0	0.19	50.0000		91.2	80 - 120			
Zinc	42.3716	1.0	0.18	50.0000		84.7	80 - 120			
Matrix Spike (B7H0254-MS1)			**Source: 1702940-01**			Prepared: 8/14/2017 Analyzed: 8/15/2017				
Antimony	66.4074	2.0	0.44	125.000	ND	53.1	34 - 103			
Arsenic	84.7983	1.0	0.70	125.000	3.22841	65.3	59 - 103			
Barium	134.883	1.0	0.10	125.000	69.3918	52.4	30 - 134			
Beryllium	79.4172	1.0	0.04	125.000	ND	63.5	62 - 105			

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Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0254 - EPA 3050B_S (continued)										
Matrix Spike (B7H0254-MS1) - Continued			**Source: 1702940-01**		Prepared: 8/14/2017 Analyzed: 8/15/2017					
Cadmium	91.7252	1.0	0.09	125.000	0.193047	73.2	53 - 102			
Chromium	101.872	1.0	0.12	125.000	26.1107	60.6	51 - 111			
Cobalt	91.2285	1.0	0.10	125.000	7.61390	66.9	55 - 105			
Copper	113.577	2.0	0.11	125.000	27.7534	68.7	53 - 126			
Lead	95.1870	1.0	0.19	125.000	9.28663	68.7	34 - 129			
Molybdenum	82.3399	1.0	0.13	125.000	ND	65.9	57 - 105			
Nickel	96.7868	1.0	0.10	125.000	21.8690	59.9	49 - 109			
Selenium	82.2729	1.0	0.88	125.000	ND	65.8	57 - 99			
Silver	98.1653	1.0	0.07	125.000	ND	78.5	64 - 105			
Thallium	86.6816	1.0	0.42	125.000	ND	69.3	46 - 105			
Vanadium	121.349	1.0	0.19	125.000	48.5648	58.2	60 - 109			M1
Zinc	128.776	1.0	0.18	125.000	37.1269	73.3	29 - 122			
Matrix Spike Dup (B7H0254-MSD1)			**Source: 1702940-01**		Prepared: 8/14/2017 Analyzed: 8/15/2017					
Antimony	77.3900	2.0	0.44	125.000	ND	61.9	34 - 103	15.3	20	
Arsenic	101.123	1.0	0.70	125.000	3.22841	78.3	59 - 103	17.6	20	
Barium	163.562	1.0	0.10	125.000	69.3918	75.3	30 - 134	19.2	20	
Beryllium	98.6492	1.0	0.04	125.000	ND	78.9	62 - 105	21.6	20	R
Cadmium	96.5192	1.0	0.09	125.000	0.193047	77.1	53 - 102	5.09	20	
Chromium	127.233	1.0	0.12	125.000	26.1107	80.9	51 - 111	22.1	20	R
Cobalt	105.686	1.0	0.10	125.000	7.61390	78.5	55 - 105	14.7	20	
Copper	142.969	2.0	0.11	125.000	27.7534	92.2	53 - 126	22.9	20	R
Lead	106.343	1.0	0.19	125.000	9.28663	77.6	34 - 129	11.1	20	
Molybdenum	97.3414	1.0	0.13	125.000	ND	77.9	57 - 105	16.7	20	
Nickel	117.332	1.0	0.10	125.000	21.8690	76.4	49 - 109	19.2	20	
Selenium	95.5551	1.0	0.88	125.000	ND	76.4	57 - 99	14.9	20	
Silver	104.960	1.0	0.07	125.000	ND	84.0	64 - 105	6.69	20	
Thallium	92.1589	1.0	0.42	125.000	ND	73.7	46 - 105	6.13	20	
Vanadium	155.164	1.0	0.19	125.000	48.5648	85.3	60 - 109	24.5	20	R
Zinc	138.269	1.0	0.18	125.000	37.1269	80.9	29 - 122	7.11	20	

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TCLP Metals by ICP-AES 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 B7H0373 - EPA 3010A_S										
Blank (B7H0373-BLK1)					Prepared: 8/18/2017 Analyzed: 8/18/2017					
Lead	ND	0.050	0.0028							
LCS (B7H0373-BS1)					Prepared: 8/18/2017 Analyzed: 8/18/2017					
Lead	0.953078	0.050	0.0028	1.00000		95.3	80 - 120			
Matrix Spike (B7H0373-MS1)			**Source: 1702944-14**		Prepared: 8/18/2017 Analyzed: 8/18/2017					
Lead	2.45020	0.25	0.014	2.50000	ND	98.0	78 - 109			
Matrix Spike Dup (B7H0373-MSD1)			**Source: 1702944-14**		Prepared: 8/18/2017 Analyzed: 8/18/2017					
Lead	2.36771	0.25	0.014	2.50000	ND	94.7	78 - 109	3.42	20	

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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 B7H0402 - STLC_S Extraction										
Blank (B7H0402-BLK1)					Prepared: 8/19/2017 Analyzed: 8/21/2017					
Lead	ND	1.0	0.057							
LCS (B7H0402-BS1)					Prepared: 8/19/2017 Analyzed: 8/21/2017					
Lead	1.91690			2.00000		95.8	80 - 120			
LCS Dup (B7H0402-BSD1)					Prepared: 8/19/2017 Analyzed: 8/21/2017					
Lead	2.00574			2.00000		100	80 - 120	4.53	20	

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Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0257 - EPA 7471_S										
Blank (B7H0257-BLK1)					Prepared: 8/14/2017 Analyzed: 8/15/2017					
Mercury	ND	0.10	0.005							
LCS (B7H0257-BS1)					Prepared: 8/14/2017 Analyzed: 8/15/2017					
Mercury	0.802501	0.10	0.005	0.833333		96.3	80 - 120			
Matrix Spike (B7H0257-MS1)			**Source: 1702940-01**		Prepared: 8/14/2017 Analyzed: 8/15/2017					
Mercury	0.896552	0.10	0.005	0.833333	0.079240	98.1	70 - 130			
Matrix Spike Dup (B7H0257-MSD1)			**Source: 1702940-01**		Prepared: 8/14/2017 Analyzed: 8/15/2017					
Mercury	0.965797	0.10	0.005	0.833333	0.079240	106	70 - 130	7.44	20	
Post Spike (B7H0257-PS1)			**Source: 1702940-01**		Prepared: 8/14/2017 Analyzed: 8/15/2017					
Mercury	0.006106			5.00000E-3	0.000951	103	85 - 115			

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Stantec	Project Number : 185803982
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Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0252 - GCVOA_S										
Blank (B7H0252-BLK1)						Prepared: 8/14/2017 Analyzed: 8/14/2017				
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.1935*			*0.200000*		*96.8*	*36 - 125*			
LCS (B7H0252-BS1)						Prepared: 8/14/2017 Analyzed: 8/14/2017				
Gasoline Range Organics	4.56100	1.0	0.20	5.00000		91.2	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.1993*			*0.200000*		*99.6*	*36 - 125*			
Matrix Spike (B7H0252-MS1)			**Source: 1702944-42**			Prepared: 8/14/2017 Analyzed: 8/14/2017				
Gasoline Range Organics	3.88300	1.0	0.20	5.00000	ND	77.7	32 - 161			
Surrogate: 4-Bromofluorobenzene	*0.2078*			*0.200000*		*104*	*36 - 125*			
Matrix Spike Dup (B7H0252-MSD1)			**Source: 1702944-42**			Prepared: 8/14/2017 Analyzed: 8/14/2017				
Gasoline Range Organics	4.06800	1.0	0.20	5.00000	ND	81.4	32 - 161	4.65	20	
Surrogate: 4-Bromofluorobenzene	*0.2176*			*0.200000*		*109*	*36 - 125*			

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Stantec	Project Number : 185803982
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Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0276 - GCSEMI_DRO_S										
Blank (B7H0276-BLK1)						Prepared: 8/14/2017 Analyzed: 8/15/2017				
DRO	ND	10	10							
ORO	ND	10	10							
Surrogate: p-Terphenyl	*108.9*			*80.0000*		*136*	*47 - 157*			
LCS (B7H0276-BS1)						Prepared: 8/14/2017 Analyzed: 8/14/2017				
DRO	1493.88	10	10	1000.00		149	36 - 164			
Surrogate: p-Terphenyl	*129.4*			*160.000*		*80.8*	*47 - 157*			
Matrix Spike (B7H0276-MS1)			**Source: 1702938-02**			Prepared: 8/14/2017 Analyzed: 8/15/2017				
DRO	1140.21	10	10	1000.00	26.7200	111	21 - 179			
Surrogate: p-Terphenyl	*93.47*			*80.0000*		*117*	*47 - 157*			
Matrix Spike Dup (B7H0276-MSD1)			**Source: 1702938-02**			Prepared: 8/14/2017 Analyzed: 8/15/2017				
DRO	1127.26	10	10	1000.00	26.7200	110	21 - 179	1.14	20	
Surrogate: p-Terphenyl	*94.61*			*80.0000*		*118*	*47 - 157*			

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Stantec	Project Number : 185803982
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Organochlorine Pesticides by EPA 8081 - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0274 - GCSEMI_PCB/PEST_S										
Blank (B7H0274-BLK1)							Prepared: 8/14/2017 Analyzed: 8/14/2017			
4,4´-DDD	ND	2.0	0.22							
4,4´-DDD [2C]	ND	2.0	0.22							
4,4´-DDE	ND	2.0	0.20							
4,4´-DDE [2C]	ND	2.0	0.20							
4,4´-DDT	ND	2.0	0.13							
4,4´-DDT [2C]	ND	2.0	0.13							
Aldrin	ND	1.0	0.27							
Aldrin [2C]	ND	1.0	0.27							
alpha-BHC	ND	1.0	0.20							
alpha-BHC [2C]	ND	1.0	0.20							
alpha-Chlordane	ND	1.0	0.21							
alpha-Chlordane [2C]	ND	1.0	0.21							
beta-BHC	ND	1.0	0.23							
beta-BHC [2C]	ND	1.0	0.23							
Chlordane	ND	8.5	0.90							
Chlordane [2C]	ND	8.5	0.90							
delta-BHC	ND	1.0	0.21							
delta-BHC [2C]	ND	1.0	0.21							
Dieldrin	ND	2.0	0.25							
Dieldrin [2C]	ND	2.0	0.25							
Endosulfan I	ND	1.0	0.21							
Endosulfan I [2C]	ND	1.0	0.21							
Endosulfan II	ND	2.0	0.22							
Endosulfan II [2C]	ND	2.0	0.22							
Endosulfan sulfate	ND	2.0	0.21							
Endosulfan Sulfate [2C]	ND	2.0	0.21							
Endrin	ND	2.0	0.23							
Endrin [2C]	ND	2.0	0.23							
Endrin aldehyde	ND	2.0	0.28							
Endrin aldehyde [2C]	ND	2.0	0.28							
Endrin ketone	ND	2.0	0.20							
Endrin ketone [2C]	ND	2.0	0.20							
gamma-BHC	ND	1.0	0.20							
gamma-BHC [2C]	ND	1.0	0.20							
gamma-Chlordane	ND	1.0	0.23							
gamma-Chlordane [2C]	ND	1.0	0.23							
Heptachlor	ND	1.0	0.19							
Heptachlor [2C]	ND	1.0	0.19							
Heptachlor epoxide	ND	1.0	0.20							
Heptachlor epoxide [2C]	ND	1.0	0.20							
Methoxychlor	ND	5.0	0.18							

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0274 - GCSEMI_PCB/PEST_S (continued)										
Blank (B7H0274-BLK1) - Continued					Prepared: 8/14/2017 Analyzed: 8/14/2017					
Methoxychlor [2C]	ND	5.0	0.18							
Toxaphene	ND	50	8.2							
Toxaphene [2C]	ND	50	8.2							
Surrogate: Decachlorobiphenyl	*8.236*			*16.6667*		*49.4*	*27 - 123*			
Surrogate: Decachlorobiphenyl [	*9.250*			*16.6667*		*55.5*	*27 - 123*			
Surrogate: Tetrachloro-m-xylene	*9.835*			*16.6667*		*59.0*	*26 - 108*			
Surrogate: Tetrachloro-m-xylene	*10.92*			*16.6667*		*65.5*	*26 - 108*			
LCS (B7H0274-BS1)					Prepared: 8/14/2017 Analyzed: 8/14/2017					
4,4´-DDD	13.9545	2.0	0.22	16.6667		83.7	53 - 125			
4,4´-DDD [2C]	14.3810	2.0	0.22	16.6667		86.3	53 - 125			
4,4´-DDE	11.2905	2.0	0.20	16.6667		67.7	54 - 113			
4,4´-DDE [2C]	11.9060	2.0	0.20	16.6667		71.4	54 - 113			
4,4´-DDT	4.58667	2.0	0.13	16.6667		27.5	25 - 127			
4,4´-DDT [2C]	4.70850	2.0	0.13	16.6667		28.3	25 - 127			
Aldrin	12.0425	1.0	0.27	16.6667		72.3	59 - 107			
Aldrin [2C]	12.1512	1.0	0.27	16.6667		72.9	59 - 107			
alpha-BHC	13.1680	1.0	0.20	16.6667		79.0	59 - 104			
alpha-BHC [2C]	13.4205	1.0	0.20	16.6667		80.5	59 - 104			
alpha-Chlordane	11.3707	1.0	0.21	16.6667		68.2	54 - 110			
alpha-Chlordane [2C]	11.7128	1.0	0.21	16.6667		70.3	54 - 110			
beta-BHC	12.1410	1.0	0.23	16.6667		72.8	57 - 103			
beta-BHC [2C]	12.9525	1.0	0.23	16.6667		77.7	57 - 103			
delta-BHC	13.5853	1.0	0.21	16.6667		81.5	16 - 120			
delta-BHC [2C]	13.7567	1.0	0.21	16.6667		82.5	16 - 120			
Dieldrin	10.5092	2.0	0.25	16.6667		63.1	61 - 109			
Dieldrin [2C]	10.9585	2.0	0.25	16.6667		65.8	61 - 109			
Endosulfan I	10.9572	1.0	0.21	16.6667		65.7	60 - 106			
Endosulfan I [2C]	10.8850	1.0	0.21	16.6667		65.3	60 - 106			
Endosulfan II	11.4473	2.0	0.22	16.6667		68.7	59 - 108			
Endosulfan II [2C]	11.5438	2.0	0.22	16.6667		69.3	59 - 108			
Endosulfan sulfate	10.4310	2.0	0.21	16.6667		62.6	54 - 110			
Endosulfan Sulfate [2C]	11.0640	2.0	0.21	16.6667		66.4	54 - 110			
Endrin	9.98967	2.0	0.23	16.6667		59.9	63 - 112			L4
Endrin [2C]	10.4987	2.0	0.23	16.6667		63.0	63 - 112			
Endrin aldehyde	10.8553	2.0	0.28	16.6667		65.1	64 - 119			
Endrin aldehyde [2C]	11.1582	2.0	0.28	16.6667		66.9	64 - 119			
Endrin ketone	10.2323	2.0	0.20	16.6667		61.4	54 - 115			
Endrin ketone [2C]	10.6157	2.0	0.20	16.6667		63.7	54 - 115			
gamma-BHC	12.5840	1.0	0.20	16.6667		75.5	60 - 107			
gamma-BHC [2C]	12.5535	1.0	0.20	16.6667		75.3	60 - 107			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0274 - GCSEMI_PCB/PEST_S (continued)										
LCS (B7H0274-BS1) - Continued						Prepared: 8/14/2017 Analyzed: 8/14/2017				
gamma-Chlordane	11.0730	1.0	0.23	16.6667		66.4	57 - 106			
gamma-Chlordane [2C]	11.5458	1.0	0.23	16.6667		69.3	57 - 106			
Heptachlor	11.1030	1.0	0.19	16.6667		66.6	54 - 114			
Heptachlor [2C]	11.6518	1.0	0.19	16.6667		69.9	54 - 114			
Heptachlor epoxide	11.6113	1.0	0.20	16.6667		69.7	61 - 106			
Heptachlor epoxide [2C]	11.5917	1.0	0.20	16.6667		69.6	61 - 106			
Methoxychlor	5.62583	5.0	0.18	16.6667		33.8	18 - 138			
Methoxychlor [2C]	5.67300	5.0	0.18	16.6667		34.0	18 - 138			
Surrogate: Decachlorobiphenyl	*9.823*			*16.6667*		*58.9*	*27 - 123*			
Surrogate: Decachlorobiphenyl [	*9.624*			*16.6667*		*57.7*	*27 - 123*			
Surrogate: Tetrachloro-m-xylene	*13.28*			*16.6667*		*79.7*	*26 - 108*			
Surrogate: Tetrachloro-m-xylene	*13.98*			*16.6667*		*83.9*	*26 - 108*			
Matrix Spike (B7H0274-MS1)			**Source: 1702944-33**			Prepared: 8/14/2017 Analyzed: 8/14/2017				
4,4´-DDD	5.90767	2.0	0.22	16.6667	0.435167	32.8	25 - 141			
4,4´-DDD [2C]	8.20783	2.0	0.22	16.6667	0.739167	44.8	25 - 141			
4,4´-DDE	8.61417	2.0	0.20	16.6667	1.51333	42.6	22 - 141			
4,4´-DDE [2C]	9.13750	2.0	0.20	16.6667	1.65100	44.9	22 - 141			
4,4´-DDT	8.75600	2.0	0.13	16.6667	2.67967	36.5	15 - 136			
4,4´-DDT [2C]	9.05317	2.0	0.13	16.6667	1.69800	44.1	15 - 136			
Aldrin	6.75233	1.0	0.27	16.6667	ND	40.5	33 - 118			
Aldrin [2C]	6.63433	1.0	0.27	16.6667	ND	39.8	33 - 118			
alpha-BHC	5.39750	1.0	0.20	16.6667	ND	32.4	30 - 116			
alpha-BHC [2C]	5.38183	1.0	0.20	16.6667	ND	32.3	30 - 116			
alpha-Chlordane	5.69350	1.0	0.21	16.6667	ND	34.2	30 - 123			
alpha-Chlordane [2C]	5.96133	1.0	0.21	16.6667	0.369000	33.6	30 - 123			
beta-BHC	2.91033	1.0	0.23	16.6667	ND	17.5	24 - 121			M1
beta-BHC [2C]	3.07517	1.0	0.23	16.6667	ND	18.5	24 - 121			M1
delta-BHC	1.31700	1.0	0.21	16.6667	ND	7.90	7 - 120			
delta-BHC [2C]	1.34317	1.0	0.21	16.6667	ND	8.06	7 - 120			
Dieldrin	3.03133	2.0	0.25	16.6667	ND	18.2	25 - 136			M1
Dieldrin [2C]	2.63150	2.0	0.25	16.6667	0.403333	13.4	25 - 136			M1
Endosulfan I	3.03317	1.0	0.21	16.6667	ND	18.2	18 - 134			
Endosulfan I [2C]	3.00450	1.0	0.21	16.6667	ND	18.0	18 - 134			
Endosulfan II	1.45700	2.0	0.22	16.6667	0.586833	5.22	28 - 128			M1
Endosulfan II [2C]	0.761667	2.0	0.22	16.6667	ND	4.57	28 - 128			M1
Endosulfan sulfate	1.22550	2.0	0.21	16.6667	ND	7.35	5 - 145			
Endosulfan Sulfate [2C]	0.551667	2.0	0.21	16.6667	ND	3.31	5 - 145			M1
Endrin	2.46100	2.0	0.23	16.6667	ND	14.8	26 - 142			M1
Endrin [2C]	2.46917	2.0	0.23	16.6667	ND	14.8	26 - 142			M1
Endrin aldehyde	0.576167	2.0	0.28	16.6667	0.407667	1.01	8 - 146			M1

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0274 - GCSEMI_PCB/PEST_S (continued)										
Matrix Spike (B7H0274-MS1) - Continued			**Source: 1702944-33**			Prepared: 8/14/2017 Analyzed: 8/14/2017				
Endrin aldehyde [2C]	0.935833	2.0	0.28	16.6667	ND	5.61	8 - 146			M1
Endrin ketone	0.844333	2.0	0.20	16.6667	ND	5.07	16 - 139			M1
Endrin ketone [2C]	1.67667	2.0	0.20	16.6667	ND	10.1	16 - 139			M1
gamma-BHC	4.44000	1.0	0.20	16.6667	ND	26.6	30 - 122			M1
gamma-BHC [2C]	4.37183	1.0	0.20	16.6667	ND	26.2	30 - 122			M1
gamma-Chlordane	7.81783	1.0	0.23	16.6667	1.02233	40.8	18 - 132			
gamma-Chlordane [2C]	5.23933	1.0	0.23	16.6667	ND	31.4	18 - 132			
Heptachlor	6.68233	1.0	0.19	16.6667	ND	40.1	34 - 122			
Heptachlor [2C]	6.68017	1.0	0.19	16.6667	ND	40.1	34 - 122			
Heptachlor epoxide	3.41333	1.0	0.20	16.6667	ND	20.5	21 - 135			M1
Heptachlor epoxide [2C]	3.38233	1.0	0.20	16.6667	ND	20.3	21 - 135			M1
Methoxychlor	1.42550	5.0	0.18	16.6667	ND	8.55	8 - 162			
Methoxychlor [2C]	1.31517	5.0	0.18	16.6667	ND	7.89	8 - 162			M1
Surrogate: Decachlorobiphenyl	*6.368*			*16.6667*		*38.2*	*27 - 123*			
Surrogate: Decachlorobiphenyl [	*6.467*			*16.6667*		*38.8*	*27 - 123*			
Surrogate: Tetrachloro-m-xylene	*6.856*			*16.6667*		*41.1*	*26 - 108*			
Surrogate: Tetrachloro-m-xylene	*7.334*			*16.6667*		*44.0*	*26 - 108*			
Matrix Spike Dup (B7H0274-MSD1)			**Source: 1702944-33**			Prepared: 8/14/2017 Analyzed: 8/14/2017				
4,4´-DDD	5.72917	2.0	0.22	16.6667	0.435167	31.8	25 - 141	3.07	20	
4,4´-DDD [2C]	8.09000	2.0	0.22	16.6667	0.739167	44.1	25 - 141	1.45	20	
4,4´-DDE	8.52533	2.0	0.20	16.6667	1.51333	42.1	22 - 141	1.04	20	
4,4´-DDE [2C]	9.12467	2.0	0.20	16.6667	1.65100	44.8	22 - 141	0.141	20	
4,4´-DDT	8.53933	2.0	0.13	16.6667	2.67967	35.2	15 - 136	2.51	20	
4,4´-DDT [2C]	8.89883	2.0	0.13	16.6667	1.69800	43.2	15 - 136	1.72	20	
Aldrin	6.64700	1.0	0.27	16.6667	ND	39.9	33 - 118	1.57	20	
Aldrin [2C]	6.60800	1.0	0.27	16.6667	ND	39.6	33 - 118	0.398	20	
alpha-BHC	5.25867	1.0	0.20	16.6667	ND	31.6	30 - 116	2.61	20	
alpha-BHC [2C]	5.28533	1.0	0.20	16.6667	ND	31.7	30 - 116	1.81	20	
alpha-Chlordane	5.53967	1.0	0.21	16.6667	ND	33.2	30 - 123	2.74	20	
alpha-Chlordane [2C]	5.86383	1.0	0.21	16.6667	0.369000	33.0	30 - 123	1.65	20	
beta-BHC	2.71400	1.0	0.23	16.6667	ND	16.3	24 - 121	6.98	20	M1
beta-BHC [2C]	2.88817	1.0	0.23	16.6667	ND	17.3	24 - 121	6.27	20	M1
delta-BHC	1.03500	1.0	0.21	16.6667	ND	6.21	7 - 120	24.0	20	M1
delta-BHC [2C]	1.00817	1.0	0.21	16.6667	ND	6.05	7 - 120	28.5	20	M1
Dieldrin	2.76617	2.0	0.25	16.6667	ND	16.6	25 - 136	9.15	20	M1
Dieldrin [2C]	2.32383	2.0	0.25	16.6667	0.403333	11.5	25 - 136	12.4	20	M1
Endosulfan I	2.71317	1.0	0.21	16.6667	ND	16.3	18 - 134	11.1	20	M1
Endosulfan I [2C]	2.73450	1.0	0.21	16.6667	ND	16.4	18 - 134	9.41	20	M1
Endosulfan II	1.22000	2.0	0.22	16.6667	0.586833	3.80	28 - 128	17.7	20	M1
Endosulfan II [2C]	0.506167	2.0	0.22	16.6667	ND	3.04	28 - 128	40.3	20	M1

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0274 - GCSEMI_PCB/PEST_S (continued)										
Matrix Spike Dup (B7H0274-MSD1) - Continued			**Source: 1702944-33**		Prepared: 8/14/2017 Analyzed: 8/14/2017					
Endosulfan sulfate	1.31600	2.0	0.21	16.6667	ND	7.90	5 - 145	7.12	20	
Endosulfan Sulfate [2C]	0.308000	2.0	0.21	16.6667	ND	1.85	5 - 145	56.7	20	M1
Endrin	2.11717	2.0	0.23	16.6667	ND	12.7	26 - 142	15.0	20	M1
Endrin [2C]	2.10600	2.0	0.23	16.6667	ND	12.6	26 - 142	15.9	20	M1
Endrin aldehyde	0.828333	2.0	0.28	16.6667	0.407667	2.52	8 - 146	35.9	20	M1
Endrin aldehyde [2C]	0.723833	2.0	0.28	16.6667	ND	4.34	8 - 146	25.5	20	M1
Endrin ketone	0.595833	2.0	0.20	16.6667	ND	3.57	16 - 139	34.5	20	M1
Endrin ketone [2C]	1.43850	2.0	0.20	16.6667	ND	8.63	16 - 139	15.3	20	M1
gamma-BHC	4.22050	1.0	0.20	16.6667	ND	25.3	30 - 122	5.07	20	M1
gamma-BHC [2C]	4.19567	1.0	0.20	16.6667	ND	25.2	30 - 122	4.11	20	M1
gamma-Chlordane	7.71133	1.0	0.23	16.6667	1.02233	40.1	18 - 132	1.37	20	
gamma-Chlordane [2C]	5.12517	1.0	0.23	16.6667	ND	30.8	18 - 132	2.20	20	
Heptachlor	6.54533	1.0	0.19	16.6667	ND	39.3	34 - 122	2.07	20	
Heptachlor [2C]	6.61283	1.0	0.19	16.6667	ND	39.7	34 - 122	1.01	20	
Heptachlor epoxide	3.14617	1.0	0.20	16.6667	ND	18.9	21 - 135	8.15	20	M1
Heptachlor epoxide [2C]	3.16200	1.0	0.20	16.6667	ND	19.0	21 - 135	6.73	20	M1
Methoxychlor	1.11483	5.0	0.18	16.6667	ND	6.69	8 - 162	24.5	20	M1
Methoxychlor [2C]	1.06733	5.0	0.18	16.6667	ND	6.40	8 - 162	20.8	20	M1
Surrogate: Decachlorobiphenyl	*6.261*			*16.6667*		*37.6*	*27 - 123*			
Surrogate: Decachlorobiphenyl [	*6.432*			*16.6667*		*38.6*	*27 - 123*			
Surrogate: Tetrachloro-m-xylene	*6.846*			*16.6667*		*41.1*	*26 - 108*			
Surrogate: Tetrachloro-m-xylene	*7.327*			*16.6667*		*44.0*	*26 - 108*			

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Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0316 - MSVOA_S										
Blank (B7H0316-BLK1)					Prepared: 8/16/2017 Analyzed: 8/16/2017					
1,1,1,2-Tetrachloroethane	ND	5.0	0.63							
1,1,1-Trichloroethane	ND	5.0	0.63							
1,1,2,2-Tetrachloroethane	ND	5.0	0.92							
1,1,2-Trichloroethane	ND	5.0	1.4							
1,1-Dichloroethane	ND	5.0	1.5							
1,1-Dichloroethene	ND	5.0	0.69							
1,1-Dichloropropene	ND	5.0	2.4							
1,2,3-Trichloropropane	ND	5.0	1.2							
1,2,3-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trichlorobenzene	ND	5.0	0.96							
1,2,4-Trimethylbenzene	ND	5.0	0.53							
1,2-Dibromo-3-chloropropane	ND	10	1.1							
1,2-Dibromoethane	ND	5.0	0.80							
1,2-Dichlorobenzene	ND	5.0	0.51							
1,2-Dichloroethane	ND	5.0	0.53							
1,2-Dichloropropane	ND	5.0	0.76							
1,3,5-Trimethylbenzene	ND	5.0	0.58							
1,3-Dichlorobenzene	ND	5.0	0.63							
1,3-Dichloropropane	ND	5.0	0.59							
1,4-Dichlorobenzene	ND	5.0	0.73							
2,2-Dichloropropane	ND	5.0	0.68							
2-Chlorotoluene	ND	5.0	0.68							
4-Chlorotoluene	ND	5.0	0.62							
4-Isopropyltoluene	ND	5.0	0.63							
Benzene	ND	5.0	0.59							
Bromobenzene	ND	5.0	1.9							
Bromochloromethane	ND	5.0	3.1							
Bromodichloromethane	ND	5.0	1.0							
Bromoform	ND	5.0	0.70							
Bromomethane	ND	5.0	4.2							
Carbon disulfide	ND	5.0	1.2							
Carbon tetrachloride	ND	5.0	1.1							
Chlorobenzene	ND	5.0	0.64							
Chloroethane	ND	5.0	1.9							
Chloroform	ND	5.0	1.4							
Chloromethane	ND	5.0	1.9							
cis-1,2-Dichloroethene	ND	5.0	0.87							
cis-1,3-Dichloropropene	ND	5.0	0.79							
Di-isopropyl ether	ND	5.0	0.51							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	0.99							

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0316 - MSVOA_S (continued)										
Blank (B7H0316-BLK1) - Continued					Prepared: 8/16/2017 Analyzed: 8/16/2017					
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	9.7							
Ethyl Ether	ND	50	7.3							
Ethyl tert-butyl ether	ND	5.0	1.4							
Ethylbenzene	ND	5.0	0.65							
Freon-113	ND	5.0	1.0							
Hexachlorobutadiene	ND	5.0	0.78							
Isopropylbenzene	ND	5.0	0.59							
m,p-Xylene	ND	10	1.2							
Methylene chloride	ND	5.0	1.4							
MTBE	ND	5.0	0.50							
n-Butylbenzene	ND	5.0	0.75							
n-Propylbenzene	ND	5.0	0.55							
Naphthalene	ND	5.0	1.2							
o-Xylene	ND	5.0	0.86							
sec-Butylbenzene	ND	5.0	0.79							
Styrene	ND	5.0	0.82							
tert-Amyl methyl ether	ND	5.0	1.5							
tert-Butanol	ND	100	5.9							
tert-Butylbenzene	ND	5.0	0.57							
Tetrachloroethene	ND	5.0	0.65							
Toluene	ND	5.0	0.80							
trans-1,2-Dichloroethene	ND	5.0	1.5							
trans-1,3-Dichloropropene	ND	5.0	0.63							
Trichloroethene	ND	5.0	1.1							
Trichlorofluoromethane	ND	5.0	0.89							
Vinyl acetate	ND	50	5.7							
Vinyl chloride	ND	5.0	2.0							
Surrogate: 1,2-Dichloroethane-d4	*42.41*			*50.0000*		*84.8*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*42.21*			*50.0000*		*84.4*	*23 - 162*			
Surrogate: Dibromofluoromethan	*47.34*			*50.0000*		*94.7*	*23 - 179*			
Surrogate: Toluene-d8	*54.13*			*50.0000*		*108*	*26 - 164*			
LCS (B7H0316-BS1)					Prepared: 8/16/2017 Analyzed: 8/16/2017					
1,1,1,2-Tetrachloroethane	50.8200	5.0	0.63	50.0000		102	78 - 119			
1,1,1-Trichloroethane	51.5900	5.0	0.63	50.0000		103	75 - 123			
1,1,2,2-Tetrachloroethane	48.5500	5.0	0.92	50.0000		97.1	65 - 117			
1,1,2-Trichloroethane	50.3700	5.0	1.4	50.0000		101	79 - 108			
1,1-Dichloroethane	52.5100	5.0	1.5	50.0000		105	69 - 120			
1,1-Dichloroethene	44.4600	5.0	0.69	50.0000		88.9	59 - 126			
1,1-Dichloropropene	52.7400	5.0	2.4	50.0000		105	76 - 121			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0316 - MSVOA_S (continued)										
LCS (B7H0316-BS1) - Continued					Prepared: 8/16/2017 Analyzed: 8/16/2017					
1,2,3-Trichloropropane	47.9100	5.0	1.2	50.0000		95.8	66 - 118			
1,2,3-Trichlorobenzene	54.7400	5.0	1.1	50.0000		109	75 - 116			
1,2,4-Trichlorobenzene	53.1200	5.0	0.96	50.0000		106	79 - 121			
1,2,4-Trimethylbenzene	51.9900	5.0	0.53	50.0000		104	80 - 118			
1,2-Dibromo-3-chloropropane	53.3300	10	1.1	50.0000		107	65 - 122			
1,2-Dibromoethane	53.5800	5.0	0.80	50.0000		107	77 - 115			
1,2-Dichlorobenzene	51.2000	5.0	0.51	50.0000		102	81 - 115			
1,2-Dichloroethane	50.6600	5.0	0.53	50.0000		101	70 - 122			
1,2-Dichloropropane	51.7700	5.0	0.76	50.0000		104	77 - 110			
1,3,5-Trimethylbenzene	50.9100	5.0	0.58	50.0000		102	79 - 119			
1,3-Dichlorobenzene	51.6200	5.0	0.63	50.0000		103	81 - 116			
1,3-Dichloropropane	50.8900	5.0	0.59	50.0000		102	79 - 113			
1,4-Dichlorobenzene	50.7400	5.0	0.73	50.0000		101	80 - 117			
2,2-Dichloropropane	51.8000	5.0	0.68	50.0000		104	70 - 129			
2-Chlorotoluene	51.0900	5.0	0.68	50.0000		102	76 - 119			
4-Chlorotoluene	51.7600	5.0	0.62	50.0000		104	79 - 119			
4-Isopropyltoluene	50.9000	5.0	0.63	50.0000		102	80 - 122			
Benzene	103.130	5.0	0.59	100.000		103	79 - 111			
Bromobenzene	49.9600	5.0	1.9	50.0000		99.9	77 - 114			
Bromochloromethane	53.8000	5.0	3.1	50.0000		108	69 - 117			
Bromodichloromethane	51.8600	5.0	1.0	50.0000		104	79 - 114			
Bromoform	49.9400	5.0	0.70	50.0000		99.9	72 - 122			
Bromomethane	44.6200	5.0	4.2	50.0000		89.2	47 - 176			
Carbon disulfide	47.8500	5.0	1.2	50.0000		95.7	50 - 133			
Carbon tetrachloride	51.7400	5.0	1.1	50.0000		103	68 - 143			
Chlorobenzene	50.6400	5.0	0.64	50.0000		101	81 - 113			
Chloroethane	45.5500	5.0	1.9	50.0000		91.1	47 - 148			
Chloroform	52.3700	5.0	1.4	50.0000		105	77 - 116			
Chloromethane	43.1800	5.0	1.9	50.0000		86.4	39 - 141			
cis-1,2-Dichloroethene	52.1400	5.0	0.87	50.0000		104	68 - 120			
cis-1,3-Dichloropropene	51.0900	5.0	0.79	50.0000		102	74 - 113			
Di-isopropyl ether	49.4300	5.0	0.51	50.0000		98.9	62 - 124			
Dibromochloromethane	50.7700	5.0	1.0	50.0000		102	78 - 114			
Dibromomethane	53.0100	5.0	0.99	50.0000		106	74 - 112			
Dichlorodifluoromethane	35.5300	5.0	2.2	50.0000		71.1	49 - 138			
Ethyl Acetate	521.920	50	9.7	500.000		104	63 - 131			
Ethyl Ether	501.940	50	7.3	500.000		100	56 - 123			
Ethyl tert-butyl ether	47.4900	5.0	1.4	50.0000		95.0	68 - 121			
Ethylbenzene	102.780	5.0	0.65	100.000		103	82 - 112			
Freon-113	50.4200	5.0	1.0	50.0000		101	65 - 133			
Hexachlorobutadiene	50.5100	5.0	0.78	50.0000		101	76 - 131			
Isopropylbenzene	56.9700	5.0	0.59	50.0000		114	77 - 122			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0316 - MSVOA_S (continued)										
LCS (B7H0316-BS1) - Continued					Prepared: 8/16/2017 Analyzed: 8/16/2017					
m,p-Xylene	107.320	10	1.2	100.000		107	80 - 116			
Methylene chloride	52.5800	5.0	1.4	50.0000		105	67 - 144			
MTBE	49.2500	5.0	0.50	50.0000		98.5	62 - 120			
n-Butylbenzene	54.5500	5.0	0.75	50.0000		109	78 - 134			
n-Propylbenzene	52.0900	5.0	0.55	50.0000		104	77 - 125			
Naphthalene	53.3700	5.0	1.2	50.0000		107	66 - 125			
o-Xylene	97.9600	5.0	0.86	100.000		98.0	80 - 113			
sec-Butylbenzene	50.4000	5.0	0.79	50.0000		101	79 - 124			
Styrene	53.0400	5.0	0.82	50.0000		106	82 - 117			
tert-Amyl methyl ether	48.2700	5.0	1.5	50.0000		96.5	62 - 118			
tert-Butanol	198.190	100	5.9	250.000		79.3	35 - 127			
tert-Butylbenzene	47.7500	5.0	0.57	50.0000		95.5	78 - 121			
Tetrachloroethene	50.8500	5.0	0.65	50.0000		102	75 - 124			
Toluene	102.250	5.0	0.80	100.000		102	79 - 115			
trans-1,2-Dichloroethene	51.1500	5.0	1.5	50.0000		102	65 - 127			
trans-1,3-Dichloropropene	52.7300	5.0	0.63	50.0000		105	73 - 115			
Trichloroethene	52.6500	5.0	1.1	50.0000		105	77 - 119			
Trichlorofluoromethane	48.5600	5.0	0.89	50.0000		97.1	57 - 134			
Vinyl acetate	533.560	50	5.7	500.000		107	62 - 147			
Vinyl chloride	44.6200	5.0	2.0	50.0000		89.2	53 - 133			
Surrogate: 1,2-Dichloroethane-d4	*53.17*			*50.0000*		*106*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*51.49*			*50.0000*		*103*	*23 - 162*			
Surrogate: Dibromofluoromethan	*50.87*			*50.0000*		*102*	*23 - 179*			
Surrogate: Toluene-d8	*52.52*			*50.0000*		*105*	*26 - 164*			
Matrix Spike (B7H0316-MS1)			**Source: 1702944-42**		Prepared: 8/16/2017 Analyzed: 8/16/2017					
1,1,1,2-Tetrachloroethane	44.4500	5.0	0.63	50.0000	ND	88.9	45 - 124			
1,1,1-Trichloroethane	48.0600	5.0	0.63	50.0000	ND	96.1	53 - 125			
1,1,2,2-Tetrachloroethane	3.95000	5.0	0.92	50.0000	ND	7.90	42 - 117			M1
1,1,2-Trichloroethane	44.1500	5.0	1.4	50.0000	ND	88.3	48 - 120			
1,1-Dichloroethane	47.3700	5.0	1.5	50.0000	ND	94.7	54 - 116			
1,1-Dichloroethene	44.2900	5.0	0.69	50.0000	ND	88.6	47 - 123			
1,1-Dichloropropene	47.7300	5.0	2.4	50.0000	ND	95.5	48 - 126			
1,2,3-Trichloropropane	42.1700	5.0	1.2	50.0000	ND	84.3	46 - 118			
1,2,3-Trichlorobenzene	37.8900	5.0	1.1	50.0000	ND	75.8	1 - 132			
1,2,4-Trichlorobenzene	36.1900	5.0	0.96	50.0000	ND	72.4	2 - 138			
1,2,4-Trimethylbenzene	41.2800	5.0	0.53	50.0000	ND	82.6	32 - 129			
1,2-Dibromo-3-chloropropane	46.6400	10	1.1	50.0000	ND	93.3	34 - 130			
1,2-Dibromoethane	46.1400	5.0	0.80	50.0000	ND	92.3	45 - 125			
1,2-Dichlorobenzene	41.6500	5.0	0.51	50.0000	ND	83.3	25 - 130			
1,2-Dichloroethane	45.2000	5.0	0.53	50.0000	ND	90.4	51 - 119			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0316 - MSVOA_S (continued)										
Matrix Spike (B7H0316-MS1) - Continued			**Source: 1702944-42**		Prepared: 8/16/2017 Analyzed: 8/16/2017					
1,2-Dichloropropane	46.6900	5.0	0.76	50.0000	ND	93.4	54 - 113			
1,3,5-Trimethylbenzene	40.9300	5.0	0.58	50.0000	ND	81.9	34 - 128			
1,3-Dichlorobenzene	41.1300	5.0	0.63	50.0000	ND	82.3	26 - 130			
1,3-Dichloropropane	45.4300	5.0	0.59	50.0000	ND	90.9	53 - 117			
1,4-Dichlorobenzene	41.0800	5.0	0.73	50.0000	ND	82.2	26 - 130			
2,2-Dichloropropane	48.0300	5.0	0.68	50.0000	ND	96.1	52 - 128			
2-Chlorotoluene	41.7800	5.0	0.68	50.0000	ND	83.6	34 - 126			
4-Chlorotoluene	42.8600	5.0	0.62	50.0000	ND	85.7	32 - 128			
4-Isopropyltoluene	38.5300	5.0	0.63	50.0000	ND	77.1	28 - 133			
Benzene	91.1500	5.0	0.59	100.000	ND	91.2	55 - 113			
Bromobenzene	42.1800	5.0	1.9	50.0000	ND	84.4	36 - 122			
Bromochloromethane	45.1200	5.0	3.1	50.0000	ND	90.2	50 - 118			
Bromodichloromethane	44.9400	5.0	1.0	50.0000	ND	89.9	51 - 117			
Bromoform	44.2200	5.0	0.70	50.0000	ND	88.4	39 - 130			
Bromomethane	39.5000	5.0	4.2	50.0000	ND	79.0	38 - 151			
Carbon disulfide	45.3200	5.0	1.2	50.0000	ND	90.6	38 - 126			
Carbon tetrachloride	47.5800	5.0	1.1	50.0000	ND	95.2	43 - 141			
Chlorobenzene	43.9700	5.0	0.64	50.0000	ND	87.9	42 - 122			
Chloroethane	40.5600	5.0	1.9	50.0000	ND	81.1	42 - 129			
Chloroform	46.4800	5.0	1.4	50.0000	ND	93.0	56 - 117			
Chloromethane	38.1300	5.0	1.9	50.0000	ND	76.3	35 - 127			
cis-1,2-Dichloroethene	46.6700	5.0	0.87	50.0000	ND	93.3	50 - 118			
cis-1,3-Dichloropropene	44.9300	5.0	0.79	50.0000	ND	89.9	45 - 118			
Di-isopropyl ether	44.2600	5.0	0.51	50.0000	ND	88.5	51 - 119			
Dibromochloromethane	44.1900	5.0	1.0	50.0000	ND	88.4	47 - 120			
Dibromomethane	46.6300	5.0	0.99	50.0000	ND	93.3	48 - 118			
Dichlorodifluoromethane	35.1100	5.0	2.2	50.0000	ND	70.2	43 - 126			
Ethyl Acetate	339.470	50	9.7	500.000	ND	67.9	22 - 145			
Ethyl Ether	460.350	50	7.3	500.000	ND	92.1	49 - 114			
Ethyl tert-butyl ether	43.0000	5.0	1.4	50.0000	ND	86.0	54 - 120			
Ethylbenzene	89.8900	5.0	0.65	100.000	ND	89.9	42 - 123			
Freon-113	49.0900	5.0	1.0	50.0000	ND	98.2	45 - 132			
Hexachlorobutadiene	26.9900	5.0	0.78	50.0000	ND	54.0	4 - 135			
Isopropylbenzene	46.4800	5.0	0.59	50.0000	ND	93.0	40 - 127			
m,p-Xylene	92.7000	10	1.2	100.000	ND	92.7	39 - 127			
Methylene chloride	47.0900	5.0	1.4	50.0000	ND	94.2	51 - 140			
MTBE	44.8300	5.0	0.50	50.0000	ND	89.7	52 - 120			
n-Butylbenzene	38.3300	5.0	0.75	50.0000	ND	76.7	19 - 141			
n-Propylbenzene	42.6000	5.0	0.55	50.0000	ND	85.2	34 - 131			
Naphthalene	41.4500	5.0	1.2	50.0000	ND	82.9	11 - 136			
o-Xylene	84.4400	5.0	0.86	100.000	ND	84.4	40 - 124			
sec-Butylbenzene	38.4900	5.0	0.79	50.0000	ND	77.0	29 - 132			

Certificate of Analysis

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0316 - MSVOA_S (continued)										
Matrix Spike (B7H0316-MS1) - Continued			**Source: 1702944-42**		Prepared: 8/16/2017 Analyzed: 8/16/2017					
Styrene	45.6700	5.0	0.82	50.0000	ND	91.3	36 - 130			
tert-Amyl methyl ether	43.0400	5.0	1.5	50.0000	ND	86.1	49 - 119			
tert-Butanol	207.480	100	5.9	250.000	ND	83.0	29 - 138			
tert-Butylbenzene	38.0600	5.0	0.57	50.0000	ND	76.1	34 - 129			
Tetrachloroethene	45.3600	5.0	0.65	50.0000	ND	90.7	37 - 132			
Toluene	91.1500	5.0	0.80	100.000	ND	91.2	48 - 122			
trans-1,2-Dichloroethene	46.1000	5.0	1.5	50.0000	ND	92.2	51 - 123			
trans-1,3-Dichloropropene	46.0000	5.0	0.63	50.0000	ND	92.0	38 - 125			
Trichloroethene	87.3200	5.0	1.1	50.0000	ND	175	41 - 136			M1
Trichlorofluoromethane	46.9200	5.0	0.89	50.0000	ND	93.8	44 - 126			
Vinyl acetate	8.59000	50	5.7	500.000	ND	1.72	0 - 154			
Vinyl chloride	42.1400	5.0	2.0	50.0000	ND	84.3	47 - 122			
Surrogate: 1,2-Dichloroethane-d4	*54.60*			*50.0000*		*109*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*50.15*			*50.0000*		*100*	*23 - 162*			
Surrogate: Dibromofluoromethan	*46.98*			*50.0000*		*94.0*	*23 - 179*			
Surrogate: Toluene-d8	*52.44*			*50.0000*		*105*	*26 - 164*			
Matrix Spike Dup (B7H0316-MSD1)			**Source: 1702944-42**		Prepared: 8/16/2017 Analyzed: 8/16/2017					
1,1,1,2-Tetrachloroethane	44.2000	5.0	0.63	50.0000	ND	88.4	45 - 124	0.564	20	
1,1,1-Trichloroethane	48.2200	5.0	0.63	50.0000	ND	96.4	53 - 125	0.332	20	
1,1,2,2-Tetrachloroethane	ND	5.0	0.92	50.0000	ND	NR	42 - 117	NR	20	M1
1,1,2-Trichloroethane	44.6900	5.0	1.4	50.0000	ND	89.4	48 - 120	1.22	20	
1,1-Dichloroethane	46.5200	5.0	1.5	50.0000	ND	93.0	54 - 116	1.81	20	
1,1-Dichloroethene	43.9500	5.0	0.69	50.0000	ND	87.9	47 - 123	0.771	20	
1,1-Dichloropropene	51.0200	5.0	2.4	50.0000	ND	102	48 - 126	6.66	20	
1,2,3-Trichloropropane	42.0900	5.0	1.2	50.0000	ND	84.2	46 - 118	0.190	20	
1,2,3-Trichlorobenzene	37.1300	5.0	1.1	50.0000	ND	74.3	1 - 132	2.03	20	
1,2,4-Trichlorobenzene	35.7800	5.0	0.96	50.0000	ND	71.6	2 - 138	1.14	20	
1,2,4-Trimethylbenzene	41.1500	5.0	0.53	50.0000	ND	82.3	32 - 129	0.315	20	
1,2-Dibromo-3-chloropropane	48.8700	10	1.1	50.0000	ND	97.7	34 - 130	4.67	20	
1,2-Dibromoethane	48.1600	5.0	0.80	50.0000	ND	96.3	45 - 125	4.28	20	
1,2-Dichlorobenzene	41.6600	5.0	0.51	50.0000	ND	83.3	25 - 130	0.0240	20	
1,2-Dichloroethane	46.7800	5.0	0.53	50.0000	ND	93.6	51 - 119	3.44	20	
1,2-Dichloropropane	47.2300	5.0	0.76	50.0000	ND	94.5	54 - 113	1.15	20	
1,3,5-Trimethylbenzene	40.9400	5.0	0.58	50.0000	ND	81.9	34 - 128	0.0244	20	
1,3-Dichlorobenzene	41.1400	5.0	0.63	50.0000	ND	82.3	26 - 130	0.0243	20	
1,3-Dichloropropane	45.4400	5.0	0.59	50.0000	ND	90.9	53 - 117	0.0220	20	
1,4-Dichlorobenzene	41.5700	5.0	0.73	50.0000	ND	83.1	26 - 130	1.19	20	
2,2-Dichloropropane	47.0300	5.0	0.68	50.0000	ND	94.1	52 - 128	2.10	20	
2-Chlorotoluene	42.4900	5.0	0.68	50.0000	ND	85.0	34 - 126	1.69	20	
4-Chlorotoluene	43.1800	5.0	0.62	50.0000	ND	86.4	32 - 128	0.744	20	

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0316 - MSVOA_S (continued)										
Matrix Spike Dup (B7H0316-MSD1) - Continued			**Source: 1702944-42**		Prepared: 8/16/2017 Analyzed: 8/16/2017					
4-Isopropyltoluene	37.5300	5.0	0.63	50.0000	ND	75.1	28 - 133	2.63	20	
Benzene	94.2100	5.0	0.59	100.000	ND	94.2	55 - 113	3.30	20	
Bromobenzene	42.3100	5.0	1.9	50.0000	ND	84.6	36 - 122	0.308	20	
Bromochloromethane	46.7000	5.0	3.1	50.0000	ND	93.4	50 - 118	3.44	20	
Bromodichloromethane	47.1500	5.0	1.0	50.0000	ND	94.3	51 - 117	4.80	20	
Bromoform	44.1900	5.0	0.70	50.0000	ND	88.4	39 - 130	0.0679	20	
Bromomethane	39.1700	5.0	4.2	50.0000	ND	78.3	38 - 151	0.839	20	
Carbon disulfide	44.3400	5.0	1.2	50.0000	ND	88.7	38 - 126	2.19	20	
Carbon tetrachloride	50.1200	5.0	1.1	50.0000	ND	100	43 - 141	5.20	20	
Chlorobenzene	44.2700	5.0	0.64	50.0000	ND	88.5	42 - 122	0.680	20	
Chloroethane	39.9300	5.0	1.9	50.0000	ND	79.9	42 - 129	1.57	20	
Chloroform	45.8800	5.0	1.4	50.0000	ND	91.8	56 - 117	1.30	20	
Chloromethane	36.2400	5.0	1.9	50.0000	ND	72.5	35 - 127	5.08	20	
cis-1,2-Dichloroethene	45.8300	5.0	0.87	50.0000	ND	91.7	50 - 118	1.82	20	
cis-1,3-Dichloropropene	48.1700	5.0	0.79	50.0000	ND	96.3	45 - 118	6.96	20	
Di-isopropyl ether	44.0700	5.0	0.51	50.0000	ND	88.1	51 - 119	0.430	20	
Dibromochloromethane	44.0200	5.0	1.0	50.0000	ND	88.0	47 - 120	0.385	20	
Dibromomethane	48.3300	5.0	0.99	50.0000	ND	96.7	48 - 118	3.58	20	
Dichlorodifluoromethane	34.6400	5.0	2.2	50.0000	ND	69.3	43 - 126	1.35	20	
Ethyl Acetate	232.110	50	9.7	500.000	ND	46.4	22 - 145	37.6	20	R
Ethyl Ether	454.690	50	7.3	500.000	ND	90.9	49 - 114	1.24	20	
Ethyl tert-butyl ether	42.8900	5.0	1.4	50.0000	ND	85.8	54 - 120	0.256	20	
Ethylbenzene	90.5600	5.0	0.65	100.000	ND	90.6	42 - 123	0.743	20	
Freon-113	49.1100	5.0	1.0	50.0000	ND	98.2	45 - 132	0.0407	20	
Hexachlorobutadiene	23.9500	5.0	0.78	50.0000	ND	47.9	4 - 135	11.9	20	
Isopropylbenzene	46.5700	5.0	0.59	50.0000	ND	93.1	40 - 127	0.193	20	
m,p-Xylene	93.3200	10	1.2	100.000	ND	93.3	39 - 127	0.667	20	
Methylene chloride	46.2700	5.0	1.4	50.0000	ND	92.5	51 - 140	1.76	20	
MTBE	44.6600	5.0	0.50	50.0000	ND	89.3	52 - 120	0.380	20	
n-Butylbenzene	36.7700	5.0	0.75	50.0000	ND	73.5	19 - 141	4.15	20	
n-Propylbenzene	42.2000	5.0	0.55	50.0000	ND	84.4	34 - 131	0.943	20	
Naphthalene	43.0100	5.0	1.2	50.0000	ND	86.0	11 - 136	3.69	20	
o-Xylene	85.6300	5.0	0.86	100.000	ND	85.6	40 - 124	1.40	20	
sec-Butylbenzene	37.5100	5.0	0.79	50.0000	ND	75.0	29 - 132	2.58	20	
Styrene	45.9800	5.0	0.82	50.0000	ND	92.0	36 - 130	0.676	20	
tert-Amyl methyl ether	42.5400	5.0	1.5	50.0000	ND	85.1	49 - 119	1.17	20	
tert-Butanol	184.750	100	5.9	250.000	ND	73.9	29 - 138	11.6	20	
tert-Butylbenzene	37.6100	5.0	0.57	50.0000	ND	75.2	34 - 129	1.19	20	
Tetrachloroethene	45.3700	5.0	0.65	50.0000	ND	90.7	37 - 132	0.0220	20	
Toluene	94.2800	5.0	0.80	100.000	ND	94.3	48 - 122	3.38	20	
trans-1,2-Dichloroethene	45.6500	5.0	1.5	50.0000	ND	91.3	51 - 123	0.981	20	
trans-1,3-Dichloropropene	47.0900	5.0	0.63	50.0000	ND	94.2	38 - 125	2.34	20	

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0316 - MSVOA_S (continued)										
Matrix Spike Dup (B7H0316-MSD1) - Continued			**Source: 1702944-42**		Prepared: 8/16/2017 Analyzed: 8/16/2017					
Trichloroethene	90.3000	5.0	1.1	50.0000	ND	181	41 - 136	3.36	20	M1
Trichlorofluoromethane	45.1500	5.0	0.89	50.0000	ND	90.3	44 - 126	3.84	20	
Vinyl acetate	6.12000	50	5.7	500.000	ND	1.22	0 - 154	33.6	20	R
Vinyl chloride	41.2100	5.0	2.0	50.0000	ND	82.4	47 - 122	2.23	20	
Surrogate: 1,2-Dichloroethane-d4	*53.21*			*50.0000*		*106*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*49.36*			*50.0000*		*98.7*	*23 - 162*			
Surrogate: Dibromofluoromethan	*45.72*			*50.0000*		*91.4*	*23 - 179*			
Surrogate: Toluene-d8	*53.76*			*50.0000*		*108*	*26 - 164*			

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Batch B7H0343 - MSVOA_S										
Blank (B7H0343-BLK1)					Prepared: 8/17/2017 Analyzed: 8/17/2017					
1,1,1,2-Tetrachloroethane	ND	5.0	0.63							
1,1,1-Trichloroethane	ND	5.0	0.63							
1,1,2,2-Tetrachloroethane	ND	5.0	0.92							
1,1,2-Trichloroethane	ND	5.0	1.4							
1,1-Dichloroethane	ND	5.0	1.5							
1,1-Dichloroethene	ND	5.0	0.69							
1,1-Dichloropropene	ND	5.0	2.4							
1,2,3-Trichloropropane	ND	5.0	1.2							
1,2,3-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trichlorobenzene	ND	5.0	0.96							
1,2,4-Trimethylbenzene	ND	5.0	0.53							
1,2-Dibromo-3-chloropropane	ND	10	1.1							
1,2-Dibromoethane	ND	5.0	0.80							
1,2-Dichlorobenzene	ND	5.0	0.51							
1,2-Dichloroethane	ND	5.0	0.53							
1,2-Dichloropropane	ND	5.0	0.76							
1,3,5-Trimethylbenzene	ND	5.0	0.58							
1,3-Dichlorobenzene	ND	5.0	0.63							
1,3-Dichloropropane	ND	5.0	0.59							
1,4-Dichlorobenzene	ND	5.0	0.73							
2,2-Dichloropropane	ND	5.0	0.68							
2-Chlorotoluene	ND	5.0	0.68							
4-Chlorotoluene	ND	5.0	0.62							
4-Isopropyltoluene	ND	5.0	0.63							
Benzene	ND	5.0	0.59							
Bromobenzene	ND	5.0	1.9							
Bromochloromethane	ND	5.0	3.1							
Bromodichloromethane	ND	5.0	1.0							
Bromoform	ND	5.0	0.70							
Bromomethane	ND	5.0	4.2							
Carbon disulfide	ND	5.0	1.2							
Carbon tetrachloride	ND	5.0	1.1							
Chlorobenzene	ND	5.0	0.64							
Chloroethane	ND	5.0	1.9							
Chloroform	ND	5.0	1.4							
Chloromethane	ND	5.0	1.9							
cis-1,2-Dichloroethene	ND	5.0	0.87							
cis-1,3-Dichloropropene	ND	5.0	0.79							
Di-isopropyl ether	ND	5.0	0.51							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	0.99							

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Batch B7H0343 - MSVOA_S (continued)										
Blank (B7H0343-BLK1) - Continued					Prepared: 8/17/2017 Analyzed: 8/17/2017					
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	9.7							
Ethyl Ether	ND	50	7.3							
Ethyl tert-butyl ether	ND	5.0	1.4							
Ethylbenzene	ND	5.0	0.65							
Freon-113	ND	5.0	1.0							
Hexachlorobutadiene	ND	5.0	0.78							
Isopropylbenzene	ND	5.0	0.59							
m,p-Xylene	ND	10	1.2							
Methylene chloride	ND	5.0	1.4							
MTBE	ND	5.0	0.50							
n-Butylbenzene	ND	5.0	0.75							
n-Propylbenzene	ND	5.0	0.55							
Naphthalene	ND	5.0	1.2							
o-Xylene	ND	5.0	0.86							
sec-Butylbenzene	ND	5.0	0.79							
Styrene	ND	5.0	0.82							
tert-Amyl methyl ether	ND	5.0	1.5							
tert-Butanol	ND	100	5.9							
tert-Butylbenzene	ND	5.0	0.57							
Tetrachloroethene	ND	5.0	0.65							
Toluene	ND	5.0	0.80							
trans-1,2-Dichloroethene	ND	5.0	1.5							
trans-1,3-Dichloropropene	ND	5.0	0.63							
Trichloroethene	ND	5.0	1.1							
Trichlorofluoromethane	ND	5.0	0.89							
Vinyl acetate	ND	50	5.7							
Vinyl chloride	ND	5.0	2.0							
Surrogate: 1,2-Dichloroethane-d4	*40.60*			*50.0000*		*81.2*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*43.66*			*50.0000*		*87.3*	*23 - 162*			
Surrogate: Dibromofluoromethan	*43.44*			*50.0000*		*86.9*	*23 - 179*			
Surrogate: Toluene-d8	*51.19*			*50.0000*		*102*	*26 - 164*			
LCS (B7H0343-BS1)					Prepared: 8/17/2017 Analyzed: 8/17/2017					
1,1,1,2-Tetrachloroethane	50.4800	5.0	0.63	50.0000		101	78 - 119			
1,1,1-Trichloroethane	49.1200	5.0	0.63	50.0000		98.2	75 - 123			
1,1,2,2-Tetrachloroethane	49.7500	5.0	0.92	50.0000		99.5	65 - 117			
1,1,2-Trichloroethane	49.0600	5.0	1.4	50.0000		98.1	79 - 108			
1,1-Dichloroethane	48.9500	5.0	1.5	50.0000		97.9	69 - 120			
1,1-Dichloroethene	44.1600	5.0	0.69	50.0000		88.3	59 - 126			
1,1-Dichloropropene	50.9700	5.0	2.4	50.0000		102	76 - 121			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0343 - MSVOA_S (continued)										
LCS (B7H0343-BS1) - Continued					Prepared: 8/17/2017 Analyzed: 8/17/2017					
1,2,3-Trichloropropane	48.8900	5.0	1.2	50.0000		97.8	66 - 118			
1,2,3-Trichlorobenzene	53.2800	5.0	1.1	50.0000		107	75 - 116			
1,2,4-Trichlorobenzene	51.4300	5.0	0.96	50.0000		103	79 - 121			
1,2,4-Trimethylbenzene	51.1500	5.0	0.53	50.0000		102	80 - 118			
1,2-Dibromo-3-chloropropane	54.2900	10	1.1	50.0000		109	65 - 122			
1,2-Dibromoethane	50.8500	5.0	0.80	50.0000		102	77 - 115			
1,2-Dichlorobenzene	50.5300	5.0	0.51	50.0000		101	81 - 115			
1,2-Dichloroethane	47.8000	5.0	0.53	50.0000		95.6	70 - 122			
1,2-Dichloropropane	50.4200	5.0	0.76	50.0000		101	77 - 110			
1,3,5-Trimethylbenzene	50.2100	5.0	0.58	50.0000		100	79 - 119			
1,3-Dichlorobenzene	50.3900	5.0	0.63	50.0000		101	81 - 116			
1,3-Dichloropropane	51.5500	5.0	0.59	50.0000		103	79 - 113			
1,4-Dichlorobenzene	50.3400	5.0	0.73	50.0000		101	80 - 117			
2,2-Dichloropropane	47.1600	5.0	0.68	50.0000		94.3	70 - 129			
2-Chlorotoluene	50.3100	5.0	0.68	50.0000		101	76 - 119			
4-Chlorotoluene	51.8000	5.0	0.62	50.0000		104	79 - 119			
4-Isopropyltoluene	49.8100	5.0	0.63	50.0000		99.6	80 - 122			
Benzene	101.100	5.0	0.59	100.000		101	79 - 111			
Bromobenzene	49.4900	5.0	1.9	50.0000		99.0	77 - 114			
Bromochloromethane	50.3400	5.0	3.1	50.0000		101	69 - 117			
Bromodichloromethane	51.0300	5.0	1.0	50.0000		102	79 - 114			
Bromoform	50.4600	5.0	0.70	50.0000		101	72 - 122			
Bromomethane	47.9400	5.0	4.2	50.0000		95.9	47 - 176			
Carbon disulfide	46.6100	5.0	1.2	50.0000		93.2	50 - 133			
Carbon tetrachloride	50.0100	5.0	1.1	50.0000		100	68 - 143			
Chlorobenzene	50.4500	5.0	0.64	50.0000		101	81 - 113			
Chloroethane	43.1900	5.0	1.9	50.0000		86.4	47 - 148			
Chloroform	49.4800	5.0	1.4	50.0000		99.0	77 - 116			
Chloromethane	40.7800	5.0	1.9	50.0000		81.6	39 - 141			
cis-1,2-Dichloroethene	48.9800	5.0	0.87	50.0000		98.0	68 - 120			
cis-1,3-Dichloropropene	51.6200	5.0	0.79	50.0000		103	74 - 113			
Di-isopropyl ether	47.4400	5.0	0.51	50.0000		94.9	62 - 124			
Dibromochloromethane	50.2100	5.0	1.0	50.0000		100	78 - 114			
Dibromomethane	51.9700	5.0	0.99	50.0000		104	74 - 112			
Dichlorodifluoromethane	33.8300	5.0	2.2	50.0000		67.7	49 - 138			
Ethyl Acetate	508.560	50	9.7	500.000		102	63 - 131			
Ethyl Ether	479.500	50	7.3	500.000		95.9	56 - 123			
Ethyl tert-butyl ether	44.5500	5.0	1.4	50.0000		89.1	68 - 121			
Ethylbenzene	102.400	5.0	0.65	100.000		102	82 - 112			
Freon-113	50.0100	5.0	1.0	50.0000		100	65 - 133			
Hexachlorobutadiene	48.6600	5.0	0.78	50.0000		97.3	76 - 131			
Isopropylbenzene	56.5800	5.0	0.59	50.0000		113	77 - 122			

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Batch B7H0343 - MSVOA_S (continued)										
LCS (B7H0343-BS1) - Continued					Prepared: 8/17/2017 Analyzed: 8/17/2017					
m,p-Xylene	106.620	10	1.2	100.000		107	80 - 116			
Methylene chloride	50.1800	5.0	1.4	50.0000		100	67 - 144			
MTBE	47.0100	5.0	0.50	50.0000		94.0	62 - 120			
n-Butylbenzene	52.7300	5.0	0.75	50.0000		105	78 - 134			
n-Propylbenzene	51.7300	5.0	0.55	50.0000		103	77 - 125			
Naphthalene	53.8400	5.0	1.2	50.0000		108	66 - 125			
o-Xylene	97.0200	5.0	0.86	100.000		97.0	80 - 113			
sec-Butylbenzene	49.5100	5.0	0.79	50.0000		99.0	79 - 124			
Styrene	52.8900	5.0	0.82	50.0000		106	82 - 117			
tert-Amyl methyl ether	46.2700	5.0	1.5	50.0000		92.5	62 - 118			
tert-Butanol	141.340	100	5.9	250.000		56.5	35 - 127			
tert-Butylbenzene	47.3200	5.0	0.57	50.0000		94.6	78 - 121			
Tetrachloroethene	50.8000	5.0	0.65	50.0000		102	75 - 124			
Toluene	100.680	5.0	0.80	100.000		101	79 - 115			
trans-1,2-Dichloroethene	48.5500	5.0	1.5	50.0000		97.1	65 - 127			
trans-1,3-Dichloropropene	52.0700	5.0	0.63	50.0000		104	73 - 115			
Trichloroethene	50.2300	5.0	1.1	50.0000		100	77 - 119			
Trichlorofluoromethane	45.6800	5.0	0.89	50.0000		91.4	57 - 134			
Vinyl acetate	497.710	50	5.7	500.000		99.5	62 - 147			
Vinyl chloride	42.8200	5.0	2.0	50.0000		85.6	53 - 133			
Surrogate: 1,2-Dichloroethane-d4	*50.95*			*50.0000*		*102*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*49.85*			*50.0000*		*99.7*	*23 - 162*			
Surrogate: Dibromofluoromethan	*48.43*			*50.0000*		*96.9*	*23 - 179*			
Surrogate: Toluene-d8	*52.36*			*50.0000*		*105*	*26 - 164*			
Duplicate (B7H0343-DUP1)				**Source: 1702957-04**	Prepared: 8/17/2017 Analyzed: 8/17/2017					
1,1,1,2-Tetrachloroethane	ND	5.0	0.63		ND				20	
1,1,1-Trichloroethane	ND	5.0	0.63		ND				20	
1,1,2,2-Tetrachloroethane	ND	5.0	0.92		ND				20	
1,1,2-Trichloroethane	ND	5.0	1.4		ND				20	
1,1-Dichloroethane	ND	5.0	1.5		ND				20	
1,1-Dichloroethene	ND	5.0	0.69		ND				20	
1,1-Dichloropropene	ND	5.0	2.4		ND				20	
1,2,3-Trichloropropane	ND	5.0	1.2		ND				20	
1,2,3-Trichlorobenzene	ND	5.0	1.1		ND				20	
1,2,4-Trichlorobenzene	ND	5.0	0.96		ND				20	
1,2,4-Trimethylbenzene	ND	5.0	0.53		ND				20	
1,2-Dibromo-3-chloropropane	ND	10	1.1		ND				20	
1,2-Dibromoethane	ND	5.0	0.80		ND				20	
1,2-Dichlorobenzene	ND	5.0	0.51		ND				20	
1,2-Dichloroethane	ND	5.0	0.53		ND				20	

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Batch B7H0343 - MSVOA_S (continued)										
Duplicate (B7H0343-DUP1) - Continued			**Source: 1702957-04**		Prepared: 8/17/2017 Analyzed: 8/17/2017					
1,2-Dichloropropane	ND	5.0	0.76		ND				20	
1,3,5-Trimethylbenzene	ND	5.0	0.58		ND				20	
1,3-Dichlorobenzene	ND	5.0	0.63		ND				20	
1,3-Dichloropropane	ND	5.0	0.59		ND				20	
1,4-Dichlorobenzene	ND	5.0	0.73		ND				20	
2,2-Dichloropropane	ND	5.0	0.68		ND				20	
2-Chlorotoluene	ND	5.0	0.68		ND				20	
4-Chlorotoluene	ND	5.0	0.62		ND				20	
4-Isopropyltoluene	ND	5.0	0.63		ND				20	
Benzene	ND	5.0	0.59		ND				20	
Bromobenzene	ND	5.0	1.9		ND				20	
Bromochloromethane	ND	5.0	3.1		ND				20	
Bromodichloromethane	ND	5.0	1.0		ND				20	
Bromoform	ND	5.0	0.70		ND				20	
Bromomethane	ND	5.0	4.2		ND				20	
Carbon disulfide	ND	5.0	1.2		ND				20	
Carbon tetrachloride	ND	5.0	1.1		ND				20	
Chlorobenzene	ND	5.0	0.64		ND				20	
Chloroethane	ND	5.0	1.9		ND				20	
Chloroform	ND	5.0	1.4		ND				20	
Chloromethane	ND	5.0	1.9		ND				20	
cis-1,2-Dichloroethene	ND	5.0	0.87		ND				20	
cis-1,3-Dichloropropene	ND	5.0	0.79		ND				20	
Di-isopropyl ether	ND	5.0	0.51		ND				20	
Dibromochloromethane	ND	5.0	1.0		ND				20	
Dibromomethane	ND	5.0	0.99		ND				20	
Dichlorodifluoromethane	ND	5.0	2.2		ND				20	
Ethyl Acetate	ND	50	9.7		ND				20	
Ethyl Ether	ND	50	7.3		ND				20	
Ethyl tert-butyl ether	ND	5.0	1.4		ND				20	
Ethylbenzene	ND	5.0	0.65		ND				20	
Freon-113	ND	5.0	1.0		ND				20	
Hexachlorobutadiene	ND	5.0	0.78		ND				20	
Isopropylbenzene	ND	5.0	0.59		ND				20	
m,p-Xylene	ND	10	1.2		ND				20	
Methylene chloride	ND	5.0	1.4		ND				20	
MTBE	ND	5.0	0.50		ND				20	
n-Butylbenzene	ND	5.0	0.75		ND				20	
n-Propylbenzene	ND	5.0	0.55		ND				20	
Naphthalene	ND	5.0	1.2		ND				20	
o-Xylene	ND	5.0	0.86		ND				20	
sec-Butylbenzene	ND	5.0	0.79		ND				20	

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Volatile Organic Compounds by EPA 8260B - 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 B7H0343 - MSVOA_S (continued)										
Duplicate (B7H0343-DUP1) - Continued			**Source: 1702957-04**		Prepared: 8/17/2017 Analyzed: 8/17/2017					
Styrene	ND	5.0	0.82		ND				20	
tert-Amyl methyl ether	ND	5.0	1.5		ND				20	
tert-Butanol	ND	100	5.9		ND				20	
tert-Butylbenzene	ND	5.0	0.57		ND				20	
Tetrachloroethene	ND	5.0	0.65		ND				20	
Toluene	ND	5.0	0.80		ND				20	
trans-1,2-Dichloroethene	ND	5.0	1.5		ND				20	
trans-1,3-Dichloropropene	ND	5.0	0.63		ND				20	
Trichloroethene	ND	5.0	1.1		ND				20	
Trichlorofluoromethane	ND	5.0	0.89		ND				20	
Vinyl acetate	ND	50	5.7		ND				20	
Vinyl chloride	ND	5.0	2.0		ND				20	
Surrogate: 1,2-Dichloroethane-d4	*43.00*			*50.0000*		*86.0*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*44.84*			*50.0000*		*89.7*	*23 - 162*			
Surrogate: Dibromofluoromethan	*45.07*			*50.0000*		*90.1*	*23 - 179*			
Surrogate: Toluene-d8	*52.67*			*50.0000*		*105*	*26 - 164*			
Matrix Spike (B7H0343-MS1)			**Source: 1702957-04**		Prepared: 8/17/2017 Analyzed: 8/17/2017					
1,1,1,2-Tetrachloroethane	37.5900	5.0	0.63	50.0000	ND	75.2	45 - 124			
1,1,1-Trichloroethane	40.3700	5.0	0.63	50.0000	ND	80.7	53 - 125			
1,1,2,2-Tetrachloroethane	35.3700	5.0	0.92	50.0000	ND	70.7	42 - 117			
1,1,2-Trichloroethane	36.2100	5.0	1.4	50.0000	ND	72.4	48 - 120			
1,1-Dichloroethane	38.4900	5.0	1.5	50.0000	ND	77.0	54 - 116			
1,1-Dichloroethene	36.5400	5.0	0.69	50.0000	ND	73.1	47 - 123			
1,1-Dichloropropene	43.2500	5.0	2.4	50.0000	ND	86.5	48 - 126			
1,2,3-Trichloropropane	34.2600	5.0	1.2	50.0000	ND	68.5	46 - 118			
1,2,3-Trichlorobenzene	38.3900	5.0	1.1	50.0000	ND	76.8	1 - 132			
1,2,4-Trichlorobenzene	37.6000	5.0	0.96	50.0000	ND	75.2	2 - 138			
1,2,4-Trimethylbenzene	40.1800	5.0	0.53	50.0000	ND	80.4	32 - 129			
1,2-Dibromo-3-chloropropane	40.4100	10	1.1	50.0000	ND	80.8	34 - 130			
1,2-Dibromoethane	37.9600	5.0	0.80	50.0000	ND	75.9	45 - 125			
1,2-Dichlorobenzene	37.3400	5.0	0.51	50.0000	ND	74.7	25 - 130			
1,2-Dichloroethane	36.6500	5.0	0.53	50.0000	ND	73.3	51 - 119			
1,2-Dichloropropane	37.9900	5.0	0.76	50.0000	ND	76.0	54 - 113			
1,3,5-Trimethylbenzene	40.5900	5.0	0.58	50.0000	ND	81.2	34 - 128			
1,3-Dichlorobenzene	38.1200	5.0	0.63	50.0000	ND	76.2	26 - 130			
1,3-Dichloropropane	36.3300	5.0	0.59	50.0000	ND	72.7	53 - 117			
1,4-Dichlorobenzene	37.5200	5.0	0.73	50.0000	ND	75.0	26 - 130			
2,2-Dichloropropane	38.7600	5.0	0.68	50.0000	ND	77.5	52 - 128			
2-Chlorotoluene	39.3800	5.0	0.68	50.0000	ND	78.8	34 - 126			
4-Chlorotoluene	39.5700	5.0	0.62	50.0000	ND	79.1	32 - 128			

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Volatile Organic Compounds by EPA 8260B - 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 B7H0343 - MSVOA_S (continued)										
Matrix Spike (B7H0343-MS1) - Continued			**Source: 1702957-04**		Prepared: 8/17/2017 Analyzed: 8/17/2017					
4-Isopropyltoluene	41.5000	5.0	0.63	50.0000	ND	83.0	28 - 133			
Benzene	78.9900	5.0	0.59	100.000	ND	79.0	55 - 113			
Bromobenzene	36.9600	5.0	1.9	50.0000	ND	73.9	36 - 122			
Bromochloromethane	36.3400	5.0	3.1	50.0000	ND	72.7	50 - 118			
Bromodichloromethane	36.7100	5.0	1.0	50.0000	ND	73.4	51 - 117			
Bromoform	35.4400	5.0	0.70	50.0000	ND	70.9	39 - 130			
Bromomethane	36.5800	5.0	4.2	50.0000	ND	73.2	38 - 151			
Carbon disulfide	38.2700	5.0	1.2	50.0000	ND	76.5	38 - 126			
Carbon tetrachloride	41.9600	5.0	1.1	50.0000	ND	83.9	43 - 141			
Chlorobenzene	38.0400	5.0	0.64	50.0000	ND	76.1	42 - 122			
Chloroethane	32.4000	5.0	1.9	50.0000	ND	64.8	42 - 129			
Chloroform	37.1800	5.0	1.4	50.0000	ND	74.4	56 - 117			
Chloromethane	29.8400	5.0	1.9	50.0000	ND	59.7	35 - 127			
cis-1,2-Dichloroethene	37.8000	5.0	0.87	50.0000	ND	75.6	50 - 118			
cis-1,3-Dichloropropene	36.5100	5.0	0.79	50.0000	ND	73.0	45 - 118			
Di-isopropyl ether	35.2000	5.0	0.51	50.0000	ND	70.4	51 - 119			
Dibromochloromethane	35.9200	5.0	1.0	50.0000	ND	71.8	47 - 120			
Dibromomethane	37.7100	5.0	0.99	50.0000	ND	75.4	48 - 118			
Dichlorodifluoromethane	29.1900	5.0	2.2	50.0000	ND	58.4	43 - 126			
Ethyl Acetate	359.400	50	9.7	500.000	ND	71.9	22 - 145			
Ethyl Ether	353.390	50	7.3	500.000	ND	70.7	49 - 114			
Ethyl tert-butyl ether	32.5600	5.0	1.4	50.0000	ND	65.1	54 - 120			
Ethylbenzene	82.0000	5.0	0.65	100.000	ND	82.0	42 - 123			
Freon-113	43.2700	5.0	1.0	50.0000	ND	86.5	45 - 132			
Hexachlorobutadiene	40.2000	5.0	0.78	50.0000	ND	80.4	4 - 135			
Isopropylbenzene	45.1100	5.0	0.59	50.0000	ND	90.2	40 - 127			
m,p-Xylene	83.8700	10	1.2	100.000	ND	83.9	39 - 127			
Methylene chloride	34.9300	5.0	1.4	50.0000	ND	69.9	51 - 140			
MTBE	34.0500	5.0	0.50	50.0000	ND	68.1	52 - 120			
n-Butylbenzene	44.0300	5.0	0.75	50.0000	ND	88.1	19 - 141			
n-Propylbenzene	42.0800	5.0	0.55	50.0000	ND	84.2	34 - 131			
Naphthalene	38.4300	5.0	1.2	50.0000	ND	76.9	11 - 136			
o-Xylene	75.9700	5.0	0.86	100.000	ND	76.0	40 - 124			
sec-Butylbenzene	41.7100	5.0	0.79	50.0000	ND	83.4	29 - 132			
Styrene	40.1500	5.0	0.82	50.0000	ND	80.3	36 - 130			
tert-Amyl methyl ether	33.0400	5.0	1.5	50.0000	ND	66.1	49 - 119			
tert-Butanol	136.260	100	5.9	250.000	ND	54.5	29 - 138			
tert-Butylbenzene	39.0300	5.0	0.57	50.0000	ND	78.1	34 - 129			
Tetrachloroethene	41.4400	5.0	0.65	50.0000	ND	82.9	37 - 132			
Toluene	80.9900	5.0	0.80	100.000	ND	81.0	48 - 122			
trans-1,2-Dichloroethene	38.4000	5.0	1.5	50.0000	ND	76.8	51 - 123			
trans-1,3-Dichloropropene	37.0000	5.0	0.63	50.0000	ND	74.0	38 - 125			

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Volatile Organic Compounds by EPA 8260B - 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 B7H0343 - MSVOA_S (continued)										
Matrix Spike (B7H0343-MS1) - Continued			**Source: 1702957-04**			Prepared: 8/17/2017 Analyzed: 8/17/2017				
Trichloroethene	40.0600	5.0	1.1	50.0000	ND	80.1	41 - 136			
Trichlorofluoromethane	37.3600	5.0	0.89	50.0000	ND	74.7	44 - 126			
Vinyl acetate	363.230	50	5.7	500.000	ND	72.6	0 - 154			
Vinyl chloride	34.7900	5.0	2.0	50.0000	ND	69.6	47 - 122			
Surrogate: 1,2-Dichloroethane-d4	*51.07*			*50.0000*		*102*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*50.19*			*50.0000*		*100*	*23 - 162*			
Surrogate: Dibromofluoromethan	*48.48*			*50.0000*		*97.0*	*23 - 179*			
Surrogate: Toluene-d8	*52.51*			*50.0000*		*105*	*26 - 164*			
Matrix Spike Dup (B7H0343-MSD1)			**Source: 1702957-04**			Prepared: 8/17/2017 Analyzed: 8/17/2017				
1,1,1,2-Tetrachloroethane	36.2700	5.0	0.63	50.0000	ND	72.5	45 - 124	3.57	20	
1,1,1-Trichloroethane	39.1000	5.0	0.63	50.0000	ND	78.2	53 - 125	3.20	20	
1,1,2,2-Tetrachloroethane	35.4600	5.0	0.92	50.0000	ND	70.9	42 - 117	0.254	20	
1,1,2-Trichloroethane	36.0600	5.0	1.4	50.0000	ND	72.1	48 - 120	0.415	20	
1,1-Dichloroethane	37.4500	5.0	1.5	50.0000	ND	74.9	54 - 116	2.74	20	
1,1-Dichloroethene	35.4100	5.0	0.69	50.0000	ND	70.8	47 - 123	3.14	20	
1,1-Dichloropropene	41.3200	5.0	2.4	50.0000	ND	82.6	48 - 126	4.56	20	
1,2,3-Trichloropropane	34.8800	5.0	1.2	50.0000	ND	69.8	46 - 118	1.79	20	
1,2,3-Trichlorobenzene	37.2100	5.0	1.1	50.0000	ND	74.4	1 - 132	3.12	20	
1,2,4-Trichlorobenzene	36.1800	5.0	0.96	50.0000	ND	72.4	2 - 138	3.85	20	
1,2,4-Trimethylbenzene	38.0600	5.0	0.53	50.0000	ND	76.1	32 - 129	5.42	20	
1,2-Dibromo-3-chloropropane	40.9500	10	1.1	50.0000	ND	81.9	34 - 130	1.33	20	
1,2-Dibromoethane	38.8200	5.0	0.80	50.0000	ND	77.6	45 - 125	2.24	20	
1,2-Dichlorobenzene	35.8700	5.0	0.51	50.0000	ND	71.7	25 - 130	4.02	20	
1,2-Dichloroethane	35.3700	5.0	0.53	50.0000	ND	70.7	51 - 119	3.55	20	
1,2-Dichloropropane	37.1100	5.0	0.76	50.0000	ND	74.2	54 - 113	2.34	20	
1,3,5-Trimethylbenzene	38.5400	5.0	0.58	50.0000	ND	77.1	34 - 128	5.18	20	
1,3-Dichlorobenzene	36.7000	5.0	0.63	50.0000	ND	73.4	26 - 130	3.80	20	
1,3-Dichloropropane	35.8500	5.0	0.59	50.0000	ND	71.7	53 - 117	1.33	20	
1,4-Dichlorobenzene	35.9100	5.0	0.73	50.0000	ND	71.8	26 - 130	4.39	20	
2,2-Dichloropropane	37.1800	5.0	0.68	50.0000	ND	74.4	52 - 128	4.16	20	
2-Chlorotoluene	37.2900	5.0	0.68	50.0000	ND	74.6	34 - 126	5.45	20	
4-Chlorotoluene	37.6600	5.0	0.62	50.0000	ND	75.3	32 - 128	4.95	20	
4-Isopropyltoluene	39.2300	5.0	0.63	50.0000	ND	78.5	28 - 133	5.62	20	
Benzene	75.6500	5.0	0.59	100.000	ND	75.6	55 - 113	4.32	20	
Bromobenzene	35.3500	5.0	1.9	50.0000	ND	70.7	36 - 122	4.45	20	
Bromochloromethane	35.9700	5.0	3.1	50.0000	ND	71.9	50 - 118	1.02	20	
Bromodichloromethane	36.7400	5.0	1.0	50.0000	ND	73.5	51 - 117	0.0817	20	
Bromoform	36.2900	5.0	0.70	50.0000	ND	72.6	39 - 130	2.37	20	
Bromomethane	34.8600	5.0	4.2	50.0000	ND	69.7	38 - 151	4.82	20	
Carbon disulfide	36.9300	5.0	1.2	50.0000	ND	73.9	38 - 126	3.56	20	

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Volatile Organic Compounds by EPA 8260B - 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 B7H0343 - MSVOA_S (continued)										
Matrix Spike Dup (B7H0343-MSD1) - Continued			**Source: 1702957-04**		Prepared: 8/17/2017 Analyzed: 8/17/2017					
Carbon tetrachloride	40.5300	5.0	1.1	50.0000	ND	81.1	43 - 141	3.47	20	
Chlorobenzene	37.0700	5.0	0.64	50.0000	ND	74.1	42 - 122	2.58	20	
Chloroethane	31.7200	5.0	1.9	50.0000	ND	63.4	42 - 129	2.12	20	
Chloroform	36.3000	5.0	1.4	50.0000	ND	72.6	56 - 117	2.40	20	
Chloromethane	27.9900	5.0	1.9	50.0000	ND	56.0	35 - 127	6.40	20	
cis-1,2-Dichloroethene	36.7600	5.0	0.87	50.0000	ND	73.5	50 - 118	2.79	20	
cis-1,3-Dichloropropene	35.9900	5.0	0.79	50.0000	ND	72.0	45 - 118	1.43	20	
Di-isopropyl ether	34.5800	5.0	0.51	50.0000	ND	69.2	51 - 119	1.78	20	
Dibromochloromethane	35.6400	5.0	1.0	50.0000	ND	71.3	47 - 120	0.783	20	
Dibromomethane	37.6700	5.0	0.99	50.0000	ND	75.3	48 - 118	0.106	20	
Dichlorodifluoromethane	28.1400	5.0	2.2	50.0000	ND	56.3	43 - 126	3.66	20	
Ethyl Acetate	359.210	50	9.7	500.000	ND	71.8	22 - 145	0.0529	20	
Ethyl Ether	337.550	50	7.3	500.000	ND	67.5	49 - 114	4.59	20	
Ethyl tert-butyl ether	32.2000	5.0	1.4	50.0000	ND	64.4	54 - 120	1.11	20	
Ethylbenzene	78.5200	5.0	0.65	100.000	ND	78.5	42 - 123	4.34	20	
Freon-113	42.2900	5.0	1.0	50.0000	ND	84.6	45 - 132	2.29	20	
Hexachlorobutadiene	38.4500	5.0	0.78	50.0000	ND	76.9	4 - 135	4.45	20	
Isopropylbenzene	42.9200	5.0	0.59	50.0000	ND	85.8	40 - 127	4.98	20	
m,p-Xylene	80.5200	10	1.2	100.000	ND	80.5	39 - 127	4.08	20	
Methylene chloride	34.6100	5.0	1.4	50.0000	ND	69.2	51 - 140	0.920	20	
MTBE	33.8000	5.0	0.50	50.0000	ND	67.6	52 - 120	0.737	20	
n-Butylbenzene	41.8700	5.0	0.75	50.0000	ND	83.7	19 - 141	5.03	20	
n-Propylbenzene	40.0800	5.0	0.55	50.0000	ND	80.2	34 - 131	4.87	20	
Naphthalene	37.0200	5.0	1.2	50.0000	ND	74.0	11 - 136	3.74	20	
o-Xylene	72.3500	5.0	0.86	100.000	ND	72.4	40 - 124	4.88	20	
sec-Butylbenzene	39.5900	5.0	0.79	50.0000	ND	79.2	29 - 132	5.22	20	
Styrene	38.5200	5.0	0.82	50.0000	ND	77.0	36 - 130	4.14	20	
tert-Amyl methyl ether	33.0200	5.0	1.5	50.0000	ND	66.0	49 - 119	0.0606	20	
tert-Butanol	126.280	100	5.9	250.000	ND	50.5	29 - 138	7.60	20	
tert-Butylbenzene	37.3000	5.0	0.57	50.0000	ND	74.6	34 - 129	4.53	20	
Tetrachloroethene	39.4200	5.0	0.65	50.0000	ND	78.8	37 - 132	5.00	20	
Toluene	77.8400	5.0	0.80	100.000	ND	77.8	48 - 122	3.97	20	
trans-1,2-Dichloroethene	38.2700	5.0	1.5	50.0000	ND	76.5	51 - 123	0.339	20	
trans-1,3-Dichloropropene	35.8000	5.0	0.63	50.0000	ND	71.6	38 - 125	3.30	20	
Trichloroethene	40.1900	5.0	1.1	50.0000	ND	80.4	41 - 136	0.324	20	
Trichlorofluoromethane	37.8200	5.0	0.89	50.0000	ND	75.6	44 - 126	1.22	20	
Vinyl acetate	361.890	50	5.7	500.000	ND	72.4	0 - 154	0.370	20	
Vinyl chloride	33.9000	5.0	2.0	50.0000	ND	67.8	47 - 122	2.59	20	
Surrogate: 1,2-Dichloroethane-d4	*52.19*			*50.0000*		*104*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*50.34*			*50.0000*		*101*	*23 - 162*			
Surrogate: Dibromofluoromethan	*49.01*			*50.0000*		*98.0*	*23 - 179*			

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Redlands , CA 92374	Reported : 08/22/2017

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0343 - MSVOA_S (continued)									
Matrix Spike Dup (B7H0343-MSD1) - Continued			**Source: 1702957-04**		Prepared: 8/17/2017 Analyzed: 8/17/2017				
Surrogate: Toluene-d8	*51.23*		*50.0000*		*102*	*26 - 164*			

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Redlands , CA 92374	Reported : 08/22/2017

Notes and Definitions

S4	Surrogate was diluted out.
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.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
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)
TX1	TX-NELAP (TCEQ)

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.

CHAIN OF CUSTODY FORM

Stantec

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

Client Name/Address:
Stantec
25864 Business Center Drive
Suite F
Redlands, CA 92374

Project/PO Number: 185803932

Project Manager:

Phone Number: : (909)335-6116

Email Address:

Fax Number: 909)335-6120

Sampler:

Analysis Required

1702944	Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Title 22 Metals 6020/Mercury 7471	Total Lead by 6010	Totl Cadmium by 6010	VOCs by EPA Method 8260B & oxygenates	~~TPH (carbon chain)~~ ~~BTEX & oxygenates~~ TPH(gid,o) 8015	Pesticides 8081A	HOLD			Special Instructions
-01	SB-1-5	Soil	Sleeve	1	8.11.17	0740 ~~[illegible]~~	ICE							X			All Title 22,
-02	SB-1 -10					0755								X			Lead, Cadmium,
-03	SB-1 -15					0805								X			Pesticide
-04	SB-3-5					1502								X			analysis on
-05	SB-10-5					1412								X			72-Hour TAT.
-06	SB-15-5					1330					X	X					All VOC &
-07	SB-15-10					1335								X			TPH Analyses
-08	SB-15-15					1345								X			on Normal
-09	SB-16-0.5					1036		X					X				TAT.
-10	SB-16-1					1037		X									
-11	SB-16-1.5					1038								X			
-12	SB-16-5					1043								X			
-13	~~[illegible]~~ SB-20A-5					1455								X			
-14	SB-21-0.5					1246		X									

Relinquished By:	Date/Time:	Received By:	Date/ Time:
[signature]	8-11-2017 1520	[signature]	8/11/17 1520
[signature]	8/11/17 1612	[signature]	8/11/17 1612
		Received in Lab By:	Date/ Time;

Turnaround Time: (Check)
same day
24 hours 5 days
48 hours normal

Sample Integrity: (Check) 5.9, ice + blue ice
intact _____ on ice Yes

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.

CHAIN OF CUSTODY FORM

Stantec

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

Page 2 of 3

Client Name/Address:
Stantec
25864 Business Center Drive
Suite F
Redlands, CA 92374

Project/PO Number:

Project Manager:

Email Address:

Sampler:

Phone Number: : (909)335-6116

Fax Number: 909)335-6120

Analysis Required

1702944	Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Title 22 Metals 6020/Mercury 7471	Total Lead by 6010	Totl Cadmium by 6010	VOCs by EPA Method 8260B + oxy	~~TPH (carbon chain)+ BTEX + oxygenates~~ TPH(8015)	Pesticides 8081A	HOLD			Special Instructions
-15	SB-21-1	Soil	Jar	1	8.11.17	1247	ICE	X									SEE
-16	SB-21-1.5					1248								X			NOTE
-17	SB-22-0.5					1257		X					X				ON
-18	SB-22-1					1258		X									PAGE 1
-19	SB-22-1.5					1300								X			
-20	SB-23-0.5					1012		X					X				
-21	SB-23-1					1014		X									
-22	SB-23-1.5					1021								X			
-23	SB-28-4					1210		X			X	X					
-24	SB-28-10					1215								X			
-25	SB-28-15					1227								X			
-26	SB-29-0.5					1100		X					X				
-27	SB-29-1					1102		X									
-28	SB-29-1.5					1104								X			

Relinquished By:	Date/Time:	Received By:	Date/ Time:	Turnaround	Time: (Check)
[signature]	8-11-2017 1520	[signature]	8/11/17 1520	same day	
Relinquished By: [signature]	Date/Time: 8/11/17 1612	Received By: MFR [signature]	Date/Time: 8/11/17 1612	24 hours	5 days
				48 hours	normal
Relinquished By:	Date/Time:	Received in Lab By:	Date/ Time;	Sample Integrity: (Check) intact ____	on ice yes

te: 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 vices is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

Stantec

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

Client Name/Address:
Stantec
25864 Business Center Drive
Suite F
Redlands, CA 92374

Project/PO Number:

Project Manager:

Phone Number: : (909)335-6116

Email Address:

Fax Number: 909)335-6120

Sampler:

Analysis Required

17029 14	Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Title 22 Metals 6020/Mercury 7471	Total Lead by 6010	Totl Cadmium by 6010	VOCs by EPA Method 8260B	~~TPH (carbon chain) BTEX & oxygenates~~ TPH(g,d,o) 8015	Pesticides 8081A	HOLD			Special Instructions
1-29	SB-30-0.5	Soil		1	8.11.17	1126	ICE	X									SEE
-30	SB-30-1					1127		X									NOTE
-31	SB-30-1.5					1128								X			ON
-32	SB-30-5					1130								X			PAGE 1.
-33	SB-31-0.5					1115		X					X				
-34	SB-31-1					1116		X									
-35	SB-31-1.5					1117								X			
-36	SB-32-0.5					1146		X									
-37	SB-32-1					1148		X									
-38	SB-32-1.5					1150								X			
-39	SB-33-5					0926								X			
-40	SB-33-10					0940								X			
-41	SB-33-15					0950								X			
-42	SB-12-1					1509					X	X					
-43	~~Relinquished By:~~ SB-12-3		~~Date/Time:~~			~~Received By:~~ 1512		HOLD		~~Date/Time:~~							

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	8-11-2017 1520	[signature]	8/11/17 1520
Relinquished By: [signature]	Date/Time: 8/11/17 1612	Received in Lab By: MFR [signature]	Date/ Time; 8/11/17 1612

Turnaround same day ___ Time: (Check)
24 hours ___ 5 days
48 hours ___ normal

Sample Integrity: (Check)
intact ___ on ice Yes

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.

August 22, 2017

Dion Monge
Stantec
25864-F Business Center Drive
Redlands, CA 92374
Tel: (909) 335-6116
Fax:(909) 335-6120

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1702981
Client Reference : 185803982

Enclosed are the results for sample(s) received on August 15, 2017 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,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-34-1	1702981-01	Soil	8/14/17 15:00	8/15/17 12:00

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

Client Sample ID SB-34-1

Lab ID: 1702981-01

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7H0311	08/16/2017	08/16/17 14:01	
Surrogate: 4-Bromofluorobenzene *103 %*		*36 - 125*		B7H0311	08/16/2017	*08/16/17 14:01*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**70**	10	1	B7H0398	08/18/2017	08/19/17 07:45	
ORO	**110**	10	1	B7H0398	08/18/2017	08/19/17 07:45	
Surrogate: p-Terphenyl *126 %*		*47 - 157*		B7H0398	08/18/2017	*08/19/17 07:45*	

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

QUALITY CONTROL SECTION

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

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0311 - GCVOA_S										
Blank (B7H0311-BLK1)					Prepared: 8/16/2017 Analyzed: 8/16/2017					
Gasoline Range Organics	ND	1.0	0.20							
C4-C12	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2051*			*0.200000*		*103*	*36 - 125*			
LCS (B7H0311-BS1)					Prepared: 8/16/2017 Analyzed: 8/16/2017					
Gasoline Range Organics	4.71600	1.0	0.20	5.00000		94.3	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2157*			*0.200000*		*108*	*36 - 125*			
Matrix Spike (B7H0311-MS1)			**Source: 1702966-01**		Prepared: 8/16/2017 Analyzed: 8/16/2017					
Gasoline Range Organics	4.12300	1.0	0.20	5.00000	ND	82.5	32 - 161			
Surrogate: 4-Bromofluorobenzene	*0.2227*			*0.200000*		*111*	*36 - 125*			
Matrix Spike Dup (B7H0311-MSD1)			**Source: 1702966-01**		Prepared: 8/16/2017 Analyzed: 8/16/2017					
Gasoline Range Organics	4.06900	1.0	0.20	5.00000	ND	81.4	32 - 161	1.32	20	
Surrogate: 4-Bromofluorobenzene	*0.2274*			*0.200000*		*114*	*36 - 125*			

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7H0398 - GCSEMI_DRO_S										
Blank (B7H0398-BLK1)						Prepared: 8/18/2017 Analyzed: 8/19/2017				
DRO	ND	10	10							
ORO	ND	10	10							
Surrogate: p-Terphenyl	*106.4*			*80.0000*		*133*	*47 - 157*			
LCS (B7H0398-BS1)						Prepared: 8/18/2017 Analyzed: 8/19/2017				
DRO	1351.62	10	10	1000.00		135	36 - 164			
Surrogate: p-Terphenyl	*116.1*			*80.0000*		*145*	*47 - 157*			
Matrix Spike (B7H0398-MS1)			**Source: 1702981-01**			Prepared: 8/18/2017 Analyzed: 8/19/2017				
DRO	1372.10	10	10	1000.00	69.7000	130	21 - 179			
Surrogate: p-Terphenyl	*118.5*			*80.0000*		*148*	*47 - 157*			
Matrix Spike Dup (B7H0398-MSD1)			**Source: 1702981-01**			Prepared: 8/18/2017 Analyzed: 8/19/2017				
DRO	1293.78	10	10	1000.00	69.7000	122	21 - 179	5.88	20	
Surrogate: p-Terphenyl	*111.9*			*80.0000*		*140*	*47 - 157*			

Certificate of Analysis

Stantec	Project Number : 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 08/22/2017

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)
TX1	TX-NELAP (TCEQ)

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.

Stantec

CHAIN OF CUSTODY FORM

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

Client Name/Address:
Stantec
25864-F Business Center Drive
Redlands, CA 92374

Project/PO Number: 185803982

Laboratory: ATL

Project Manager: Dion Monge
Email Address: Dion.Monge@Stantec.com

Phone Number: 909-335-6116

Fax Number: 909-335-6120

Sampler: J. Sargent Joshua.Sargent@Stantec.com

Analysis Required

Sample Description 1702981	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	TPH c9-c10	HOLD								Special Instructions
-1 SB-34-1	Soil	8oz	1	8.14.17	1500	ICE	X									
-2 SB-34-3	"	"	"	"	1505	"		X								
-3 SB-34-4.5	"	"	"	"	1510	"		X								

Relinquished By:	Date/Time: 8-15-2017 1200	Received By:	Date/Time: 8.15.17 1200
Relinquished By:	Date/Time: 8.15.17 1700	Received By: FPolan	Date/Time: 8/15/17 1700
Relinquished By:	Date/Time:	Received in Lab By:	Date/Time:

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.

5.7 °C

Mobile
Geochemistry Inc.

21 August 2017

Mr. Dion Monge
Stantec - Redlands
25864-F Business Center Drive
Redlands, CA 92374

H&P Project: ST081417-L3
Client Project: 185803982 / S Van Buren St

Dear Mr. Dion Monge:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 14-Aug-17 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody
- Sampling Logs (if applicable)

Unless otherwise noted, I certify that all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

Janis La Roux
Laboratory Director

H&P Mobile Geochemistry, Inc. is certified under the California ELAP and the National Environmental Laboratory Accreditation Conference (NELAC). H&P is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP Program and ISO/IEC 17025:2005 programs, accreditation number 69070 for EPA Method TO-15, H&P Method TO-15, EPA Method 8260B and H&P 8260SV.

H&P Mobile
Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-1-15-SV	E708043-01	Vapor	14-Aug-17	14-Aug-17
SB-1-5-SV	E708043-02	Vapor	14-Aug-17	14-Aug-17
SB-33-15-SV	E708043-03	Vapor	14-Aug-17	14-Aug-17
SB-33-5-SV	E708043-04	Vapor	14-Aug-17	14-Aug-17
SB-30-5-SV	E708043-05	Vapor	14-Aug-17	14-Aug-17
SB-28-15-SV	E708043-06	Vapor	14-Aug-17	14-Aug-17
SB-28-5-SV	E708043-07	Vapor	14-Aug-17	14-Aug-17
SB-3-5-SV	E708043-08	Vapor	14-Aug-17	14-Aug-17
SB-20A-5-SV	E708043-09	Vapor	14-Aug-17	14-Aug-17
SB-10-5-SV	E708043-10	Vapor	14-Aug-17	14-Aug-17
SB-16-5-SV	E708043-11	Vapor	14-Aug-17	14-Aug-17
SB-15-15-SV	E708043-12	Vapor	14-Aug-17	14-Aug-17
SB-15-5-SV	E708043-13	Vapor	14-Aug-17	14-Aug-17
SB-15-5-SV Rep	E708043-14	Vapor	14-Aug-17	14-Aug-17

H&P Mobile
Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

DETECTIONS SUMMARY

Sample ID: **SB-1-15-SV** Laboratory ID: **E708043-01**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **SB-1-5-SV** Laboratory ID: **E708043-02**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **SB-33-15-SV** Laboratory ID: **E708043-03**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **SB-33-5-SV** Laboratory ID: **E708043-04**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **SB-30-5-SV** Laboratory ID: **E708043-05**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **SB-28-15-SV** Laboratory ID: **E708043-06**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **SB-28-5-SV** Laboratory ID: **E708043-07**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **SB-3-5-SV** Laboratory ID: **E708043-08**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

H&P Mobile
Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Sample ID: **SB-20A-5-SV** Laboratory ID: **E708043-09**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **SB-10-5-SV** Laboratory ID: **E708043-10**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **SB-16-5-SV** Laboratory ID: **E708043-11**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **SB-15-15-SV** Laboratory ID: **E708043-12**

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	**30**	20	ug/m3	H&P 8260SV	

Sample ID: **SB-15-5-SV** Laboratory ID: **E708043-13**

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	**50**	20	ug/m3	H&P 8260SV	

Sample ID: **SB-15-5-SV Rep** Laboratory ID: **E708043-14**

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	**70**	20	ug/m3	H&P 8260SV	

H&P Mobile
Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-1-15-SV (E708043-01) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
1,1-Difluoroethane (LCC)	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	100	"	"	"	"	"	"	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	20	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	20	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	20	"	"	"	"	"	"	
Benzene	ND	20	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	ND	20	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	20	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	100	"	"	"	"	"	"	

H&P Mobile
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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-1-15-SV (E708043-01) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
o-Xylene	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	20	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*92.5 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*106 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*107 %*		*75-125*	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-1-5-SV (E708043-02) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
1,1-Difluoroethane (LCC)	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	100	"	"	"	"	"	"	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	20	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	20	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	20	"	"	"	"	"	"	
Benzene	ND	20	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	ND	20	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	20	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	100	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-1-5-SV (E708043-02) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
o-Xylene	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	20	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*103 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*105 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*106 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*		*75-125*	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-33-15-SV (E708043-03) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
1,1-Difluoroethane (LCC)	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	100	"	"	"	"	"	"	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	20	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	20	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	20	"	"	"	"	"	"	
Benzene	ND	20	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	ND	20	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	20	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	100	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-33-15-SV (E708043-03) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
o-Xylene	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	20	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*105 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*103 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*104 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*		*75-125*	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-33-5-SV (E708043-04) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
1,1-Difluoroethane (LCC)	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	100	"	"	"	"	"	"	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	20	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	20	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	20	"	"	"	"	"	"	
Benzene	ND	20	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	ND	20	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	20	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	100	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-33-5-SV (E708043-04) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
o-Xylene	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	20	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*101 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*102 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*102 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*107 %*		*75-125*	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-30-5-SV (E708043-05) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
1,1-Difluoroethane (LCC)	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	100	"	"	"	"	"	"	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	20	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	20	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	20	"	"	"	"	"	"	
Benzene	ND	20	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	ND	20	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	20	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	100	"	"	"	"	"	"	

H&P Mobile
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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-30-5-SV (E708043-05) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
o-Xylene	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	20	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*99.9 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*91.2 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*102 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*104 %*		*75-125*	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-28-15-SV (E708043-06) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
1,1-Difluoroethane (LCC)	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	100	"	"	"	"	"	"	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	20	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	20	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	20	"	"	"	"	"	"	
Benzene	ND	20	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	ND	20	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	20	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	100	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-28-15-SV (E708043-06) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
o-Xylene	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	20	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*99.2 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*93.8 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*102 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*104 %*		*75-125*	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-28-5-SV (E708043-07) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
1,1-Difluoroethane (LCC)	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	100	"	"	"	"	"	"	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	20	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	20	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	20	"	"	"	"	"	"	
Benzene	ND	20	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	ND	20	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	20	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	100	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-28-5-SV (E708043-07) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
o-Xylene	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	20	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*104 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*98.0 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*104 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*108 %*		*75-125*	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-3-5-SV (E708043-08) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
1,1-Difluoroethane (LCC)	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	100	"	"	"	"	"	"	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	20	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	20	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	20	"	"	"	"	"	"	
Benzene	ND	20	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	ND	20	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	20	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	100	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-3-5-SV (E708043-08) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
o-Xylene	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	20	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*94.7 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*89.5 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*107 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*		*75-125*	"	"	"	"	

H&P Mobile
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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-20A-5-SV (E708043-09) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
1,1-Difluoroethane (LCC)	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	100	"	"	"	"	"	"	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	20	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	20	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	20	"	"	"	"	"	"	
Benzene	ND	20	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	ND	20	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	20	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	100	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-20A-5-SV (E708043-09) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
o-Xylene	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	20	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*95.0 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*105 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*106 %*		*75-125*	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-10-5-SV (E708043-10) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
1,1-Difluoroethane (LCC)	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	100	"	"	"	"	"	"	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	20	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	20	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	20	"	"	"	"	"	"	
Benzene	ND	20	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	ND	20	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	20	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	100	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-10-5-SV (E708043-10) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
o-Xylene	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	20	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*98.8 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*92.2 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*106 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*		*75-125*	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-16-5-SV (E708043-11) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
1,1-Difluoroethane (LCC)	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	100	"	"	"	"	"	"	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	20	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	20	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	20	"	"	"	"	"	"	
Benzene	ND	20	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	ND	20	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	20	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	100	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-16-5-SV (E708043-11) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
o-Xylene	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	20	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*106 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*102 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*104 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*106 %*		*75-125*	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-15-15-SV (E708043-12) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
1,1-Difluoroethane (LCC)	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	100	"	"	"	"	"	"	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	20	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	20	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	20	"	"	"	"	"	"	
Benzene	ND	20	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	**30**	20	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	20	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	100	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-15-15-SV (E708043-12) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
o-Xylene	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	20	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*101 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*92.0 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*104 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*108 %*		*75-125*	"	"	"	"	

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25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-15-5-SV (E708043-13) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
1,1-Difluoroethane (LCC)	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	100	"	"	"	"	"	"	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	20	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	20	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	20	"	"	"	"	"	"	
Benzene	ND	20	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	**50**	20	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	20	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	100	"	"	"	"	"	"	

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25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-15-5-SV (E708043-13) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
o-Xylene	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	20	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*101 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*93.5 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*105 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*		*75-125*	"	"	"	"	

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25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-15-5-SV Rep (E708043-14) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
1,1-Difluoroethane (LCC)	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Dichlorodifluoromethane (F12)	ND	100	"	"	"	"	"	"	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Chloroform	ND	20	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	20	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	20	"	"	"	"	"	"	
Benzene	ND	20	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	**70**	20	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	20	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	100	"	"	"	"	"	"	

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25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-15-5-SV Rep (E708043-14) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
o-Xylene	ND	100	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	20	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*101 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*93.1 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*104 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*		*75-125*	"	"	"	"	

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25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Petroleum Hydrocarbon Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-1-15-SV (E708043-01) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
TPHv (C5 - C12)	ND	40000	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
SB-1-5-SV (E708043-02) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
TPHv (C5 - C12)	ND	40000	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
SB-33-15-SV (E708043-03) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
TPHv (C5 - C12)	ND	40000	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
SB-33-5-SV (E708043-04) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
TPHv (C5 - C12)	ND	40000	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
SB-30-5-SV (E708043-05) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
TPHv (C5 - C12)	ND	40000	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
SB-28-15-SV (E708043-06) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
TPHv (C5 - C12)	ND	40000	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
SB-28-5-SV (E708043-07) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
TPHv (C5 - C12)	ND	40000	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
SB-3-5-SV (E708043-08) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
TPHv (C5 - C12)	ND	40000	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
SB-20A-5-SV (E708043-09) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
TPHv (C5 - C12)	ND	40000	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	

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Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Petroleum Hydrocarbon Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-10-5-SV (E708043-10) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
TPHv (C5 - C12)	ND	40000	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
SB-16-5-SV (E708043-11) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
TPHv (C5 - C12)	ND	40000	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
SB-15-15-SV (E708043-12) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
TPHv (C5 - C12)	ND	40000	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
SB-15-5-SV (E708043-13) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
TPHv (C5 - C12)	ND	40000	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	
SB-15-5-SV Rep (E708043-14) Vapor Sampled: 14-Aug-17 Received: 14-Aug-17									
TPHv (C5 - C12)	ND	40000	ug/m3	0.01	EH71103	14-Aug-17	14-Aug-17	H&P 8260SV	

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Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH71103 - EPA 5030										
Blank (EH71103-BLK1)				Prepared & Analyzed: 14-Aug-17						
1,1-Difluoroethane (LCC)	ND	100	ug/m3							
Dichlorodifluoromethane (F12)	ND	100	"							
Chloromethane	ND	100	"							
Vinyl chloride	ND	10	"							
Bromomethane	ND	100	"							
Chloroethane	ND	100	"							
Trichlorofluoromethane (F11)	ND	100	"							
1,1-Dichloroethene	ND	100	"							
1,1,2 Trichlorotrifluoroethane (F113)	ND	100	"							
Methylene chloride (Dichloromethane)	ND	100	"							
Methyl tertiary-butyl ether (MTBE)	ND	100	"							
trans-1,2-Dichloroethene	ND	100	"							
1,1-Dichloroethane	ND	100	"							
2,2-Dichloropropane	ND	100	"							
cis-1,2-Dichloroethene	ND	100	"							
Chloroform	ND	20	"							
Bromochloromethane	ND	100	"							
1,1,1-Trichloroethane	ND	100	"							
1,1-Dichloropropene	ND	100	"							
Carbon tetrachloride	ND	20	"							
1,2-Dichloroethane (EDC)	ND	20	"							
Benzene	ND	20	"							
Trichloroethene	ND	20	"							
1,2-Dichloropropane	ND	100	"							
Bromodichloromethane	ND	100	"							
Dibromomethane	ND	100	"							
cis-1,3-Dichloropropene	ND	100	"							
Toluene	ND	200	"							
trans-1,3-Dichloropropene	ND	100	"							
1,1,2-Trichloroethane	ND	100	"							
1,2-Dibromoethane (EDB)	ND	100	"							
1,3-Dichloropropane	ND	100	"							
Tetrachloroethene	ND	20	"							
Dibromochloromethane	ND	100	"							

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760-804-9159 Fax

Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH71103 - EPA 5030										
Blank (EH71103-BLK1)				Prepared & Analyzed: 14-Aug-17						
Chlorobenzene	ND	20	ug/m3							
Ethylbenzene	ND	100	"							
1,1,1,2-Tetrachloroethane	ND	100	"							
m,p-Xylene	ND	100	"							
o-Xylene	ND	100	"							
Styrene	ND	100	"							
Bromoform	ND	100	"							
Isopropylbenzene (Cumene)	ND	100	"							
1,1,2,2-Tetrachloroethane	ND	100	"							
1,2,3-Trichloropropane	ND	100	"							
n-Propylbenzene	ND	100	"							
Bromobenzene	ND	100	"							
1,3,5-Trimethylbenzene	ND	100	"							
2-Chlorotoluene	ND	100	"							
4-Chlorotoluene	ND	100	"							
tert-Butylbenzene	ND	100	"							
1,2,4-Trimethylbenzene	ND	100	"							
sec-Butylbenzene	ND	100	"							
p-Isopropyltoluene	ND	100	"							
1,3-Dichlorobenzene	ND	100	"							
1,4-Dichlorobenzene	ND	100	"							
n-Butylbenzene	ND	100	"							
1,2-Dichlorobenzene	ND	100	"							
1,2-Dibromo-3-chloropropane	ND	1000	"							
1,2,4-Trichlorobenzene	ND	100	"							
Hexachlorobutadiene	ND	100	"							
Naphthalene	ND	20	"							
1,2,3-Trichlorobenzene	ND	100	"							
Surrogate: Dibromofluoromethane	*522*		*"*	*500*		*104*	*75-125*			
Surrogate: 1,2-Dichloroethane-d4	*532*		*"*	*500*		*106*	*75-125*			
Surrogate: Toluene-d8	*521*		*"*	*500*		*104*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*524*		*"*	*500*		*105*	*75-125*			

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Volatile Organic Compounds by H&P 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH71103 - EPA 5030										
LCS (EH71103-BS1)				Prepared & Analyzed: 14-Aug-17						
Dichlorodifluoromethane (F12)	4100	500	ug/m3	5000		82.3	70-130			
Vinyl chloride	5100	50	"	5000		101	70-130			
Chloroethane	5300	500	"	5000		106	70-130			
Trichlorofluoromethane (F11)	5500	500	"	5000		111	70-130			
1,1-Dichloroethene	5900	500	"	5000		118	70-130			
1,1,2 Trichlorotrifluoroethane (F113)	6400	500	"	5000		129	70-130			
Methylene chloride (Dichloromethane)	5100	500	"	5000		102	70-130			
trans-1,2-Dichloroethene	5300	500	"	5000		106	70-130			
1,1-Dichloroethane	5300	500	"	5000		106	70-130			
cis-1,2-Dichloroethene	5200	500	"	5000		104	70-130			
Chloroform	5400	100	"	5000		107	70-130			
1,1,1-Trichloroethane	5400	500	"	5000		109	70-130			
Carbon tetrachloride	5600	100	"	5000		112	70-130			
1,2-Dichloroethane (EDC)	5500	100	"	5000		111	70-130			
Benzene	5300	100	"	5000		107	70-130			
Trichloroethene	5600	100	"	5000		112	70-130			
Toluene	5000	1000	"	5000		100	70-130			
1,1,2-Trichloroethane	4900	500	"	5000		97.3	70-130			
Tetrachloroethene	5700	100	"	5000		114	70-130			
Ethylbenzene	5300	500	"	5000		107	70-130			
1,1,1,2-Tetrachloroethane	5200	500	"	5000		105	70-130			
m,p-Xylene	11000	500	"	10000		111	70-130			
o-Xylene	5300	500	"	5000		105	70-130			
1,1,2,2-Tetrachloroethane	4800	500	"	5000		96.4	70-130			
Surrogate: Dibromofluoromethane	*2580*		*"*	*2500*		*103*	*75-125*			
Surrogate: 1,2-Dichloroethane-d4	*2510*		*"*	*2500*		*101*	*75-125*			
Surrogate: Toluene-d8	*2540*		*"*	*2500*		*102*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*2620*		*"*	*2500*		*105*	*75-125*			

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760-804-9159 Fax

Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Petroleum Hydrocarbon Analysis - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH71103 - EPA 5030										
Blank (EH71103-BLK1)				Prepared & Analyzed: 14-Aug-17						
TPHv (C5 - C12)	ND	40000	ug/m3							

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Stantec - Redlands	Project: ST081417-L3	
25864-F Business Center Drive	Project Number: 185803982 / S Van Buren St	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	21-Aug-17 10:20

Notes and Definitions

LCC	Leak Check Compound
ND	Analyte NOT DETECTED at or above the reporting limit
MDL	Method Detection Limit
%REC	Percent Recovery
RPD	Relative Percent Difference

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP Program and ISO/IEC 17025:2005 programs, accreditation number 69070 for EPA Method TO-15, H&P Method TO-15, EPA Method 8260B and H&P 8260SV.

H&P is approved by the State of Arizona as an Environmental Testing Laboratory and Mobile Laboratory, certification numbers AZM758 and AZ0779.

H&P is approved by the State of California as an Environmental Laboratory and Mobile Laboratory in conformance with the Environmental Laboratory Accreditation Program (ELAP) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste, certification numbers 2740, 2741, 2743, 2744, 2745, 2754 & 2930.

H&P is approved by the State of Florida Department of Health under the National Environmental Laboratory Accreditation Conference (NELAC) certification number E871100.

The complete list of stationary and mobile laboratory certifications along with the fields of testing (FOTs) and analyte lists are available at www.handpmg.com/about/certifications.

Mobile Geochemistry, Inc.
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& Field Office - Signal Hill, CA
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VAPOR / AIR Chain of Custody

DATE: 8/14/17
Page 1 of 2

Lab Client and Project Information

Lab Client/Consultant: Stantec	Project Name / #: 185803982
Lab Client Project Manager: Dion Monge	Project Location: 443 S. Van Buren St.
Lab Client Address: 25864-F Business Center Dr.	Report E-Mail(s): dion.monge@stantec.com
Lab Client City, State, Zip: Redlands, CA 92374-4515	josh.sargent@" "
Phone Number: (909)-335-6116	

Reporting Requirements
- [x] Standard Report [ ] Level III [ ] Level IV
- [ ] Excel EDD [ ] Other EDD:_____
- [ ] CA Geotracker Global ID:_____

Turnaround Time
- [ ] 5-7 day Stnd [ ] 24-Hr Rush
- [ ] 3-day Rush [x] Mobile Lab
- [ ] 48-Hr Rush [ ] Other:____

Sampler Information
Sampler(s): Nicole Svoboda
Signature: Nicole Svoboda
Date: 8/14/17

Sample Receipt (Lab Use Only)

Date Rec'd: 8/14/17	Control #: 170712.00
H&P Project #	ST081417-L3
Lab Work Order #	E708043

Sample Intact: [x] Yes [ ] No [ ] See Notes Below

Receipt Gauge ID: Temp: 23°

Outside Lab:

Receipt Notes/Tracking #:

Lab PM Initials:

Additional Instructions to Laboratory: w/ ULRLs

** Preferred VOC units (please choose one):*
[ ] µg/L [x] µg/m³ [ ] ppbv [ ] ppmv

Batch# EH71103

SAMPLE NAME	FIELD POINT NAME (if applicable)	DATE mm/dd/yy	TIME 24hr clock	SAMPLE TYPE Indoor Air (IA), Ambient Air (AA), Subslab (SS), Soil Vapor (SV)	CONTAINER SIZE & TYPE 400mL/1L/6L Summa, Tedlar, Tube, etc.	CONTAINER ID (###)	Lab use only: Receipt Vac	VOCs Standard Full List [x] 8260SV [ ] TO-15	VOCs Short List / Project List [ ] 8260SV [ ] TO-15	Oxygenates [ ] 8260SV [ ] TO-15	Naphthalene [ ] 8260SV [ ] TO-15	TPHv as Gas [x] 8260SVm [ ] TO-15m	Aromatic/Aliphatic Fractions [ ] 8260SVm [ ] TO-15m	Leak Check Compound [x] DFA [ ] IPA [ ] He	Methane by EPA 8015m	Fixed Gases by ASTM D1945 [ ] CO2 [ ] O2 [ ] N2				
SB-1-15-SV		08/14/17	0743	SV	Glass Syr.	161		X				X		X						
SB-1-5-SV			0828			166		X				X		X						
SB-33-15-SV			0905			163		X				X		X						
SB-33-5-SV			0943			161		X				X		X						
SB-30-5-SV			1019			166		X				X		X						
SB-28-15-SV			1056			165		X				X		X						
SB-28-5-SV			1123			238		X				X		X						
SB-3-5-SV			1202			166		X				X		X						
SB-20A-5-SV			1239			161		X	~			X		X						
SB-10-5-SV			1303			163		X				X		X						

Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
	Stantec	8.14.17	1600	Nicole Svoboda	H&P	8/14/17	1600

*Approval constitutes as authorization to proceed with analysis and acceptance of conditions on back

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VAPOR / AIR Chain of Custody

DATE: 8/14/17

Lab Client and Project Information

Lab Client/Consultant: Stantec	Project Name / #: 185803982
Lab Client Project Manager: Dion Monge	Project Location: 443 S. Van Buren St.
Lab Client Address: 25864- F Business Center Dr.	Report E-Mail(s): dion.monge@stantec.com
Lab Client City, State, Zip: Redlands, CA 92374-4515	josh.sargent@" "
Phone Number: (909)-335-6116	

Reporting Requirements
- [x] Standard Report
- [ ] Level III
- [ ] Level IV
- [ ] Excel EDD
- [ ] Other EDD:
- [ ] CA Geotracker Global ID:

Turnaround Time
- [ ] 5-7 day Stnd
- [ ] 24-Hr Rush
- [ ] 3-day Rush
- [x] Mobile Lab
- [ ] 48-Hr Rush
- [ ] Other:

Sampler Information
Sampler(s): Nicole Svoboda
Signature:
Date: 8/14/17

Sample Receipt (Lab Use Only)

Date Rec'd: 8/14/17	Control #: 170712.00
H&P Project #	STO81417-L3
Lab Work Order #	E708043

Sample Intact: [x] Yes [ ] No [ ] See Notes Below

Receipt Gauge ID: Temp: 23°

Outside Lab:

Receipt Notes/Tracking #:

Lab PM Initials:

Additional Instructions to Laboratory: w/ ULRLs

Preferred VOC units (please choose one):
- [ ] µg/L
- [x] µg/m³
- [ ] ppbv
- [ ] ppmv

Batch # EH71103

SAMPLE NAME	FIELD POINT NAME (if applicable)	DATE mm/dd/yy	TIME 24hr clock	SAMPLE TYPE Indoor Air (IA), Ambient Air (AA), Subslab (SS), Soil Vapor (SV)	CONTAINER SIZE & TYPE 400mL/1L/6L Summa, Tedlar, Tube, etc.	CONTAINER ID (###)	Lab use only: Receipt Vac	VOCs Standard Full List ☒ 8260SV ☐ TO-15	VOCs Short List / Project List ☐ 8260SV ☐ TO-15	Oxygenates ☐ 8260SV ☐ TO-15	Naphthalene ☐ 8260SV ☐ TO-15	TPHv as Gas ☒ 8260SVm ☐ TO-15m	Aromatic/Aliphatic Fractions ☐ 8260SVm ☐ TO-15m	Leak Check Compound ☒ DFA ☐ IPA ☐ He	Methane by EPA 8015m	Fixed Gases by ASTM D1945 ☐ CO2 ☐ O2 ☐ N2
SB-16-5-SV		08/14/17	1344	SV	Glass Syr.	238		X				X		X		
SB-15-15-SV			1415			166		X				X		X		
SB-15-5-SV			1444			166		X				X		X		
SB-15-5-SV Rep			1503			161		X				X		X		

	Company	Date	Time
Approved/Relinquished by:	Stantec	8.14.17	1600
Approved/Relinquished by:			
Approved/Relinquished by:			

	Company	Date	Time
Received by: Nicole Svoboda	H&P	8/14/17	1600
Received by:			
Received by:			

*Approval constitutes as authorization to proceed with analysis and acceptance of conditions on back

H&P Mobile Geochemistry Inc.

FMS004
Revision: 4
Revised: 3/22/2017
Effective: 3/24/2017
Page 1 of 1

Log Sheet: Soil Vapor Sampling with Syringe

H&P Project #: ST081417-L3 Date: 8/14/17
Site Address: 443 S. Van Buren St. Page: 1 of 2
Consultant: Stantec H&P Rep(s): N. Svoboda
Consultant Rep(s): Josh Sargent

Reviewed: DB
Scanned:

Equipment Info
Inline Gauge ID#:
Pump ID#: 006

Purge Volume Information
PV Amount: 3PV
PV Includes: ☑ Tubing ☑ Sand 40% ☑ Dry Bent 50%

Leak Check Compound ☑ 1,1-DFA
A cloth saturated with LCC is placed around tubing connections and probe seal. This is done for all samples unless otherwise noted.
☐ 1,1,1,2-TFA ☐ IPA ☐ Other:

Resample Key
RS = Resample
RD = for Dilution
RL = for LCC Fail

	Sample Information				Probe Specs							Purge & Collection Information						
	Point ID	Syringe ID	Sample Volume (cc)	Sample Time	Probe Depth (ft)	Tubing Length (ft)	Tubing OD (in.)	Sand Ht (in.)	Sand Dia (in.)	Dry Bent. Ht (in.)	Dry Bent. Dia (in.)	Shut In Test 60 sec (✓)	Leak Check (✓)	Purge Vol (mL)	Purge Flow Rate (mL/min)	Pump Time (min:sec)	Sample Flow Rate (mL/min)	ProbeVac ☐ Hg ☑ H_2O
1	SB-1-15-SV	161	~~100~~ NS	743	15	17	1/4	12	1.5	6	1.5	✓	✓	924*	<200	4:37*	<200	ø
2	SB-1-5-SV	166	100	0828	5	7	1/4	12*	2*	6	2	✓	✓	1144	<200	5:43	<200	ø
3	SB-33-15-SV	163	100	0905	15	17	1/4	12	1.5	6	1.5	✓	✓	924	<200	4:37	<200	ø
4	SB-33-5-SV	161	100	0943	5	7	1/4	12*	2*	6	2	✓	✓	1144	<200	5:43	<200	ø
5	SB-30-5-SV	166	100	1019	5	7	1/4	12	2	6	2	✓	✓	1306	<200	6:32	<200	ø
6	SB-28-15-SV	163	100	1056	15	17	1/4	12	1.5	6	1.5	✓	✓	924	<200	4:37	<200	ø
7	SB-28-5-SV	238	100	1123	5	7	1/4	12*	2*	6	2	✓	✓	1144	<200	5:43	<200	ø
8	SB-3-5-SV	166	100	1202	5	7	1/4	12	2	6	2	✓	✓	1306	<200	6:32	<200	80"
9	SB-20A-5-SV	161	100	1239	5	7	1/4	12	2	6	2	✓	✓	1306	<200	6:32	<200	ø
10	SB-10-5-SV	163	100	~~1330~~ HS	5	7	1/4	12	2	6	2	✓	✓	1306	<200	6:32	<200	ø
11	SB-16-5-SV	238	100	1344	5	7	1/4	12	2	6	2	✓	✓	1306	<200	6:32	<200	ø
12	SB-15-15-SV	166	100	1415	15	17	1/4	12	1.5	6	1.5	✓	✓	924	<200	4:37	<200	5"

Site Notes such as weather, visitors, scope deviations, health & safety issues, etc. (When making sample specific notes, reference the line number above):
(10) Actual sample time = 1303 hs
(2) Sandpack zone split - 6" @ 2" dia / 6" @ 1.5" dia. (DB)

H&P Mobile Geochemistry Inc.

FMS004
Revision: 4
Revised: 3/22/2017
Effective: 3/24/2017
Page 1 of 1

Log Sheet: Soil Vapor Sampling with Syringe

H&P Project #: ST081417-L3 Date: 8/14/17

Site Address: 443 S. Van Buren St. Page: 2 of 2

Consultant: Stantec H&P Rep(s): N. Svoboda

Consultant Rep(s): Josh Sargent

Reviewed: DB

Scanned: 8/22

Equipment Info
Inline Gauge ID#:
Pump ID#: 006

Purge Volume Information
PV Amount: 3PV
PV Includes: ☑ Tubing ☑ Sand 40% ☑ Dry Bent 50%

Leak Check Compound
A cloth saturated with LCC is placed around tubing connections and probe seal. This is done for all samples unless otherwise noted.
☑ 1,1-DFA ☐ 1,1,1,2-TFA ☐ IPA ☐ Other:

Resample Key
RS = Resample
RD = for Dilution
RL = for LCC Fail

	Sample Information				Probe Specs							Purge & Collection Information						
	Point ID	Syringe ID	Sample Volume (cc)	Sample Time	Probe Depth (ft)	Tubing Length (ft)	Tubing OD (in.)	Sand Ht (in.)	Sand Dia (in.)	Dry Bent. Ht (in.)	Dry Bent. Dia (in.)	Shut In Test 60 sec (✓)	Leak Check (✓)	Purge Vol (mL)	Purge Flow Rate (mL/min)	Pump Time (min:sec)	Sample Flow Rate (mL/min)	ProbeVac ☐ Hg ☑ H_2O
1	SB-15-5-SV	166	100	1444	5	7	1/4	12*	2*	6	2	✓	✓	1144	<200	5:43	<200	Ø
2	SB-15-5-SV RS	161	100	1503	5	7	1/4	12	2	6	2	✓	✓	1244			<200	Ø
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

Site Notes such as weather, visitors, scope deviations, health & safety issues, etc. (When making sample specific notes, reference the line number above):

(2) Rep; 1144 + 100 = 1244

APPENDIX B
BORING LOGS

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

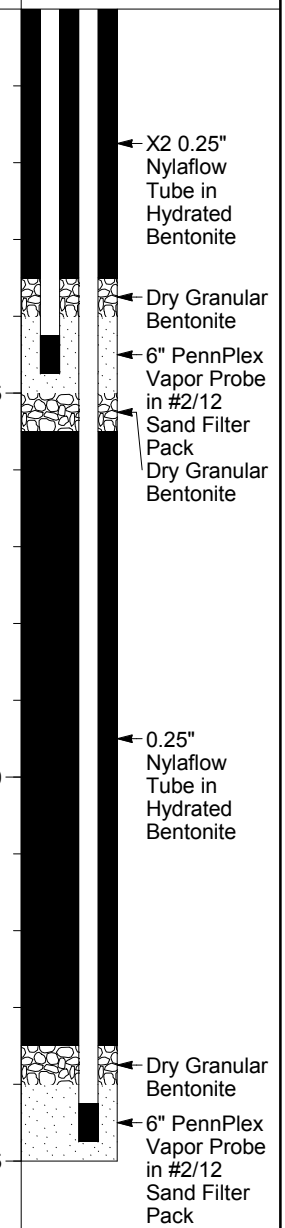
WELL / PROBEHOLE / BOREHOLE NO: **SB-1** PAGE 1 OF 1

Stantec

DRILLING: STARTED **8/11/17** COMPLETED: **8/11/17**
INSTALLATION: STARTED **8/11/17** COMPLETED: **8/11/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Geoprobe 420m**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Acetate Sleeve**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **15.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **15.0**
WELL CASING DIAMETER (in): **0.25**
BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)
		SM	**SILTY SAND** ; SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; some fines		SB-1-0.5	0.5		
					SB-1-1.0	0.5		
					SB-1-1.5	0.5		
5			**SAME AS ABOVE**		0740 SB-1-5	0.5		0.0
		SW-SM	**WELL GRADED SAND WITH SILT** ; SW-SM; 10YR 6/3 pale brown; fine to medium-grained; dry; no odor; no staining; little fines					
10			**SAME AS ABOVE**		0755 SB-1-10	0.5		0.0
15			Hole terminated at 15 feet.		0805 SB-1-15	0.5		0.0



Well Construction

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 8/21/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

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

Stantec

DRILLING: STARTED **8/11/17** COMPLETED: **8/11/17**
INSTALLATION: STARTED **8/11/17** COMPLETED: **8/11/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Geoprobe 420m**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Acetate Sleeve**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **5.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **5.0**
WELL CASING DIAMETER (in): **0.25**
BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SM	**SILTY SAND** ; SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; some fines							0.25" Nylaflow Tube in Hydrated Bentonite
										Dry Granular Bentonite
										6" PennPlex Vapor Probe in #2/12 Sand Filter Pack
					1412 SB-10-5	0.5		0.0		
5			Hole terminated at 5 feet.						5	

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 8/21/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

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

Stantec

DRILLING: STARTED **8/11/17** COMPLETED: **8/11/17**
INSTALLATION: STARTED **8/11/17** COMPLETED: **8/11/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Geoprobe 420m**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Acetate Sleeve**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **15.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **15.0**
WELL CASING DIAMETER (in): **0.25**
BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SW-SM	**WELL GRADED SAND WITH SILT** ; SW-SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; little fines							X2 0.25" Nylaflow Tube in Hydrated Bentonite
5			**SAME AS ABOVE**		1330 SB-15-5	0.5		0.0	5	Dry Granular Bentonite; 6" PennPlex Vapor Probe in #2/12 Sand Filter Pack; Dry Granular Bentonite
10			**SAME AS ABOVE**		1335 SB-15-10	0.5		0.0	10	0.25" Nylaflow Tube in Hydrated Bentonite
15			**SAME AS ABOVE** ; some fine gravel		1345 SB-15-15	0.5		0.0	15	Dry Granular Bentonite; 6" PennPlex Vapor Probe in #2/12 Sand Filter Pack
			Hole terminated at 15 feet.							

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 8/21/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

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

Stantec

DRILLING: STARTED **8/11/17** COMPLETED: **8/11/17**
INSTALLATION: STARTED **8/11/17** COMPLETED: **8/11/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Geoprobe 420m**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Acetate Sleeve**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **5.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **5.0**
WELL CASING DIAMETER (in): **0.25**
BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SM	**SILTY SAND** ; SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; some fines		1036 SB-16-0.5	0.5		0.0		
					1037 SB-16-1.0	0.5		0.0		
					1038 SB-16-1.5	0.5		0.0		
										0.25" Nylaflow Tube in Hydrated Bentonite
										Dry Granular Bentonite
					1043 SB-16-5	0.5		0.0		6" PennPlex Vapor Probe in #2/12 Sand Filter Pack
5			Hole terminated at 5 feet.						5	

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 8/21/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-28** PAGE 1 OF 1

Stantec

DRILLING: STARTED **8/11/17** COMPLETED: **8/11/17**
INSTALLATION: STARTED **8/11/17** COMPLETED: **8/11/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Geoprobe 420m**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Acetate Sleeve**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **15.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **15.0**
WELL CASING DIAMETER (in): **0.25**
BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SW-SM	**WELL GRADED SAND WITH SILT** ; SW-SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; little fines							X2 0.25" Nylaflow Tube in Hydrated Bentonite
		SW-SM	**SAME AS ABOVE** ; oil staining from 3.75' to 4.0' bgs							Dry Granular Bentonite
5		SW-SM	**WELL GRADED SAND WITH SILT** ; SW-SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; little fines		1210 SB-28-5	0.5		10.3	5	6" PennPlex Vapor Probe in #2/12 Sand Filter Pack Dry Granular Bentonite
10			**SAME AS ABOVE**		1215 SB-28-10	0.5		0.0	10	0.25" Nylaflow Tube in Hydrated Bentonite
		SM	**SILTY SAND** ; SM; 2.5Y 4/2 dark grayish brown; fine-grained; moist; no odor; no staining; some fines							Dry Granular Bentonite
15					1227 SB-28-15	0.5		0.0	15	6" PennPlex Vapor Probe in #2/12 Sand Filter Pack
			Hole terminated at 15 feet.							

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 8/21/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-30** PAGE 1 OF 1

Stantec

DRILLING: STARTED **8/11/17** COMPLETED: **8/11/17**
INSTALLATION: STARTED **8/11/17** COMPLETED: **8/11/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Geoprobe 420m**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Acetate Sleeve**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **5.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **5.0**
WELL CASING DIAMETER (in): **0.25**
BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SM	**SILTY SAND** ; SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; some fines		SB-30-0.5	0.5		0.0		
					SB-30-1.0	0.5		0.0		
					SB-30-1.5	0.5		0.0		
5			Hole terminated at 5 feet.		1130 SB-30-5	0.5		0.0	5	0.25" Nylaflow Tube in Hydrated Bentonite; Dry Granular Bentonite; 6" PennPlex Vapor Probe in #2/12 Sand Filter Pack

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 8/21/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-33** PAGE 1 OF 1

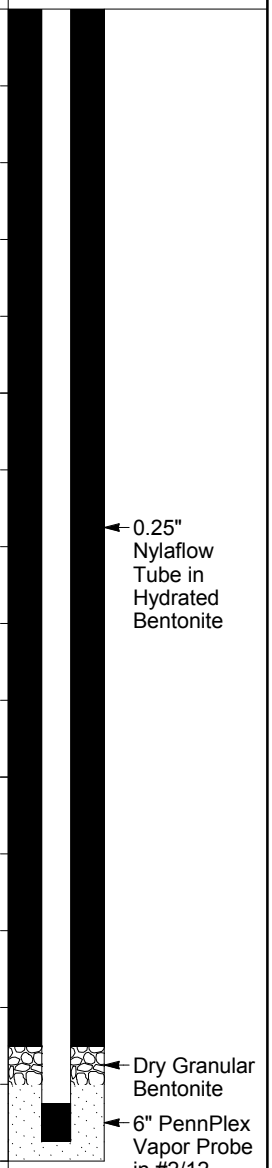
Stantec

DRILLING: STARTED **8/11/17** COMPLETED: **8/11/17**
INSTALLATION: STARTED **8/11/17** COMPLETED: **8/11/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Geoprobe 420m**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Acetate Sleeve**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **15.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **15.0**
WELL CASING DIAMETER (in): **0.25** BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **JS** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)
		SW-SM	**WELL GRADED SAND WITH SILT** ; SW-SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; little fines						
5			**SAME AS ABOVE**		0926 SB-33-5	0.5		0.0	5
10			**SAME AS ABOVE**		0940 SB-33-10	0.5		0.0	10
15			**SAME AS ABOVE**		0950 SB-33-15	0.5		0.0	15
			Hole terminated at 15 feet.						

Well Construction



GEO FORM 304 LOGS.GPJ STANTEC001.GDT 8/21/17

ADDITIONAL PHASE II ENVIRONMENTAL SITE ASSESSMENT

443, 449, 455 and 461
South Van Buren Street,
Placentia, California
Stantec Project No: 185803982

Prepared for:
Olson Urban Housing, LLC
3010 Old Ranch Parkway,
Suite 100
Seal Beach, California

Prepared by:
Stantec Consulting Services Inc.
25864-F Business Center Drive
Redlands, California

September 29, 2017

Sign-off Sheet

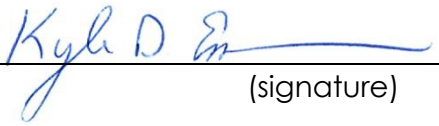
This ADDITIONAL PHASE II ENVIRONMENTAL SITE ASSESSMENT was prepared by Stantec Consulting Services Inc. for The Olson Company and Olson Urban Housing, LLC, and its/their subsidiaries and affiliates. The material in it reflects Stantec's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec Consulting Services Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Prepared by  (signature)

Dion Monge, Associate Scientist

Reviewed by  (signature)

Joshua Sargent, Staff Geologist

Approved by  (signature)

Kyle Emerson, Managing Principal Geologist, C.E.G. 1271

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EXECUTIVE SUMMARY

The subject property consists of approximately 5.92 acres of land presently divided into four lots operated by separate businesses. Currently the Property is used as an automotive wrecking and storage yard at 443, 449, 455, and 461 South Van Buren Street, Placentia, California (the "Property"). An active railroad line is located along the northern Property boundary, and a drainage channel is located along the southern boundary. Multiple residences are located along the eastern Property boundary along South Van Buren Street.

Historical Uses

Based on a review of historical documentation, the Property was used for agricultural purposes, as an orchard, from at least 1938 until 1946. Oil production operations are known to have occurred on the Property since at least 1929. Division of Oil, Gas, and Geothermal Resources (DOGGR) maps and files indicate that there are two oil wells on site – one that was abandoned in 1959 and one that is an idle well that still has pumping equipment mounted over it. The idle oil well is located in the northeast corner of the Property and the abandoned oil well is documented on DOGGR maps to have existed in the central portion of the Property and was accompanied by multiple aboveground storage tanks (ASTs).

Additionally, historical aerial photographs depict that multiple former above-ground storage tanks ("ASTs") were present in the west/southwestern portion of the Property, and two potential undocumented oil wells were located off of the Property near the northern Property boundary.

Since the 1970s, the Property has been operated by several automobile wrecking/dismantling businesses. According to Orange County Health Care Agency (OCHCA) records, hazardous materials used or stored as part of operations included waste oil, anti-freeze/coolant, and limited quantities of Stoddard solvent and chlorinated solvents for degreasing. Stantec observed only small quantities of waste oil and coolant stored in drums during the Property reconnaissance but observed no significant staining in these areas. Historically, OCHCA records indicate that a 466-gallon concrete used oil underground storage tank ("UST") was historically present at the 461 S. Van Buren Street address. The UST was removed in 1992 and the OCHCA issued closure in 1993.

Stantec completed a Phase I Environmental Site Assessment (ESA) on the Property and submitted a report of findings dated August 15, 2017. The Phase I ESA identified multiple environmental issues related to current and historical uses of the Property and adjacent properties, and further assessment was recommended. These environmental issues included: 1) previously detected lead and cadmium impacts to surface soils; 2) potential metals impacts along the adjoining railroad easement to the north; 3) total petroleum hydrocarbon (TPH) and volatile organic compound (VOC) impacts from automotive uses; 3) TPH/VOC impacts from historic oil drilling/production activities and ASTs; 4) residual pesticides from historic agricultural use; 5) a former UST; 6) asphaltic soil; 7) mounded soil area; 8) fuel tank rack; and 9) soil vapor impacts from industrial uses.

A Phase II ESA was performed by Stantec in August of 2017 to evaluate the above referenced issues. The results of that Phase II ESA were provided in a report dated August 30, 2017. Based on the analytical results no further assessment or remedial action was recommended regarding potential metals impacts along the adjoining railroad easement, residual pesticides from historical agricultural use, the former UST, asphaltic soil, fuel tank rack, and the mounded area of soil. The remaining issues for which further assessment or remediation are recommended, are discussed in the "Conclusions and Recommendations" heading of this section.

Additional Phase II Investigation (Stantec)

This Additional Phase II ESA was conducted in September of 2017 to evaluate information disclosed to the Olson Company during a City of Placentia community meeting. Stantec conducted an interview with a former site employee on August 22, 2017. The individual stated that he was an employee at 461 S Van Buren Street between approximately 1994 and 1997. The former employee indicated that, during his employment, he witnessed the illegal disposal of engine oil in the southwest corner of the 461 S. Van Buren Street Property. He further indicated that the southwest corner was a designated area where the oil contained within vehicle engines was allowed to drain. In addition, he stated that the area was eventually capped with concrete. The employee does not remember any cleanup of the oil occurring in that area. He also suggested that similar activities (draining of engine oil to the ground surface) was likely done in the western portions of the 449 and 455 addresses, but could not confirm such activities since his familiarity with the Property was mostly related to the 461 address.

The former employee also mentioned that a fuel tank rack was located in the southeastern portion (alley way) of the Property where gasoline would commonly drip onto the ground out of the tanks; and that the area all around the raised concrete platform where the former vehicle crusher was located would repeatedly be an area where releases of oil had pooled. This area was fully covered with vehicles and not visible

to Stantec during the Property reconnaissance. Lastly, the employee indicated that the longtime occupant of the residence adjacent to the Z19 well had previously indicated that an oil sump from well drilling activities was located to the west of the well.

Based on the above information, an Additional Phase II ESA was conducted and included the following: 1) soil and soil vapor sampling in the southwest corner of the Property, as indicated by the former employee; 2) soil and soil vapor sampling in the west ends of 449 and 455 S Van Buren Street; 3) soil and soil vapor sampling in the alley way at the southeast alley of the 461 address where a fuel storage rack was reportedly located; 4) soil and soil vapor sampling at the former crusher of the 461 address; and 5) soil and soil vapor sampling at the potential oil sump location west of the Z19 well.

The results of the Additional Phase II ESA are discussed below.

- **Potential TPH-impacted Soil, Southwest Corner.** The soil sample analyzed from SB-35 at 1 foot below ground surface (bgs) reported diesel range petroleum hydrocarbons ("TPHd") and oil range petroleum hydrocarbons ("TPHo") above the United States Environmental Protection Agency Regional Screening Levels ("residential RSLs"). The 3 foot bgs sample at SB-35 reported no detectable concentrations of TPH above laboratory reporting limits (i.e. the results were "non-detect"). TPH was non-detect in sample SB-36-3. All ranges of TPH were below residential RSLs in the 1 foot bgs sample collected from SB-36.

  VOCs were non-detect in all soil samples (SB-35-1, SB-36-1, and SB-36-3) that were analyzed from borings SB-35 and SB-36. Various trace concentrations of VOCs (see Table 4) were detected in the 5-foot soil vapor sample (SB-35) but well below human health risk screening levels for residential sites.

  No further assessment is recommended regarding this issue. However, recommendations pertaining to remediation of the detected TPH impacted soil are discussed in the "Conclusions and Recommendations" heading of this section.

- **Potential TPH-impacted Soil, West End of 449 and 455 S Van Buren St.** TPH and VOCs were non-detect in soil samples analyzed from borings (SB-41 and SB-42) positioned in the west ends of 449 and 455 S. Van Buren St. Various trace concentrations of VOCs (see Table 4) were detected in the 5-foot soil vapor samples but well below human health risk screening levels for residential sites.

  No further assessment is recommended regarding this issue.

- **Potential TPH-impacted Soil, Southeast Corner.** Low concentrations of TPHd and TPHo (see Table 1) were detected in certain samples from five borings (SB-40, and SB-45 through SB-48) positioned along the southeast alley. All the detected TPH

concentrations were below residential RSLs. No VOCs were detected above laboratory reporting limits in any of the soil samples collected and analyzed. However, the soil vapor sample collected at 5 feet bgs from boring SB-40 reported elevated concentrations of PCE (6,800 µg/m^3) and TCE (1,700 µg/m^3). The human health risk screening levels for PCE and TCE at residential sites are 460 µg/m^3 and 480 µg/m^3, respectively. Trace concentrations of VOCs (see Table 4) were detected in the remaining soil vapor samples collected along the alley way, but were well below human health risk screening levels for residential sites. More specifically, PCE and TCE were non-detect in samples collected from the borings nearest to SB-40 (*i.e.*, 25 feet to the west and 75 feet to the east). In the absence of an apparent source at the Property, it appears that the PCE and TCE concentrations detected at SB-40 may be the result of either an offsite release or a laboratory contaminant within the laboratory provided Summa canister.

The SB-40 location where PCE and TCE was detected above human health risk screening levels is located in a portion of the Property that is not proposed for any inhabitable structural improvements. Soil vapor samples analyzed from borings closer to the proposed residential structures (i.e. SB-16 and SB-40) were non-detect for PCE and TCE.

Based on the data and proposed Property layout, the PCE and TCE detected in soil vapor at SB-40 has been defined within the current Property boundaries and no further assessment is recommended regarding this issue. If acquisition of the adjacent property to the north is ever contemplated, this issue should be revisited.

- **Potential TPH-impacted Soil, Perimeter of Former Crusher.** The 1-foot bgs soil sample analyzed from SB-37 reported TPHd (110 mg/kg) slightly above the residential RSL of 96 mg/kg. TPH was non-detect in the 1-foot bgs samples collected at the other two borings SB-38 and SB-39 advanced long the perimeter of the former crusher. VOCs were non-detect in all 1-foot bgs soil samples collected from borings SB-37 through SB-39.

  Various trace concentrations of VOCs (see Table 4) were detected in the 5-foot soil vapor sample (SB-39) collected near the former crusher but well below human health risk screening levels for residential sites.

  Recommendations pertaining to remediation of TPH impacted soil in the vicinity of the former crusher are discussed in the "Conclusions and Recommendations" heading of this section.

- **Potential Oil Sump, Z19 Well.** TPH and VOCs were non-detect in soil samples analyzed from both borings (SB-43 and SB-44) advanced at the alleged oil sump/mud pit location that was reported to be to the west of the Z19 oil well. An additional "observation" step out hand auger boring was performed approximately 15 feet to the south of SB-44 at the time of the assessment for further visual evaluation of an oil sump/mud pit. No evidence of oil stained soil was observed. It should be noted that the existing well equipment (pumpjack and concrete pad) is oriented from east to west immediately west of the well casing. The equipment cannot be moved until it is demolished. Therefore, there is the potential that the alleged oil sump could be located in that area. As such, Stantec has recommended that a soil management plan be prepared for the Property and contingency budget be set aside to address unknown soil impacts encountered during redevelopment. Additional discussion on the SMP and contingency budget is provided in the "Conclusions and Recommendations" heading of this section.

Conclusion and Recommendations

The results of the Phase II ESAs performed at the Property have cumulatively revealed the following with regard to the environmental condition of the Property:

- **Lead-impacted soil.** Lead was detected above the residential threshold of 80 mg/kg to a depth of 6-inches over an approximate 3.75 acre area of the Property. One location (SB-5) reported deeper lead impacts to approximately1 feet bgs. Soluble lead analysis of several samples indicated a waste classification of non-RCRA California hazardous.

  The lead impacted soil at the Property that is above residential thresholds is a REC. Stantec recommends that the lead impacted soil above the residential threshold be remediated (excavation and disposal) of under agency oversight. Remedial action under agency oversight would be necessary as a condition to obtaining a no further action letter (*i.e.*, "NFA Letter").

  Based on the soil data, it is estimated that the quantity of lead impacted soil that will require excavation and offsite disposal amounts to approximately 4,600 cubic yards (6,900 tons).

- **TPH Impacted Soil.** TPH impacted soil adjacent to the Mondotte 2 oil well, former car crusher, and in the southwest corner of the Property has petroleum hydrocarbon concentrations that exceed residential RSLs. Therefore, the TPH-impacted soil represents a REC. Based on the soil data, it is estimated that the quantity of TPH impacted soil that will require excavation and offsite disposal amounts to approximately 300 cubic yards (450 tons). Stantec recommends that the TPH-impacted soil above the residential threshold be remediated (excavation

and disposal) under agency oversight. Remedial action under agency oversight would be necessary as a condition to obtaining an NFA Letter.

- **Onsite Oil Wells.** There are two oil wells that are known to be onsite and are identified on DOGGR records as Mondotte 2 and Z19. If the Z19 well is acquired from the existing operator so that the well location can become useable space in the proposed development (i.e. driveway or park), the well would need to be abandoned under appropriate permitting in accordance with the current standard set forth by DOGGR. Given that the Mondotte 2 oil well in the central portion of the Property was originally abandoned in 1959, DOGGR will most likely require that the Mondotte 2 well be re-abandoned to DOGGR's current standard. Additionally, Stantec recommends that the DOGGR recommended set back of 10 feet from well to building be incorporated into the development layout. Additional information on methane mitigation requirements imposed by OCFA are provided below under the "Methane" recommendations.
- **Potential offsite well features.** An ALTA survey indicated that two potential offsite well features are near the northern property boundary. These features contain steel casings surrounded by a concrete slab. There are no oil wells illustrated in these locations on DOGGR maps and therefore the former use/function of these features is unclear. Additionally, no further investigation of these casings can be performed since they are located offsite on railroad property. Because these features cannot be ruled out as oil wells, Stantec recommends taking precautionary measures to address potential concerns that could affect the development if these features are found to be undocumented oil wells at a later date. Accordingly, Stantec recommends that the DOGGR recommended set back of 10 feet from well to building be incorporated into the development layout. Additionally, Stantec recommends that the Orange County Fire Authority (OCFA) Methane Mitigation Standards also be followed for any proposed building at the Property that are within 25 feet of these potential well locations.

- **Methane.** No methane or hydrogen sulfide gases were detected during the Phase II ESA. However, prior to redevelopment, a larger scale Site-wide methane survey will need to be conducted under oversight of the Orange County Fire Authority (OCFA) in accordance with its "Combustible Soil Gas Hazardous Mitigation Guideline C-03".

  Although no methane was detected during the previous Phase II investigations, at a minimum the following "Mandatory Procedures for Mitigation" will be imposed by OCFA due to the presence of oil wells on the Property and potential offsite wells near the northern Property boundary:

  - All abandoned onsite oil wells within 25 feet of any structure or within 25 feet from a continuous hardscape that covers an abandoned well will need to be vented;
  - Subslab passive venting systems will need to be installed below all proposed buildings within 25 feet of well or within 25 feet from a continuous hardscape that covers a well.

- **Unknown Structures and/or Contamination.** The Property has a long history of oil drilling/production and automobile salvage activities, and approximately 65% of the Property is covered with stored vehicles and vehicle parts, some of which cannot easily be moved. As a result, Stantec anticipates that unknown/undocumented issues or features (including soil contamination, sumps, oil pipelines, or unregistered storage tanks) will be encountered during grading that will result in additional time and costs for assessing and remediating. However, based on the data collected to date, it does not appear that any large scale releases have occurred on the Property other than the lead impacts discussed above.

  As stated in the Phase I ESA and previous Phase II ESA, Stantec also advises that, if feasible, a comprehensive site-wide geophysical survey of the Property be performed after removal of the site obstructions to identify if abandoned and/or active infrastructure is in-place on the Property that could be avoided in connection with redevelopment activities.

  In addition, Stantec recommends that a Soil Management Plan be prepared for the Property that can be followed should unknown materials or contamination be encountered during redevelopment. Further, additional costs should be allocated to address such unknown issues under the SMP should they arise.

It has been a pleasure to provide environmental consulting services for you on this project and we look forward to working with you in the future. Should there be any questions regarding the information provided within the accompanying report, please do not hesitate to contact the undersigned at (909) 335-6116.

Respectfully submitted,
STANTEC CONSULTING SERVICES INC.

Dion Monge
Associate Scientist

Kyle D. Emerson, CEG 1271
Managing Principal Geologist

1.0 INTRODUCTION

This report documents the methodology and results of the Additional Phase II Environmental Site Assessment (ESA) investigation completed by Stantec Consulting Services Inc. (Stantec) for the property addressed 443, 449, 455 and 461 South Van Buren Street, within the City of Placentia, County of Orange, California (Figure 1; the "Property").

Due to the density of vehicles and vehicle parts, Stantec was unable to observe the ground surface at the Property during the Phase I ESA and Phase II ESAs. The lack of visual observations is considered a data gap. Because obstructions could not fully be removed in order to enable Stantec to observe the ground surface at the Property in its entirety, Stantec performed a Phase II subsurface investigation to sample and analyze soil and soil vapor at key areas where subsurface impacts were figured to be most likely and based on information obtained by Stantec from the seller and from historical documentation. In addition, a soil vapor survey was conducted to evaluate subsurface conditions Property wide.

The work was conducted in accordance with the Master Services Agreement between Stantec and The Olson Company (the "MSA"), based on the scope of work set forth in the Proposal for Additional Phase II ESA, approved by The Olson Company on August 25, 2017.

The scope of work and the results of the investigation are described in subsequent sections. The following subsections provide the site description and a summary of past operations.

1.1 PROPERTY DESCRIPTION AND OPERATIONS

The Property consists of approximately 5.92 acres of land currently used as an automotive wrecking and storage yard with an idle oil well located in the northeastern portion of the Property. The Property is presently divided into four lots operated by separate businesses addressed as 443, 449, 455, and 461 South Van Buren Street. An active railroad line is located along the northern Property boundary, and a drainage channel is located along the southern boundary. Multiple residences are located along the eastern Property boundary along South Van Buren Street.

1.2 PROPERTY GEOLOGY AND HYDROGEOLOGY

The Property is located in the southern portion of the Peninsular Ranges Geomorphic Province characterized by northwest-southeast trending mountains and faults. The

regional surficial geology is underlain by recent alluvium described as unconsolidated stream, river channel, and alluvial fan deposits (CDMG, 1966).
The Property is located within the Coastal Plain of Orange County Groundwater Basin (Basin Number 8-1) which underlies a coastal alluvial plain in the northwestern portion of Orange County. The vicinity of the Property is underlain with Quaternary-aged alluvium deposited by the Santa Ana River from the upper Santa Ana Unit, by Carbon Creek from the Puente Hills, and by minor streams from hills bounding the area.

The Property is located within the Coastal Plain of Orange County Groundwater Basin which is bounded by consolidated rocks exposed on the north in the Puente and Chino Hills; on the east in the Santa Ana Mountains; the south in the San Joaquin Hills; the Pacific Ocean on the southwest; and by a low topographic divide approximated by the Orange County – Los Angeles County line on the northwest. The basin underlies the lower Santa Ana River watershed (DWR, Bulletin 118, February 27, 2004).

According to data on the State Water Resources Control Board online database Geotracker (www.geotracker.waterboards.ca.gov), groundwater in the vicinity of the Property is approximately 68 feet below ground surface with a southerly flow direction.

2.0 BACKGROUND INFORMATION

The subject property consists of approximately 5.92 acres of land divided into four lots. Currently the Property is used as an automotive wrecking and storage yard with a physical address of 443, 449, 455, and 461 South Van Buren Street, Placentia, California (the "Property"). An active railroad line is located along the northern Property boundary, and a drainage channel is located along the southern boundary. Multiple residences are located along the eastern Property boundary along South Van Buren Street.

Historical Uses

Based on a review of historical documentation, the Property was used for agricultural purposes, as an orchard, from at least 1938 until 1946. Oil production operations are known to have occurred on the Property since at least 1929. Division of Oil, Gas, and Geothermal Resources (DOGGR) maps and files indicate that there are two oil wells on site – one that was abandoned in 1959 and one that is an idle well that still has pumping equipment mounted over it. The idle oil well ("Z19") is located in the northeast corner of the Property and the abandoned oil well (Mondotte "2") is documented on DOGGR maps to have existed in the central portion of the Property and was accompanied by multiple aboveground storage tanks (ASTs). An abandoned oil well casing was located through geophysical survey methods and excavation activities on August 1, 2017. Based on the well casings true location relative to DOGGR maps (40-50 to the west of where DOGGR plots it) and because the casing size matches the one listed in DOGGR records, the well casing is believed to be the Mondotte 2 oil well.

Additionally, historic aerial photographs depict multiple former aboveground storage tanks (ASTs) were present in the west/southwestern portion of the Property, and two potential undocumented oil wells are located off of the Property and near the northern Property boundary.

Since the 1970s, the Property has been operated by several automobile wrecking/dismantling businesses. According to Orange County Health Care Agency (OCHCA) records, hazardous materials used or stored as part of operations included used/waste oil, anti-freeze/coolant, and limited quantities of Stoddard solvent and chlorinated solvents for degreasing. Stantec observed only small quantities of waste oil and coolant stored in drums during the Property reconnaissance but no significant staining was noted in these areas. Historically, OCHCA records indicate that a 466-gallon concrete used oil UST was historically present at the 461 S. Van Buren Street address. The UST was removed in 1992 and issued closure in 1993.

Previous Environmental Assessments

Multiple rounds of assessment were performed at the Property in 2014 by The Reynolds Group (TRG). Those assessments identified lead, total petroleum hydrocarbons in the oil range (TPHo), and cadmium impacts to soil throughout the Property. The data indicted to TRG that the impact was limited in depth to the upper 1.5 feet of soil. Soil vapor samples collected at the Property during the 2014 assessments reported low levels of volatile organic compounds (VOCs), including tetrachloroethylene (PCE), at one location, but in each location, below residential screening criteria. Other VOCs were reported at trace concentrations with no reported detections above the residential screening levels. No methane sampling was reportedly performed at the Property by TRG.

Stantec completed a Phase I environmental site assessment (ESA) on the Property and submitted a report of findings dated August 15, 2017. The Phase I ESA identified several recognized environmental conditions (RECs) related to current and historical uses of the Property and adjacent properties that warranted further assessment. Please refer to the Phase I ESA for individual detail related to the RECs. In short, the RECs included the following items: detected lead and cadmium impacts, potential metals impacts along the adjoining railroad easement to the north, TPH/VOC impacts from automotive uses, TPH/VOC impacts from historic oil drilling/production activities and ASTs, residual pesticides from historic agricultural use, a former UST, a mounded soil area, and soil vapor impacts from recent industrial activities occurring at the Property since the 2014 TRG Phase II ESA.

Phase II Investigation

A Phase II ESA was conducted by Stantec in August of 2017 and included the collection and analysis of soil and soil vapor sample as appropriate to evaluate each of the RECs mentioned. Methane in soil vapor was also evaluated. Based on the analytical results recommended no further assessment or remedial action associated with potential metals impacts along the adjoining railroad easement, residual pesticides from historical agricultural use, the former UST, asphaltic soil, fuel tank rack, and the mounded area of soil.

The results of the Phase II ESA revealed the following with regard to the environmental condition of the Property:

- **Lead-impacted soil.** Lead was detected above the residential threshold of 80 mg/kg to a depth of 6-inches over an approximate 3.75 acre area. One location (SB-5) reported deeper lead impacts to approximately1 feet bgs. Soluble lead

analysis of several samples indicated a waste classification of non-RCRA California hazardous.

The lead impacted soil at the Property that is above residential thresholds is a REC. Stantec recommends that the lead impacted soil above the residential threshold be remediated (excavation and disposal) of under agency oversight. Remedial action under agency oversight would be necessary as a condition to obtaining a no further action letter (i.e. "NFA Letter).

Based on the soil data, it is estimated that the quantity of lead impacted soil that will require excavation and offsite disposal amounts to approximately 4,600 cubic yards (6,900 tons).

- **TPH Impacted Soil.** TPH impacted soil adjacent to the Mondotte 2 oil well and former car crusher exceed residential RSLs and therefore considered a REC. Stantec recommends that the estimate 10 cubic yards (15 tons) of TPH impacted soil near Mondotte 2 be excavated and disposed.

- **Onsite Oil Wells.** There are two oil wells that are known to be onsite and are identified on DOGGR records as Mondotte 2 and Z19. If the Z19 well is acquired from the existing operator so that the well location can become useable space in the proposed development (i.e. driveway or park) the well would need to be abandoned under appropriate permitting in accordance with the current standard set forth by DOGGR. Given that the Mondotte 2 oil well in the central portion of the Property was originally abandoned in 1959, it is highly likely that DOGGR will require that the Mondotte 2 well be re-abandoned to their current standard. Additionally, Stantec recommends that the DOGGR recommended set back of 10 feet from well to building be incorporated into the development layout. Additional information on methane mitigation requirements imposed by OCFA are provided below under the "Methane" recommendations.

- **Potential offsite well features.** There are two potential offsite well features near the northern property boundary that were indicated by an ALTA survey as being offsite to the north of the Property boundary. These features contain steel casings surrounded by a concrete slab. There are no oil wells illustrated in these locations on DOGGR maps and therefore the former use/function of these features is unclear. Additionally, no further investigation of these casings can be performed since they are located offsite on railroad property. Because these features cannot be ruled out as oil wells, Stantec recommends taking precautionary measures to address potential concerns that could affect the development if these features are found to be undocumented oil wells at a later date. Accordingly, Stantec

recommends that the DOGGR recommended set back of 10 feet from well to building be incorporated into the development layout. Additionally, Stantec recommends that the Orange County Fire Authority (OCFA) Methane Mitigation Standards also be followed for any proposed building at the Property that are within 25 feet of these potential well locations.

- **Methane.** No methane or hydrogen sulfide gases were detected during the Phase II ESA. However, prior to redevelopment a larger scale Site-wide methane survey will need to be conducted under oversight of the Orange County Fire Authority (OCFA) in accordance with their "Combustible Soil Gas Hazardous Mitigation Guideline C-03".

  Although no methane was detected during the previous Phase II investigations, at a minimum the following "Mandatory Procedures for Mitigation" will be imposed by OCFA due to the presence of oil wells on the Property and potential offsite wells near the northern Property boundary:

  - All abandoned onsite oil wells within 25 feet of any structure or within 25 feet from a continuous hardscape that covers an abandoned well will need to be vented;
  - Subslab passive venting systems will need to be installed below all proposed buildings within 25 feet of well or within 25 feet from a continuous hardscape that covers a well.

- **Unknown Structures and/or Contamination.** The Property has a long history of oil drilling/production and automobile salvage activities, and approximately 65% of the Property is covered with stored vehicles and vehicle parts, some of which cannot easily be moved. As a result, Stantec anticipates that unknown/undocumented issues or features (including soil contamination, sumps, oil pipelines, or unregistered storage tanks) will be encountered during grading that will result in additional time and costs for assessing and remediating. However, based on the data collected to date, it does not appear that any large scale releases have occurred on the Property other than the lead impacts discussed above.

  As stated in the Phase I ESA and previous Phase II ESA, Stantec also advises that, if feasible, a comprehensive site-wide geophysical survey of the Property be performed after removal of the site obstructions to identify if abandoned and/or active infrastructure is in-place on the Property that could be avoided in connection with redevelopment activities.

In addition, Stantec recommends that a Soil Management Plan be prepared for the Property that can be followed should unknown materials or contamination be encountered during redevelopment. Further, additional costs should be allocated to address such unknown issues under the SMP should they arise.

Additional Information and Interview

Following the completion of the Phase II ESA field sampling, The Olson Company took part in a community meeting at the City of Placentia regarding the proposed development. During that meeting, The Olson Company reported to Stantec that some of the residents of the city reported their familiarity with the Property. In particular, a former site business employee provided his knowledge of the Property to the Olson Company and to Stantec in a telephone interview on August 22, 2017. He was allegedly an employee at the Property between 1994 and 1997. That former employee indicated that during his employment he witnessed and heard information concerning several potential environmental concerns.

Based on the specialized information provided by the alleged former site business employee, Stantec recommended that an additional soil and soil vapor assessment be performed at the Property to assess the following potential environmental concerns.

- **Potential TPH-impacted Soil, Southwest Corner.** The reported area of impact by Mr. De La Torre is below the poured concrete in the southwest corner of the Property, approximately 15 feet off of the west and south fence lines. Stantec recommends that two soil borings be advanced in the southwest corner of the Property as indicated by Mr. De La Torre – specifically one boring through the concrete slab 15 feet east of the west fence line and one boring through the concrete slab 15 feet north of the south fence line. Soil samples should be analyzed for TPH and VOCs. Soil vapor samples should also be collected for TPHg and VOCs at 5 feet bgs from one of the two borings.

- **Potential TPH-impacted Soil, West End of 449 and 455 S Van Buren St.** It was suggested that similar illegal waste disposal may have also occurred in the western portions of the 449 and 455 addresses. As a result, Stantec recommends that two additional borings be advanced at the far west end of these two addresses. Soil samples from both borings should be analyzed for TPH and VOCs. Soil vapor samples should also be collected from both borings and analyzed for TPHg and VOCs at 5 feet bgs.

- **Potential TPH-impacted Soil, Southeast Corner.** Mr. De La Torre also mentioned that a fuel tank rack was located in the southeastern portion of the Property where gasoline and diesel fuel would commonly drip onto the ground out of the tanks

that were removed from vehicles. Stantec recommends that one soil boring be advanced in the southeast corner of the Property as indicated by Mr. De La Torre. Soil samples should be analyzed for TPH and VOCs. Soil vapor samples should also be collected for TPHg and VOCs at 5 feet bgs.

- **Potential TPH-impacted Soil, Perimeter of Former Crusher.** Since borings have already been advanced to the northeast of the raised concrete slab where the former crusher was located, Stantec recommends that three additional borings be advanced around its perimeter – one to the east, one to the west, and one to the south. Soil samples should be analyzed for TPH and VOCs. Soil vapor samples should also be collected for TPHg and VOCs at 5 feet bgs from one of the three borings.

- **Potential Oil Sump, Z19 Well.** It was indicated by Mr. De La Torre that the longtime occupant of the residence adjacent to the Z19 well had, at one point, indicated to him that an oil sump from well drilling activities was located to the west of the Z19 well. Stantec recommends that two soil borings be advanced to the west of the Z19 oil well. Soil samples should be analyzed for TPH and VOCs. Soil vapor samples should also be collected for TPHg and VOCs at 5 feet bgs from one of the two borings.

The scope of work and results of the investigation to assess the environmental condition of the Property as it pertains to this new information are discussed in subsequent sections of this report.

3.0 FIELD INVESTIGATION PROGRAM

3.1 SCOPE OF WORK

The scope of work consisted of the following general elements:

Task 1: Pre-Drilling Activities

Prior to the commencement of fieldwork activities Stantec made the following preparations:

- As required by law, Stantec updated the existing Underground Service Alert (USA) ticket number prior to commencement of Property drilling activities.
- In accordance with federal OSHA regulations (29 CFR, Section 1910.120), Stantec updated the existing site specific Health and Safety Plan (HASP) for the Property. All Stantec personnel and subcontractors associated with the project were required to be familiar with, and comply with, all provisions of the HASP.

Task 2: Field Investigation

Stantec provided a field geologist/engineer to supervise and direct all onsite investigation activities. All work was conducted under the supervision of a State of California registered professional and included the activities described below:

Soil Sampling

Soil samples were collected from fourteen (14) soil borings (SB-35 through SB-48) at various depths ranging from 1 foot to 10 feet bgs. The soil samples were collected at each of these borings for potential analysis of TPH and VOCs. Soil samples collected at SB-36 were also analyzed for Title 22 metals. The intent of these borings was to evaluate soil and/or soil vapor at specific locations including the reported oil drainage area in the southwest corner (SB-35 and SB-36), former vehicle crusher (SB-37 through SB-39), former fuel storage rack (SB-40), potential illegal disposal areas (SB-41 and SB-42), and potential oil sump/mud pit (SB-43 and SB-44). Borings SB-45 through SB-48 were advanced in the alley of the southeast corner of the Property to further assess elevated PCE and TCE concentration reported in SB-40.

Due to lithologic conditions (loose, caving sand) and site logistics (numerous vehicles), boring SB-43 could only be advanced with a hand auger to the maximum explored depth of 7 feet bgs as opposed to the target depth of 10 feet bgs. However, Stantec considers that the 7-foot depth was sufficient for the purpose of evaluating the presence of an oil sump or mud pit at the SB-43 location. Additionally, SB-41 could only be advance

to 4.5 feet (as opposed to the 5 foot target depth) due to caving sands which facilitated the placement of the soil vapor probe screen from 4 to 4.5 feet bgs. Stantec considers that the 4.5-foot depth as sufficient for the purpose of evaluating the presence of soil and soil vapor impacts at the SB-41 location.

Soil Vapor Sampling

Stantec installed soil vapor probes at a depth of 5 feet at borings SB-35, SB-39, SB-40, SB-41, SB-42, and SB-44 on September 6, 2017 and allowed to equilibrate for a period of at least 48-hours prior to collection and analysis of samples on September 8 and September 11, 2017. Soil vapor probes installed at the 5 foot depth in borings SB-45 and SB-48 on September 21, 2017 were allowed to equilibrate for a minimum of 2 hours prior to purging and sampling. The soil vapor samples collected during both sampling events were collected in 400-mL summa canisters and analyzed by TO-15, as discussed in Section 3.2.

3.2 SAMPLING PROCEDURES

Soil Sampling

Soil boring locations were hand augered within the upper five feet for utility clearance. Samples collected between 1 and 5 feet bgs were collected in steel sleeves with the aid of a hand auger and slide hammer. Once the five-foot depth was reached during hand augering activities, deeper soil borings (SB-35, SB-36, and SB-44) were further advanced using a Geoprobe direct push rig to the desired depth. During advancement of the three aforementioned borings, sampling of subsurface soils was performed using the direct push rig starting at a depth of approximately five (5) feet bgs and collecting 24-inch long by 1.5-inch inner diameter sampling cores equipped with acetate inserts through each five foot interval thereafter. At each sampling interval, the sampler was driven into undisturbed soil using a hydraulic ram on the Geoprobe rig until the appropriate amount of penetration was achieved. Upon advancement of the sampler to the desired sampling depth interval, the steel rods were extracted from the boring and the sample sleeves were removed. The drilling and sampling sequence was then repeated for the entire depth of each boring.

During boring activities extending deeper than 5 feet bgs, the soil extracted from the borings were visually examined by Stantec field personnel who then classified the soils in accordance with the unified soil classification system (USCS). After classification of all sampling intervals, the soil samples were collected from the sampling sleeve that represented the bottom sampling depth. Labeling included pertinent identification (boring number, sample depth, sample collection date, and sample collection time). The samples were then logged on a chain-of-custody (COC) form and placed in an ice-filled cooler for transport to the laboratory. Copies of the COC forms are included as Appendix A.

Soil Vapor Sampling

Temporary soil vapor sampling probes were installed at the target depths specified in Section 3.1 using a Direct Push drilling rig. The sample probe boreholes were sealed with hydrated granular bentonite clay to isolate the sample intervals from ambient air. A tracer compound (isopropyl alcohol) was placed above the surface seal to evaluate the integrity of the seal. The probes at borings SB-35, SB-39, SB-40, SB-41, SB-42, and SB-44 were allowed to equilibrate for 48 hours prior to purging and sampling. The vapor probes at borings SB-45 and SB-48 were allowed to equilibrate for a minimum of 2 hours prior to purging and sampling. All soil vapor samples from this assessment were collected in 400-mL summa canisters and analyzed for VOCs by TO-15. The COC records for the samples collected from the borings are attached to the laboratory report in Appendix A.

All samples were collected in general accordance with the methods and procedures outlined by the California Department of Toxic Substances Control (DTSC) and California Regional Water Quality Control Board (CRWQCB) *Advisory – Active Soil Gas Investigations*, dated 2015 with a modification in the equilibration time for the sampling at SB-45 and SB-48 due to the sensitivity of timing during the due diligence period of the project.

3.3 BORING ABANDONMENT PROCEDURES

Following the completion of drilling and soil sampling, borings were abandoned by removing the sampling equipment from the borehole and subsequently backfilling with hydrated granular bentonite clay or with the soil cuttings collected from that depth interval. Concrete surfaces were patched with concrete to match the surrounding surface conditions.

4.0 LABORATORY TESTING PROGRAM

A total of forty-three (43) soil samples collected during this investigation were delivered under COC (Appendix A) to Advanced Technology Laboratories (ATL) based out of Signal Hill, California. A total of 16 soil samples were selected for analysis of TPH (EPA Method 8015) and VOCs (EPA Method 8260B) based on field screening using a photo-ionization detector (PID). Where the PID reported no detectable volatiles, samples were selected for analysis based on the nature of the potential release, i.e. analysis of the shallow sample where a surface releases are suspected, or analysis of the terminal sampling depth where an oil sump/mud pit was being investigated. The remainder of the soil samples were placed on hold pending the results of the analyzed samples.

A total of eight (8) soil vapor samples collected during this investigation were delivered under COC (Appendix A) to H&P Mobile Geochemistry, Inc (H&P). H&P is certified to perform hazardous waste testing by the State of California Department of Health Services, Environmental Laboratory Accreditation Program. All of the soil vapor samples were analyzed for VOCs by EPA Method TO 15.

5.0 INVESTIGATION RESULTS

5.1 FIELD OBSERVATIONS

On September 6, 2017 and September 21, 2017, Stantec personnel oversaw the boring advancement and sampling of fourteen (14) borings at the Property. Soils encountered during the investigation consisted predominately of poorly graded fine to medium grained sand to the maximum explored depth of 10 feet bgs. The only variations in lithology was silty sand observed between 0 and 5 feet bgs in boring SB-40, SB-41, and SB-42, and sandy clay between 7.5 and 10 feet in SB-35. The sandy clay found in boring SB-35 was the only observed occurrence of clay in any of the borings advanced at the Property by Stantec.

PID measurements reached a maximum of 50.7 parts per million by volume (ppmv) for the sample collected at the 0.5 to 1.0 foot interval at SB-36. No chemical odors or staining were observed in any of the borings advanced during this assessment.

5.2 ANALYTICAL RESULTS

The laboratory test results are discussed below and summarized in the attached tables. The laboratory reports are attached as Appendix A.

Soil Samples – TPH & VOCs

Potential TPH-impacted Soil, Southwest Corner (SB-35 and SB-36)
The soil sample collected from SB-35-1 reported diesel range petroleum hydrocarbons ("TPHd") at 350 mg/kg and oil range petroleum hydrocarbons ("TPHo") at 490 mg/kg. The TPHd concentration in this sample exceed the United States Environmental Protection Agency Regional Screening Levels ("residential RSLs"). The 3 foot bgs sample at SB-35 reported no detectable concentrations of TPH above laboratory reporting limits (i.e. the results were "non-detect"). TPHo was detected in SB-36-1 at 43 mg/kg and is below residential RSLs. TPH was non-detect in sample SB-36-3.

VOCs were non-detect in all samples (SB-35-1, SB-36-1, and SB-36-3) that were analyzed from borings SB-35 and SB-36.

Potential TPH-impacted Soil, West End of 449 and 455 S Van Buren St (SB-41 and SB-42)
TPH and VOCs were non-detect in soil samples analyzed from borings positioned in the west ends of 449 and 455 S. Van Buren St.

Potential TPH-impacted Soil, Southeast Corner (SB-40 and SB-45 through SB-48)
Low concentrations of TPHd (max: 43 mg/kg) and TPHo (max: 93 mg/kg) were detected in certain samples from five borings (SB-40, and SB-45 through SB-48) positioned along the southeast alley. All the detected TPH concentrations were below residential RSLs. No VOCs were detected above laboratory reporting limits in any of the soil samples collected and analyzed.

Potential TPH-impacted Soil, Perimeter of Former Crusher (SB-37 through SB-39)
The 1-foot bgs soil sample analyzed from SB-37 reported TPHd at 110 mg/kg and TPHo at 170 mg/kg. The TPHd concentration in this sample exceeds the residential RSLs for TPHd. TPH was non-detect in the 1-foot bgs samples collected at SB-38 and SB-39.

VOCs were non-detect in all 1-foot bgs samples collected from borings SB-37 through SB-39.

Potential Oil Sump, Z19 Well (SB-44 and observation boring)
TPH and VOCs were non-detect in soil samples analyzed at the alleged oil sump/mud pit location that was reported to be to the west of the Z19 oil well.

An additional "observation" step out hand auger boring was performed approximately 15 to the south of SB-44 at the time of the assessment for further visual evaluation of an oil sump/mud pit. No evidence of oil stained soil was observed.

Soil Samples – Title 22 Metals

Potential TPH-impacted Soil, Southwest Corner (SB-36)
Analytical results of the 1-foot and 3-foot soil samples at SB-36 reported metals concentrations within naturally occurring ranges in California, with one exception. Lead was detected in the 0.5 to 1.0 sampling interval (i.e. 1-foot sample) at 130 mg/kg which exceeds the 80 mg/kg residential threshold. No other metals were detected above regulatory thresholds.

Soil Vapor Samples – VOCs

Soil vapor sampling was performed at approximately 5 feet bgs at eight additional locations (SB-35, SB-39, SB-40, SB-41, SB-42, SB-44, SB-45, and SB-48). Seven of the eight soil vapor samples collected contained low concentrations of certain VOCs that were well below human health risk screening criteria for residential use (see Table 4 for comparison to screening levels).

PCE and trichloroethylene (TCE) were detected in SB-40 at 6,800 and 1,700 µg/m^3, respectively. The human health risk screening level for residential sites is 460 µg/m^3 for PCE and 480 µg/m^3 for TCE. However, as indicated above, soil vapor samples collected from boring SB-45 (advanced 25 to the west of SB-40) and SB-49 (advanced 75 feet to the east of SB-40) were non-detect for PCE and TCE. These results indicate that the PCE and TCE are localized at boring SB-40. Further discussion of the PCE and TCE detections is provided in Section 1.0 and 6.0.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The results of the Phase II ESAs performed at the Property have cumulatively revealed the following with regard to the environmental condition of the Property:

- **Lead-impacted soil.** Lead was detected above the residential threshold of 80 mg/kg to a depth of 6-inches over an approximate 3.75 acre area of the Property. One location (SB-5) reported deeper lead impacts to approximately1 feet bgs. Soluble lead analysis of several samples indicated a waste classification of non-RCRA California hazardous.

  The lead impacted soil at the Property that is above residential thresholds is a REC. Stantec recommends that the lead impacted soil above the residential threshold be remediated (excavation and disposal) of under agency oversight. Remedial action under agency oversight would be necessary as a condition to obtaining a no further action letter (*i.e.*, "NFA Letter").

  Based on the soil data, it is estimated that the quantity of lead impacted soil that will require excavation and offsite disposal amounts to approximately 4,600 cubic yards (6,900 tons).

- **TPH Impacted Soil.** TPH impacted soil adjacent to the Mondotte 2 oil well, former car crusher, and in the southwest corner of the Property has petroleum hydrocarbon concentrations that exceed residential RSLs. Therefore, the TPH-impacted soil represents a REC. Based on the soil data, it is estimated that the quantity of TPH impacted soil that will require excavation and offsite disposal amounts to approximately 300 cubic yards (450 tons). Stantec recommends that the TPH-impacted soil above the residential threshold be remediated (excavation and disposal) under agency oversight. Remedial action under agency oversight would be necessary as a condition to obtaining an NFA Letter.

- **Onsite Oil Wells.** There are two oil wells that are known to be onsite and are identified on DOGGR records as Mondotte 2 and Z19. If the Z19 well is acquired from the existing operator so that the well location can become useable space in the proposed development (i.e. driveway or park), the well would need to be abandoned under appropriate permitting in accordance with the current standard set forth by DOGGR. Given that the Mondotte 2 oil well in the central portion of the Property was originally abandoned in 1959, DOGGR will most likely require that the Mondotte 2 well be re-abandoned to DOGGR's current standard. Additionally, Stantec recommends that the DOGGR recommended set back of 10 feet from well to building be incorporated into the development layout.

Additional information on methane mitigation requirements imposed by OCFA are provided below under the "Methane" recommendations.

- **Potential offsite well features.** An ALTA survey indicated that two potential offsite well features are near the northern property boundary. These features contain steel casings surrounded by a concrete slab. There are no oil wells illustrated in these locations on DOGGR maps and therefore the former use/function of these features is unclear. Additionally, no further investigation of these casings can be performed since they are located offsite on railroad property. Because these features cannot be ruled out as oil wells, Stantec recommends taking precautionary measures to address potential concerns that could affect the development if these features are found to be undocumented oil wells at a later date. Accordingly, Stantec recommends that the DOGGR recommended set back of 10 feet from well to building be incorporated into the development layout. Additionally, Stantec recommends that the Orange County Fire Authority (OCFA) Methane Mitigation Standards also be followed for any proposed building at the Property that are within 25 feet of these potential well locations.

- **Methane.** No methane or hydrogen sulfide gases were detected during the Phase II ESA. However, prior to redevelopment, a larger scale Site-wide methane survey will need to be conducted under oversight of the Orange County Fire Authority (OCFA) in accordance with its "Combustible Soil Gas Hazardous Mitigation Guideline C-03".

  Although no methane was detected during the previous Phase II investigations, at a minimum the following "Mandatory Procedures for Mitigation" will be imposed by OCFA due to the presence of oil wells on the Property and potential offsite wells near the northern Property boundary:

  - All abandoned onsite oil wells within 25 feet of any structure or within 25 feet from a continuous hardscape that covers an abandoned well will need to be vented;
  - Subslab passive venting systems will need to be installed below all proposed buildings within 25 feet of well or within 25 feet from a continuous hardscape that covers a well.

- **Unknown Structures and/or Contamination.** The Property has a long history of oil drilling/production and automobile salvage activities, and approximately 65% of the Property is covered with stored vehicles and vehicle parts, some of which cannot easily be moved. As a result, Stantec anticipates that unknown/undocumented issues or features (including soil contamination, sumps,

oil pipelines, or unregistered storage tanks) will be encountered during grading that will result in additional time and costs for assessing and remediating. However, based on the data collected to date, it does not appear that any large scale releases have occurred on the Property other than the lead impacts discussed above.

As stated in the Phase I ESA and previous Phase II ESA, Stantec also advises that, if feasible, a comprehensive site-wide geophysical survey of the Property be performed after removal of the site obstructions to identify if abandoned and/or active infrastructure is in-place on the Property that could be avoided in connection with redevelopment activities.

In addition, Stantec recommends that a Soil Management Plan be prepared for the Property that can be followed should unknown materials or contamination be encountered during redevelopment. Further, additional costs should be allocated to address such unknown issues under the SMP should they arise.

7.0 LIMITATIONS

The conclusions presented in this report are professional opinions based on data described in this report. The opinions of this report have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location, and are subject to the following inherent limitations. 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 County and State regulations.

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

In the event of any conflict between the terms and conditions of this report and the terms and conditions of the MSA, the MSA shall control.

8.0 REFERENCES

California Department of Conservation, Division of Mines and Geology, 2000, Digital Images of Official Maps of Alquist-Priolo Earthquake Fault Zones of California, Southern Region

California Division of Mines and Geology (CDMG), Photo Revised 1978, Geologic Map of California, Santa Ana Sheet, Scale 1:250,000

California Geological Survey (CGS), 2002, California Geomorphic Provinces, Note 36.

Department of Toxic Substances Control, 2017, Human and Ecological Risk Office, Human Health Risk Assessment Note 3, June.

The Reynolds Group, Oil Well Assessment Report and DOGGR Research, 443-461 S. Van Buren St, Placentia, California, dated December 17, 2014.

The Reynolds Group, Phase II Environmental Site Assessment Shallow Soils Assessment Report, 443-461 S. Van Buren St, Placentia, California, dated December 17, 2014.

Stantec Consulting Services, Inc, 2017, Phase I Environmental Site Assessment, 443, 449, 455 and 461 South Van Buren Street, Placentia, California, dated August 15, 2017.

Stantec Consulting Services, Inc, 2017, Phase II Environmental Site Assessment, 443, 449, 455 and 461 South Van Buren Street, Placentia, California, dated August 30, 2017.

ADDITIONAL PHASE II ENVIRONMENTAL SITE ASSESSMENT

TABLES

Table 1
Summary of Soil Analytical Results - TPH and VOCs
443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185803982

Sample ID [1]	Location	Sampling Date	Sampling Depth [2]	Petroleum Hydrocarbons [3] EPA 8015B			VOCs [3] EPA 8260B						
				Gasoline Range Organics	Deisel Range Organics	Oil Range Organics	Benzene	Ethylbenzene	PCE	Toluene	TCE	Total Xylenes	Other VOCs
DTSC HERO Note 3 or USEPA RSL for Residential Soil [4]				NA	NA	NA	0.33	5.8	0.60	1,100	0.94	580	varies
US EPA Residential RSLs				82	96	2,500	0.011	0.7	NE	0	NE	1.75	varies
Samples													
SB-1-1.0	Former ASTs	8/10/2017	1	<1.0	**85**	**49**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<varies
SB-3-1.0	Existing car crusher	8/10/2017	1	<1.0	**79**	**110**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<varies
SB-11-1.0	Oil Impacted Soil - SW	8/10/2017	1	<1.0	<10	<10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<varies
SB-12-1.0	Oil Impacted Soil - SE	8/11/2017	1	<1.0	**170**	**87**	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<varies
SB-13-1.0	Oil Impacted Soil - N	8/10/2017	1	<1.0	**73**	**86**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<varies
SB-15-5	Approximate Former UST	8/11/2017	5	<1.0	**46**	**16**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<varies
SB-20-0.5	Asphaltic Soil	8/10/2017	0.5	<1.0	**90**	**270**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**0.031**	<varies
SB-28-4.0	Mondotte 2 Oil Well	8/11/2017	4	**160**	**84,000**	**110,000**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<varies
SB-33-15	Z19 Oil Well	8/11/2017	15	<1.0	**30**	**12**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<varies
SB-34-1.0	Vehicle fuel tank storage	8/11/2017	1	<1.0	**70**	**110**	--	--	--	--	--	--	--

NOTES:
(1) Refer to Figure 2 for sampling locations
(2) Sampling depth is reported as feet below ground surface
(3) Concentrations reported in milligrams per kilogram (mg/kg)
(4) More conservative value between USEPA RSL and DTSC HERO Note 3 for residential land use used as screening level
(5) CRWQCB Interim Site Assessment and Cleanup Guidebook, May, 1996
< - Indicates the concentration was not detected above the laboratory method reporting limit.

BOLD indicates analyte is present above the laboratory practical quantitation limit.

(a) Chromatographic pattern was inconsistent with the profile of the reference fuel standard.

Abbreviations:
DTSC HERO - Department of Toxic Substances Control, Human and Ecological Risk Office
NA - Not applicable
NE - Not established
PCE - Tetrachloroethene
PCBs - Polychlorinated Biphenyl's
TCE - Trichloroethene
TPH - Total petroleu
TPHg - TPH as Gasoli
TPHd - TPH as Diesel
TPHo - TPH as Motor
1,2,4-TMB - 1,2,4-Trimethy
VOC - Volatile Orga
USEPA RSL - United States

Table 2
Summary of Soil Analytical Results - Metals
443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185803982

Sample ID [1]	Sampling Date	Sampling Depth [2]	Metals [3]														
			EPA 6010B														EPA 7471A
			Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Soluble Lead (STLC)	Soluble Lead (TCLP)	Molybdenum	Nickel	Vanadium	Zinc	Mercury
USEPA RESIDENTIAL RSLs (mg/kg)			*31*	*0.68*	*15,000*	*160*	*71*	*120,000*	*23*	*3,100*	*400*	--	--	*390*	*1,500*	*390*	*23,000*	*23*
DTSC HERO Note 3, residential use			*NE*	*0.067*	*NE*	*15*	*5.2*	*36,000*	*NE*	*NE*	*80*	--	--	*NE*	*490*	*390*	*NE*	*1.0*
California Background Levels Range			*0.15-1.95*	*0.6-12.0 [4]*	*133-1400*	*0.25-2.7*	*0.05-1.70*	*23-1,579*	*2.7-46.9*	*9.1-96.4*	*12.4-97.1*	--	--	*5,580-73,400*	*9-509*	*75-288*	*133-236*	*0.1-0.9*
Samples																		
SB-1-0.5	8/10/2017	0.5	<2.0	<1.0	**28**	<1.0	<1.0	**7.8**	**4.0**	**5.3**	**7.7**	--	--	<1.0	**5.1**	**18**	**30**	<0.10
SB-1-1.0	8/10/2017	1.0	<2.0	<1.0	**28**	<1.0	<1.0	**8.0**	**3.6**	**5.2**	**6.8**	--	--	<1.0	**4.9**	**16**	**25**	<0.10
SB-2-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**120**	<1.0	<0.25	--	--	--	--	--
SB-2-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**8.3**	--	--	--	--	--	--	--
SB-3-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**160**	**12**	<0.25	--	--	--	--	--
SB-3-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**18**	--	--	--	--	--	--	--
SB-4-0.5	8/10/2017	0.5	<2.0	<1.0	**44**	<1.0	<1.0	**12**	**6.1**	**11**	**21**	--	--	<1.0	**9.3**	**29**	**54**	<0.10
SB-4-1.0	8/10/2017	1.0	<2.0	<1.0	**91**	<1.0	<1.0	**19**	**10**	**20**	**4.4**	--	--	<1.0	**13**	**40**	**52**	<0.10
SB-5-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**400**	**23**	**0.46**	--	--	--	--	--
SB-5-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**270**	**14**	**0.38**	--	--	--	--	--
SB-5-1.5	8/10/2017	1.5	--	--	--	--	--	--	--	--	**10**	--	--	--	--	--	--	--
SB-6-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**28**	--	--	--	--	--	--	--
SB-6-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**3.0**	--	--	--	--	--	--	--
SB-7-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**190**	**14**	<0.25	--	--	--	--	--
SB-7-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**30**	--	--	--	--	--	--	--
SB-8-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**100**	**6.3**	<0.25	--	--	--	--	--
SB-8-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**13**	--	--	--	--	--	--	--
SB-9-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**170**	**13**	<0.25	--	--	--	--	--
SB-9-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**29**	--	--	--	--	--	--	--
SB-10-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**32**	--	--	--	--	--	--	--
SB-10-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**5.2**	--	--	--	--	--	--	--
SB-14-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**25**	--	--	--	--	--	--	--
SB-14-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**68**	--	--	--	--	--	--	--
SB-16-0.5	8/11/2017	0.5	<2.0	<1.0	**37**	<1.0	<1.0	**6.0**	**3.2**	**7.2**	**10**	--	--	<1.0	**10**	**16**	**28**	<0.10
SB-16-1.0	8/11/2017	1.0	<2.0	<1.0	**28**	<1.0	<1.0	**7.0**	**3.3**	**4.8**	**6.7**	--	--	<1.0	**6.4**	**14**	**26**	<0.10
SB-17-0.5	8/10/2017	0.5	<2.0	<1.0	**52**	<1.0	<1.0	**13**	**7.0**	**15**	**79**	--	--	<1.0	**13**	**28**	**100**	<0.10
SB-17-1.0	8/10/2017	1.0	<2.0	<1.0	**52**	<1.0	<1.0	**13**	**7.2**	**11**	**37**	--	--	<1.0	**10**	**30**	**62**	<0.10
SB-18-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**24**	--	--	--	--	--	--	--
SB-18-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**11**	--	--	--	--	--	--	--
SB-19-0.5	8/10/2017	0.5	<2.0	<1.0	**63**	<1.0	<1.0	**17**	**7.4**	**14**	**160**	**11**	<0.25	<1.0	**12**	**29**	**87**	<0.10
SB-19-1.0	8/10/2017	1.0	<2.0	<1.0	**72**	<1.0	<1.0	**15**	**9.0**	**11**	**26**	--	--	<1.0	**11**	**34**	**51**	<0.10
SB-20-0.5	8/10/2017	0.5	<2.0	<1.0	**52**	<1.0	<1.0	**12**	**7.2**	**8.3**	**3.9**	--	--	<1.0	**8.6**	**30**	**41**	<0.10
SB-20-1.0	8/10/2017	1.0	<2.0	<1.0	**45**	<1.0	<1.0	**12**	**6.9**	**7.9**	**2.0**	--	--	<1.0	**8.6**	**29**	**34**	<0.10

Table 2
Summary of Soil Analytical Results - Metals
443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185803982

Sample ID [1]	Sampling Date	Sampling Depth [2]	Metals [3]														
			EPA 6010B														EPA 7471A
			Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Soluble Lead (STLC)	Soluble Lead (TCLP)	Molybdenum	Nickel	Vanadium	Zinc	Mercury
USEPA RESIDENTIAL RSLs (mg/kg)			*31*	*0.68*	*15,000*	*160*	*71*	*120,000*	*23*	*3,100*	*400*	--	--	*390*	*1,500*	*390*	*23,000*	*23*
DTSC HERO Note 3, residential use			*NE*	*0.067*	*NE*	*15*	*5.2*	*36,000*	*NE*	*NE*	*80*	--	--	*NE*	*490*	*390*	*NE*	*1.0*
California Background Levels Range			*0.15-1.95*	*0.6-12.0 [4]*	*133-1400*	*0.25-2.7*	*0.05-1.70*	*23-1,579*	*2.7-46.9*	*9.1-96.4*	*12.4-97.1*	--	--	*5,580-73,400*	*9-509*	*75-288*	*133-236*	*0.1-0.9*
Samples																		
SB-21-0.5	8/11/2017	0.5	<2.0	**1.8**	**100**	<1.0	<1.0	**14**	**5.2**	**22**	**87**	**4.7**	<0.25	**2.6**	**9.0**	**25**	**65**	<0.10
SB-21-1.0	8/11/2017	1.0	<2.0	<1.0	**33**	<1.0	<1.0	**7.1**	**4.2**	**5.8**	**13**	--	--	<1.0	**5.1**	**16**	**28**	<0.10
SB-22-0.5	8/11/2017	0.5	<2.0	<1.0	**59**	<1.0	<1.0	**8.2**	**4.2**	**13**	**82**	--	--	<1.0	**7.9**	**17**	**87**	<0.10
SB-22-1.0	8/11/2017	1.0	<2.0	<1.0	**32**	<1.0	<1.0	**7.0**	**4.3**	**5.4**	**2.5**	--	--	<1.0	**5.1**	**15**	**28**	<0.10
SB-23-0.5	8/11/2017	0.5	<2.0	**2.2**	**51**	<1.0	<1.0	**9.5**	**4.8**	**12**	**6.2**	--	--	<1.0	**14**	**26**	**35**	<0.10
SB-23-1.0	8/11/2017	1.0	<2.0	<1.0	**25**	<1.0	<1.0	**9.7**	**3.0**	**4.1**	**2.2**	--	--	<1.0	**6.3**	**12**	**18**	<0.10
SB-24-0.5	8/10/2017	0.5	--	--	--	--	--	--	--	--	**10**	--	--	--	--	--	--	--
SB-24-1.0	8/10/2017	1.0	--	--	--	--	--	--	--	--	**2.8**	--	--	--	--	--	--	--
SB-25-0.5	8/10/2017	0.5	<2.0	<1.0	**68**	<1.0	<1.0	**15**	**8.1**	**19**	**130**	**9.4**	<0.25	<1.0	**11**	**31**	**450**	<0.10
SB-25-1.0	8/10/2017	1.0	<2.0	<1.0	**65**	<1.0	<1.0	**15**	**8.9**	**9.0**	**3.6**	--	--	<1.0	**10**	**34**	**46**	<0.10
SB-26-0.5	8/10/2017	0.5	--	--	--	--	<1.0	--	--	--	**41**	--	--	--	--	--	--	--
SB-26-1.0	8/10/2017	1.0	--	--	--	--	<1.0	--	--	--	**7.9**	--	--	--	--	--	--	--
SB-27-0.5	8/10/2017	0.5	--	--	--	--	<1.0	--	--	--	**22**	--	--	--	--	--	--	--
SB-27-1.0	8/10/2017	1.0	--	--	--	--	<1.0	--	--	--	**8.6**	--	--	--	--	--	--	--
SB-28-4.0	8/11/2017	4.0	<2.0	<1.0	**49**	<1.0	<1.0	**8.4**	**4.9**	**9.9**	**21**	--	--	<1.0	**32**	**34**	**100**	<0.10
SB-29-0.5	8/11/2017	0.5	<2.0	**1.9**	**54**	<1.0	<1.0	**9.5**	**4.9**	**11**	**12**	--	--	<1.0	**14**	**26**	**44**	<0.10
SB-29-1.0	8/11/2017	1.0	<2.0	<1.0	**42**	<1.0	<1.0	**9.0**	**5.4**	**7.3**	**5.0**	--	--	<1.0	**6.6**	**20**	**33**	<0.10
SB-30-0.5	8/11/2017	0.5	<2.0	<1.0	**80**	<1.0	**1.2**	**14**	**7.1**	**23**	**90**	--	--	<1.0	**5.1**	**18**	**30**	<0.10
SB-30-1.0	8/11/2017	1.0	<2.0	<1.0	**63**	<1.0	<1.0	**14**	**7.9**	**12**	**16**	--	--	<1.0	**10**	**28**	**53**	<0.10
SB-31-0.5	8/11/2017	0.5	<2.0	<1.0	**57**	<1.0	**1.5**	**11**	**5.7**	**14**	**46**	--	--	<1.0	**8.3**	**22**	**73**	<0.10
SB-31-1.0	8/11/2017	1.0	<2.0	<1.0	**59**	<1.0	<1.0	**14**	**7.9**	**11**	**7.9**	--	--	<1.0	**10**	**29**	**53**	<0.10
SB-32-0.5	8/11/2017	0.5	<2.0	**1.7**	**53**	<1.0	<1.0	**13**	**5.6**	**13**	**120**	**7.6**	<0.25	<1.0	**8.5**	**23**	**73**	<0.10
SB-32-1.0	8/11/2017	1.0	<2.0	<1.0	**50**	<1.0	<1.0	**11**	**6.7**	**9.3**	**6.3**	--	--	<1.0	**8.2**	**24**	**40**	<0.10

NOTES:
(1) Refer to Figure 2 for sampling locations
(2) Sampling depth is reported as feet below ground surface
(3) Concentrations reported in milligrams per kilogram (mg/kg)
(4) Chernoff G., Bosan W., and Oudiz B., DTSC, Determination of a Southern California Regional Background Arsenic Concentration in Soil
< - Indicates the concentration was not detected above the laboratory method reporting limit.
* - Indicates the sample was analyzed by EPA method 6020

ABBREVIATIONS:
USEPA RSLs - United States Environmental Protection Agency Regional Screening Levels for Residential Soils- June 2015
NA - Not Analyzed
NE - Not established

Table 3
Summary of Soil Analytical Results - Organochlorine Pesticides
443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185803982

Sample ID [2]	Sample Depth (feet)	Sampling Date	Organochlorine Pesticides [1]									
			4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Chlordane[3]	Dieldrin	Endosulfan I	Endrin	Heptachlor Epoxide	Others
Regulatory Threshold for Residential Use [4]			*2.3*	*2.0*	*1.9*	*0.039*	*0.43*	*0.034*	*470*	*19*	*0.07*	*Varies*
SB-2-0.5	0.5	8/10/2017	ND<0.002	ND<0.002	**0.012**	ND<0.001	**0.0110**	**0.0021**	**0.0010**	ND<0.002	**0.0011**	<varies
SB-5-0.5	0.5	8/10/2017	ND<0.002	**0.0029**	**0.029**	ND<0.001	**0.0434**	**0.0070**	ND<0.001	**0.0028**	**0.0040**	<varies
SB-9-0.5	0.5	8/10/2017	ND<0.002	ND<0.002	**0.0037**	ND<0.001	**0.0104**	ND<0.002	ND<0.001	ND<0.002	ND<0.001	<varies
SB-16-0.5	0.5	8/11/2017	ND<0.002	ND<0.002	ND<0.002	ND<0.001	ND<0.0085	ND<0.002	ND<0.001	ND<0.002	ND<0.001	<varies
SB-17-0.5	0.5	8/10/2017	ND<0.002	ND<0.002	**0.0093**	**0.0012**	**0.0144**	**0.0036**	ND<0.001	ND<0.002	**0.0011**	<varies
SB-20-0.5	0.5	8/10/2017	ND<0.002	ND<0.002	ND<0.002	ND<0.001	ND<0.0085	ND<0.002	ND<0.001	ND<0.002	ND<0.001	<varies
SB-22-0.5	0.5	8/11/2017	ND<0.002	ND<0.002	ND<0.002	ND<0.001	ND<0.0085	ND<0.002	ND<0.001	ND<0.002	ND<0.001	<varies
SB-23-0.5	0.5	8/11/2017	ND<0.002	ND<0.002	ND<0.002	ND<0.001	ND<0.0085	ND<0.002	ND<0.001	ND<0.002	ND<0.001	<varies
SB-25-0.5	0.5	8/10/2017	ND<0.002	ND<0.002	**0.012**	ND<0.001	ND<0.0085	**0.0033**	ND<0.001	ND<0.002	ND<0.001	<varies
SB-29-0.5	0.5	8/11/2017	ND<0.002	ND<0.002	ND<0.002	ND<0.001	ND<0.0085	ND<0.002	ND<0.001	ND<0.002	ND<0.001	<varies
SB-31-0.5	0.5	8/11/2017	ND<0.002	ND<0.002	**0.0027**	ND<0.001	ND<0.0085	ND<0.002	ND<0.001	ND<0.002	ND<0.001	<varies
SB-33-0.5	0.5	8/10/2017	ND<0.002	**0.013**	**0.0092**	ND<0.001	**0.0398**	**0.0021**	**0.0010**	ND<0.002	**0.0011**	<varies

NA - Not analyzed
< - Indicates the concentration was not detected above the laboratory method detection limit. concentrations reported in mg/kg = milligrams per kilogram
(1) EPA Method 8081A
(2) Refer to Figure 2 for sample locations
(3) Summation of Chlordane, alpha-Chlordane, and gamma-Chlordane
(4) - Refers to the more conservative value between DTSC Note 3 June 2016) and United States Environmenal Protection Agency Regional Screening Levels (Region 9) (May 2016)

Table 4
Summary of Soil Vapor Analytical Results - TPHg, VOCs, & Methane
443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185803982

Sample ID	Location	Sampling Date	Sampling Depth (1)	VOCs (µg/m^3) (2)								Methane (%LEL) (3)
				TPHg (aromatic)	PCE	TCE	Benzene	Toluene	Ethylbenzene	Total Xylenes	Other VOCs	
DTSC HERO Note 3 or EPA RSLs for Residential Land Use (µg/m^3) (4)				*31000*	460	480	97	310,000	1,100	100,000	varies	--
Orange County Fire Authority Threshold for Combustible Gases				--	--	--	--	--	--	--	--	0.5 (5)
SB-1-5-SV	Former ASTs	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-1-15-SV	Former ASTs	8/14/2017	15	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-3-5-SV	Existing Car Crusher	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-10-5-SV	Misc. 461 S Van Buren	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-15-5-SV	Former UST	8/14/2017	5	<40,000	**50**	<20	<20	<200	<100	<200	<varies	0
SB-15-5-SV Rep	Former UST	8/14/2017	5	<40,000	**70**	<20	<20	<200	<100	<200	<varies	0
SB-15-15-SV	Former UST	8/14/2017	5	<40,000	**30**	<20	<20	<200	<100	<200	<varies	0
SB-16-5-SV	South Boundary, Near Offsite Well	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-20A-5-SV	Misc. Central Portion of Property	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-28-5-SV	Mondotte 2 Oil Well	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-28-15-SV	Mondotte 2 Oil Well	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-33-5-SV	Z19 Oil Well	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0
SB-33-15-SV	Z19 Oil Well	8/14/2017	5	<40,000	<20	<20	<20	<200	<100	<200	<varies	0

NOTES:
(1) Sample depth is reported as feet below ground surface
(2) Soil vapor analyzed using EPA Test Method 8260.
(3) Field measurement using GEM 200 Plus Combustible Gas Meter
(4) DTSC HERO NOTE 3 or Environmental Protection Agency Regional Screeening Levels for Residential Soil Vapor, updated June 2017 (with an attenuation factor of 0.001)
(5) Mandatory Procedures for Mitigation, OCFA *Combustible Soil Gas Hazard Mitigation* , dated January 1, 2017
< - Indicates the concentration was not detected above the listed laboratory method reporting limit.
BOLD indicates analyte is present above the laboratory practical quantiation limit.

Abbreviations:
NA - Not Analyzed
DCE - Dichloroethene
PCE - Tetrachlorethylene
TCA - Trichlorethane
TCE - Trichloroethylene
TMB - Trimethylbenzene
TPH - Total Petroleum Hydrocarbons
VOCs - Volatile Organic Compounds
LEL - Lower Explosive Limit

ADDITIONAL PHASE II ENVIRONMENTAL SITE ASSESSMENT

FIGURES



N

CALIFORNIA

1 1/2 0 1

SCALE IN MILE

1000 0 1000 2000 3000 4000 5000 6000 7000

SCALE IN FEET

REFERENCE: USGS 7.5 X 7.5 MINUTE □UADRANGLE□ORANGE, 1980.

Stantec

25864-F BUSINESS CENTER DRIVE
REDLANDS, CALIFORNIA
PH (909) 335-6116 FAX (909) 335-6120

FOR:
THE OLSON COMPANY

433 SOUTH VAN BUREN STREET,
PLACENTIA, CALIFRNIA

SITE LOCATION MAP

FIGURE: **1**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185803982	JS	DM	KE	08/04/17

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OIL WELLS

EQUIPMENT YARD

RAILROAD LINE

SUSPECT OIL WELL LOCATIONS

VEHICLE PARTS AND EMPTY DRUMS

Z19 OIL WELL

Olive St

SB-43

SB-44

SB-33

SB-32

EMPTY USED OIL AND ANTIFREEZE DRUMS AND 400-GALLON AST

SB-30

SB-31

SB-27

SHOP WITH FLAMMABLE STORAGE CABINET

SB-29

SB-42

SB-24

SB-25

SB-28

SB-26

MOUNDED AREA OF SOIL

SB-181

APPROXIMATE MONDOTTE 2 OIL WELL LOCATION

COMPRESSOR UNDER CANOPY

SB-22

SB-19

SB-21

SB-23

Oak St

SB-17

ASPHALTIC SOIL

SB-41

SB-20

SB-20A

SB-04

VEHICLE CRUSHER

AUTOMOTIVE SHOP

SB-14

SB-06

SB-13

SB-10

SB-11

SB-12

SB-1

UNKNOWN SURFACE VALVE

SB-03

SB-37

SB-39

SB-15

RESIDENTIAL

SB-07

SB-02

55-GALLON DRUMS OF DIESEL AND GASOLINE

SB-38

SB-35

SB-36

SB-16

SB-45

SB-40

SB-46

SB-48

SB-47

SB-05

SB-08

SB-09

SB-34

HISTORICAL ASTs

WASTE OIL IN CONEX BOX

FORMER CAR CRUSHER LOCATION

APPROXIMATE LOCATION OF FORMER UST

BATTERY STORAGE IN CONNEX BOX

OIL WELL

EQUIPMENT YARD

OIL WELL

OIL WELL

S Van Buren St

LEGEND:

- APPROXIMATE FENCE LINE OF PROPERTY
- SUSPECT OIL WELL LOCATION
- S□□/S□□□V□□□r B□r□□□ - VOC□ □□d M□□□□□□ (S□□□□□□, 2017)
- S□□□□□□ S□□S□□ □□□ (S□□□□□□, 2017)
- S□□□□□□ S□□S□□ □□□ - TPH □□d VOC□ (S□□□□□□, 2017)

N

0 80 160

APPROXIMATE SCALE IN FEET

N□□□rr□□□□□□□d□□□S□□□□□C□□□□□□□S□r□□□□□□, □□□□□□□□□□□□, r□□□□□□, □r□□□□□□□□□□□□□□□□□□d□□□. Or□□□□d□□□□□r□ □□□d□r□□ □□r□□□□□□r□□□. T□□□□□r□ □□□□ □□□□□□ □□□N□□□□□M□□A□□r□□□S□□d□rd□ T□□□r□d□□□□□d□□□□□□d □□□r□□□□□, □d□□□□□□□d□□d □□□□□□□□□□□□□. A□□r□□r□d□□□□ □□r□r□□□□□□ □□□□□□□□□□d□r□□r□□□□.

Stantec

25864-F BUSINESS CENTER DRIVE
REDLANDS, CALIFORNIA
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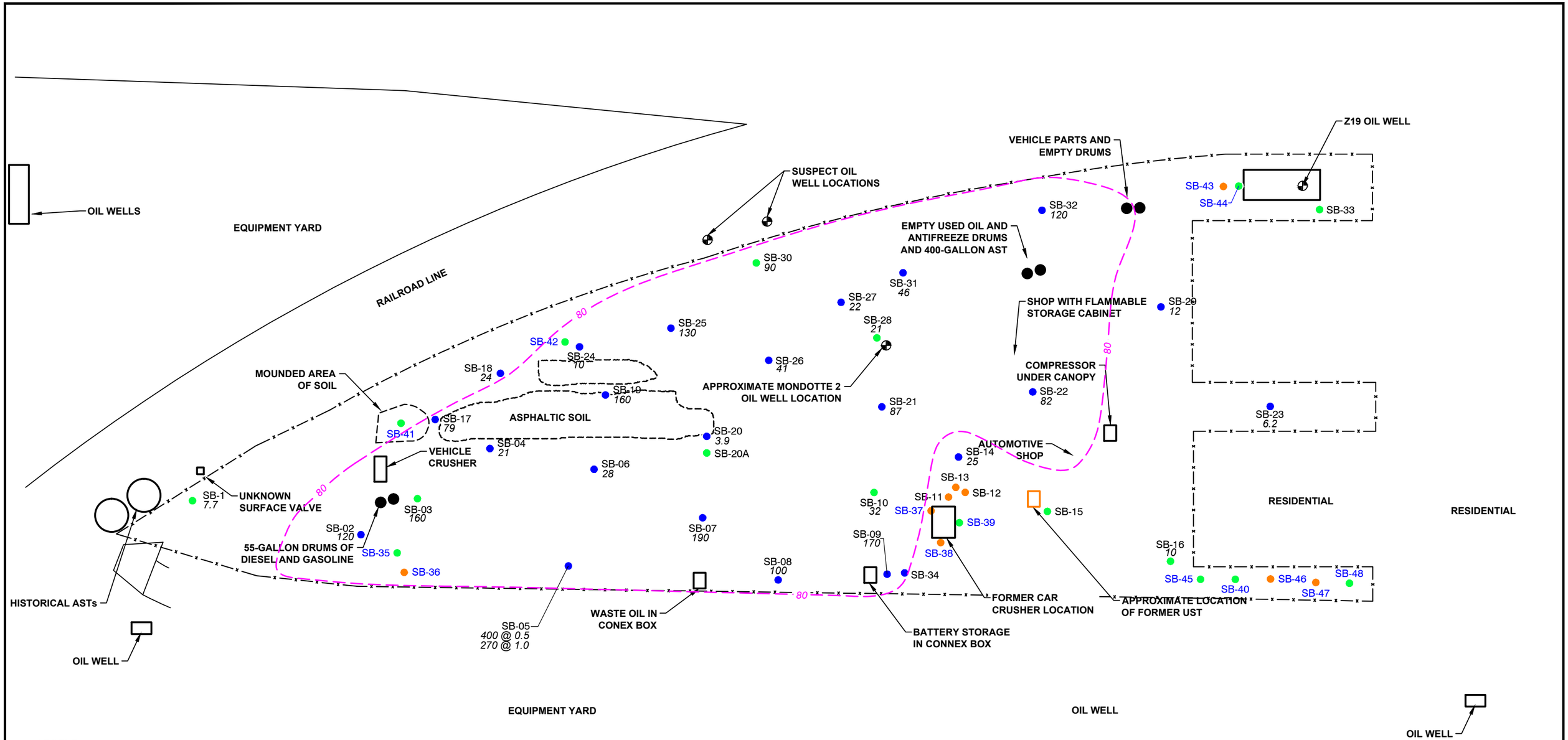
FOR:
THE OLSON COMPANY

443 SOUTH VAN BUREN STREET
PLACENTIA, CALIFORNIA

SITE MAP

FIGURE: **2**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185803982	STA	DM	KM	09/21/17



LEGEND:

- APPROXIMATE FENCE LINE OF PROPERTY
- SUSPECT OIL WELL LOCATION
- Soil/Soil Vapor Boring - VOCs and Methane (Stantec, 2017)
- Shallow Soil Sample (Stantec, 2017)
- Shallow Soil Sample - TPH and VOCs (Stantec, 2017)
- 80 Lead Concentration Contour
- 7.7 Lead Sample Result
- All Concentrations Reported in Units of milligrams per kilogram(mg/kg)

Stantec

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FOR: THE OLSON COMPANY 443 SOUTH VAN BUREN STREET PLACENTIA, CALIFORNIA		SITE MAP WITH LEAD DATA (0.5 feet bgs)		FIGURE: 3
JOB NUMBER: 185803982	DRAWN BY: STA	CHECKED BY: DM	APPROVED BY: KM	DATE: 08/21/17

FILEPATH:Z:_OTHER OFFICES\04-REDLANDS\OLSON\PLACENTIA\FIG 3_SITE MAP WITH LEAD DATA_OLSON_PLACENTIA_09-21-2017.dwg | Layout Tab: 11X17 LS | Drafter: saguinaldo | Sep 29, 2017 at 15:14

APPENDIX A
LABORATORY DATA SHEETS AND QA/QC RESULTS

Mobile
Geochemistry Inc.

25 September 2017

Mr. Dion Monge
Stantec - Redlands
25864-F Business Center Drive
Redlands, CA 92374

H&P Project: ST092217-11
Client Project: 185803982 / Olson Placentia

Dear Mr. Dion Monge:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 22-Sep-17 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody
- Sampling Logs (if applicable)

Unless otherwise noted, I certify that all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

Janis La Roux
Laboratory Director

H&P Mobile Geochemistry, Inc. is certified under the California ELAP and the National Environmental Laboratory Accreditation Conference (NELAC). H&P is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP Program and ISO/IEC 17025:2005 programs, accreditation number 69070 for EPA Method TO-15, H&P Method TO-15, EPA Method 8260B and H&P 8260SV.

2470 Impala Drive, Carlsbad, CA 92010 & Field Office - Signal Hill, CA
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Stantec - Redlands	Project: ST092217-11	
25864-F Business Center Drive	Project Number: 185803982 / Olson Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	25-Sep-17 09:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-48-4-SV	E709092-01	Vapor	21-Sep-17	22-Sep-17
SB-45-5-SV	E709092-02	Vapor	21-Sep-17	22-Sep-17

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Stantec - Redlands	Project: ST092217-11	
25864-F Business Center Drive	Project Number: 185803982 / Olson Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	25-Sep-17 09:30

DETECTIONS SUMMARY

Sample ID: **SB-48-4-SV** Laboratory ID: **E709092-01**

Analyte	Result	Reporting Limit	Units	Method	Notes
Toluene	**14**	3.8	ug/m3	EPA TO-15	
Styrene	**5.1**	4.3	ug/m3	EPA TO-15	
1,2,4-Trimethylbenzene	**5.9**	5.0	ug/m3	EPA TO-15	

Sample ID: **SB-45-5-SV** Laboratory ID: **E709092-02**

Analyte	Result	Reporting Limit	Units	Method	Notes
Toluene	**14**	3.8	ug/m3	EPA TO-15	
Ethylbenzene	**7.9**	4.4	ug/m3	EPA TO-15	
Styrene	**5.2**	4.3	ug/m3	EPA TO-15	
o-Xylene	**4.6**	4.4	ug/m3	EPA TO-15	
1,2,4-Trimethylbenzene	**6.6**	5.0	ug/m3	EPA TO-15	

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25864-F Business Center Drive	Project Number: 185803982 / Olson Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	25-Sep-17 09:30

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-48-4-SV (E709092-01) Vapor Sampled: 21-Sep-17 Received: 22-Sep-17									
Isopropyl alcohol (LCC)	ND	25	ug/m3	1	EI72204	22-Sep-17	22-Sep-17	EPA TO-15	
Dichlorodifluoromethane (F12)	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	2.1	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Chloroform	ND	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	4.7	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	4.6	"	"	"	"	"	"	
Benzene	ND	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Dibromomethane	ND	7.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	9.4	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	4.7	"	"	"	"	"	"	
Toluene	**14**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	
Dibromochloromethane	ND	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	4.7	"	"	"	"	"	"	
Ethylbenzene	ND	4.4	"	"	"	"	"	"	
m,p-Xylene	ND	8.8	"	"	"	"	"	"	
Styrene	**5.1**	4.3	"	"	"	"	"	"	

H&P Mobile
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Stantec - Redlands	Project: ST092217-11	
25864-F Business Center Drive	Project Number: 185803982 / Olson Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	25-Sep-17 09:30

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-48-4-SV (E709092-01) Vapor Sampled: 21-Sep-17 Received: 22-Sep-17									
o-Xylene	ND	4.4	ug/m3	1	EI72204	22-Sep-17	22-Sep-17	EPA TO-15	
Bromoform	ND	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	11	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**5.9**	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	12	"	"	"	"	"	"	
n-Butylbenzene	ND	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	49	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	54	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*104 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*104 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*		*77-127*	"	"	"	"	

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Stantec - Redlands	Project: ST092217-11	
25864-F Business Center Drive	Project Number: 185803982 / Olson Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	25-Sep-17 09:30

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

SB-45-5-SV (E709092-02) Vapor Sampled: 21-Sep-17 Received: 22-Sep-17

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
Isopropyl alcohol (LCC)	ND	25	ug/m3	1	EI72204	22-Sep-17	22-Sep-17	EPA TO-15	
Dichlorodifluoromethane (F12)	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	2.1	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Chloroform	ND	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	4.7	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	4.6	"	"	"	"	"	"	
Benzene	ND	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Dibromomethane	ND	7.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	9.4	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	4.7	"	"	"	"	"	"	
Toluene	**14**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	
Dibromochloromethane	ND	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	4.7	"	"	"	"	"	"	
Ethylbenzene	**7.9**	4.4	"	"	"	"	"	"	
m,p-Xylene	ND	8.8	"	"	"	"	"	"	
Styrene	**5.2**	4.3	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST092217-11	
25864-F Business Center Drive	Project Number: 185803982 / Olson Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	25-Sep-17 09:30

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-45-5-SV (E709092-02) Vapor Sampled: 21-Sep-17 Received: 22-Sep-17									
o-Xylene	**4.6**	4.4	ug/m3	1	EI72204	22-Sep-17	22-Sep-17	EPA TO-15	
Bromoform	ND	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	11	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**6.6**	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	12	"	"	"	"	"	"	
n-Butylbenzene	ND	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	49	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	54	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*105 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*104 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*96.3 %*		*77-127*	"	"	"	"	

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Stantec - Redlands	Project: ST092217-11	
25864-F Business Center Drive	Project Number: 185803982 / Olson Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	25-Sep-17 09:30

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EI72204 - TO-15										
Blank (EI72204-BLK1)				Prepared & Analyzed: 22-Sep-17						
Isopropyl alcohol (LCC)	ND	25	ug/m3							
Dichlorodifluoromethane (F12)	ND	5.0	"							
Chloromethane	ND	2.1	"							
Vinyl chloride	ND	2.6	"							
Bromomethane	ND	16	"							
Chloroethane	ND	8.0	"							
Trichlorofluoromethane (F11)	ND	5.6	"							
1,1-Dichloroethene	ND	4.0	"							
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"							
Methylene chloride (Dichloromethane)	ND	3.5	"							
trans-1,2-Dichloroethene	ND	8.0	"							
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"							
1,1-Dichloroethane	ND	4.1	"							
cis-1,2-Dichloroethene	ND	4.0	"							
Chloroform	ND	4.9	"							
2,2-Dichloropropane	ND	4.7	"							
1,1,1-Trichloroethane	ND	5.5	"							
1,2-Dichloroethane (EDC)	ND	4.1	"							
1,1-Dichloropropene	ND	4.6	"							
Benzene	ND	3.2	"							
Carbon tetrachloride	ND	6.4	"							
Dibromomethane	ND	7.2	"							
Trichloroethene	ND	5.5	"							
1,2-Dichloropropane	ND	9.4	"							
Bromodichloromethane	ND	6.8	"							
cis-1,3-Dichloropropene	ND	4.6	"							
trans-1,3-Dichloropropene	ND	4.6	"							
1,3-Dichloropropane	ND	4.7	"							
Toluene	ND	3.8	"							
1,1,2-Trichloroethane	ND	5.5	"							
Dibromochloromethane	ND	8.6	"							
Tetrachloroethene	ND	6.9	"							
1,2-Dibromoethane (EDB)	ND	7.8	"							
1,1,1,2-Tetrachloroethane	ND	7.0	"							

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25864-F Business Center Drive	Project Number: 185803982 / Olson Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	25-Sep-17 09:30

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EI72204 - TO-15										
Blank (EI72204-BLK1)				Prepared & Analyzed: 22-Sep-17						
Chlorobenzene	ND	4.7	ug/m3							
Ethylbenzene	ND	4.4	"							
m,p-Xylene	ND	8.8	"							
Styrene	ND	4.3	"							
o-Xylene	ND	4.4	"							
Bromoform	ND	10	"							
1,1,2,2-Tetrachloroethane	ND	7.0	"							
1,2,3-Trichloropropane	ND	6.1	"							
Isopropylbenzene (Cumene)	ND	5.0	"							
Bromobenzene	ND	6.5	"							
2-Chlorotoluene	ND	11	"							
n-Propylbenzene	ND	5.0	"							
4-Chlorotoluene	ND	11	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
tert-Butylbenzene	ND	5.6	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	12	"							
1,4-Dichlorobenzene	ND	12	"							
sec-Butylbenzene	ND	5.6	"							
p-Isopropyltoluene	ND	5.6	"							
1,2-Dichlorobenzene	ND	12	"							
n-Butylbenzene	ND	5.6	"							
1,2-Dibromo-3-chloropropane	ND	49	"							
1,2,4-Trichlorobenzene	ND	38	"							
1,2,3-Trichlorobenzene	ND	7.5	"							
Hexachlorobutadiene	ND	54	"							
Surrogate: 1,2-Dichloroethane-d4	*227*		*"*	*214*		*106*	*76-134*			
Surrogate: Toluene-d8	*213*		*"*	*207*		*103*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*351*		*"*	*364*		*96.4*	*77-127*			

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Stantec - Redlands	Project: ST092217-11	
25864-F Business Center Drive	Project Number: 185803982 / Olson Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	25-Sep-17 09:30

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EI72204 - TO-15										
LCS (EI72204-BS1)				Prepared & Analyzed: 22-Sep-17						
Dichlorodifluoromethane (F12)	120	5.0	ug/m3	101		123	59-128			
Vinyl chloride	60	2.6	"	52.0		115	64-127			
Chloroethane	58	8.0	"	53.6		108	63-127			
Trichlorofluoromethane (F11)	130	5.6	"	113		119	62-126			
1,1-Dichloroethene	91	4.0	"	80.8		113	61-133			
1,1,2-Trichlorotrifluoroethane (F113)	170	7.7	"	155		110	66-126			
Methylene chloride (Dichloromethane)	75	3.5	"	70.8		106	62-115			
trans-1,2-Dichloroethene	78	8.0	"	80.8		97.0	67-124			
1,1-Dichloroethane	82	4.1	"	82.4		100	68-126			
cis-1,2-Dichloroethene	80	4.0	"	80.0		100	70-121			
Chloroform	110	4.9	"	99.2		110	68-123			
1,1,1-Trichloroethane	120	5.5	"	111		112	68-125			
1,2-Dichloroethane (EDC)	93	4.1	"	82.4		113	65-128			
Benzene	67	3.2	"	64.8		104	69-119			
Carbon tetrachloride	150	6.4	"	128		114	68-132			
Trichloroethene	110	5.5	"	110		103	71-123			
Toluene	92	3.8	"	76.8		119	66-119			
1,1,2-Trichloroethane	110	5.5	"	111		101	73-119			
Tetrachloroethene	140	6.9	"	138		103	66-124			
1,1,1,2-Tetrachloroethane	150	7.0	"	140		106	67-129			
Ethylbenzene	96	4.4	"	88.4		108	70-124			
m,p-Xylene	88	8.8	"	88.4		99.5	61-134			
o-Xylene	91	4.4	"	88.4		103	67-125			
1,1,2,2-Tetrachloroethane	130	7.0	"	140		95.4	65-127			
Surrogate: 1,2-Dichloroethane-d4	*234*		*"*	*214*		*109*	*76-134*			
Surrogate: Toluene-d8	*206*		*"*	*207*		*99.6*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*361*		*"*	*364*		*99.1*	*77-127*			

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Stantec - Redlands	Project: ST092217-11	
25864-F Business Center Drive	Project Number: 185803982 / Olson Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	25-Sep-17 09:30

Notes and Definitions

LCC	Leak Check Compound
ND	Analyte NOT DETECTED at or above the reporting limit
MDL	Method Detection Limit
%REC	Percent Recovery
RPD	Relative Percent Difference

All soil results are reported in wet weight.

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP Program and ISO/IEC 17025:2005 programs, accreditation number 69070 for EPA Method TO-15, H&P Method TO-15, EPA Method 8260B and H&P 8260SV.

H&P is approved by the State of Arizona as an Environmental Testing Laboratory and Mobile Laboratory, certification numbers AZM758 and AZ0779.

H&P is approved by the State of California as an Environmental Laboratory and Mobile Laboratory in conformance with the Environmental Laboratory Accreditation Program (ELAP) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste, certification numbers 2740, 2741, 2743, 2744, 2745, 2754 & 2930.

H&P is approved by the State of Florida Department of Health under the National Environmental Laboratory Accreditation Conference (NELAC) certification number E871100.

The complete list of stationary and mobile laboratory certifications along with the fields of testing (FOTs) and analyte lists are available at www.handpmg.com/about/certifications.

Stantec CHAIN OF CUSTODY

Laboratory Project Number: ST092217-11 / WO#: E709092

Page 1 of 1

Client Name/Address:	Project Manager:
Stantec Consulting Services 25864-F Business Center Drive Redlands, CA 92374	**Dion Monge** E-Mail Address: **dion.monge@stantec.com** Sampler Name: **M. Bohn** Stantec Project Number: **185803982** Project: **Olson Placentia**
Laboratory (circle): [redacted] ATL - 800-499-4388 [redacted] [redacted] KIM 9/22/17 VACUUM	

Sample Description/Identification	Sample Matrix	~~Preservative~~ (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	~~VOCs - 8260B~~	~~TPH g/d/o - 8015B~~	TO 15 LIST* KIM 9/22/17	Isopropyl Alcohol (LCC)						Special Instructions
SB-48-4-SV	~~AIR~~ SV	-.59	1	9/21/17	1551				X	X						CAN ID 346
SB-45-5-SV	SV	-.33	1	9/21/17	1620				X	X						CAN ID 309

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

Sample Temp °C: 22

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

Special Instructions: SAMPLE CONTAINER= 400ML SUMMAS. 48HR TAT
* USE 8260B VOC LIST W/ TO-15 RLs KIM 9/22/17

UPS: 1Z93T6010115112176
PM: KIM
STATUS: 170844.01

Relinquished By:	Date	Time	Received By + Company Name:	Date	Time
[signature]	9/21/17	1700	[signature]	9/22/17	8:25
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

Mobile Geochemistry Inc.

14 September 2017

Mr. Dion Monge
Stantec - Redlands
25864-F Business Center Drive
Redlands, CA 92374

H&P Project: ST091217-12
Client Project: 185803982 / Placentia

Dear Mr. Dion Monge:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 12-Sep-17 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody
- Sampling Logs (if applicable)

Unless otherwise noted, I certify that all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

Janis La Roux
Laboratory Director

H&P Mobile Geochemistry, Inc. is certified under the California ELAP and the National Environmental Laboratory Accreditation Conference (NELAC). H&P is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP Program and ISO/IEC 17025:2005 programs, accreditation number 69070 for EPA Method TO-15, H&P Method TO-15, EPA Method 8260B and H&P 8260SV.

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-41-SV	E709045-01	Vapor	08-Sep-17	12-Sep-17
SB-42-SV	E709045-02	Vapor	08-Sep-17	12-Sep-17
SB-44-SV	E709045-03	Vapor	08-Sep-17	12-Sep-17
SB-44-SV REP	E709045-04	Vapor	08-Sep-17	12-Sep-17
SB-39-SV	E709045-05	Vapor	11-Sep-17	12-Sep-17
SB-35-SV	E709045-06	Vapor	11-Sep-17	12-Sep-17
SB-40-SV	E709045-07	Vapor	11-Sep-17	12-Sep-17

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

DETECTIONS SUMMARY

Sample ID: **SB-41-SV** Laboratory ID: **E709045-01**

Analyte	Result	Reporting Limit	Units	Method	Notes
Isopropyl alcohol (LCC)	**0.060**	0.025	ug/l	EPA TO-15	
Toluene	**0.0094**	0.0038	ug/l	EPA TO-15	

Sample ID: **SB-42-SV** Laboratory ID: **E709045-02**

Analyte	Result	Reporting Limit	Units	Method	Notes
Toluene	**0.0098**	0.0038	ug/l	EPA TO-15	
Tetrachloroethene	**0.0078**	0.0069	ug/l	EPA TO-15	
1,2,4-Trimethylbenzene	**0.0056**	0.0050	ug/l	EPA TO-15	

Sample ID: **SB-44-SV** Laboratory ID: **E709045-03**

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	**0.0081**	0.0032	ug/l	EPA TO-15	
Toluene	**0.047**	0.0038	ug/l	EPA TO-15	
Tetrachloroethene	**0.052**	0.0069	ug/l	EPA TO-15	
Ethylbenzene	**0.17**	0.0044	ug/l	EPA TO-15	
m,p-Xylene	**0.080**	0.0088	ug/l	EPA TO-15	
o-Xylene	**0.040**	0.0044	ug/l	EPA TO-15	
Isopropylbenzene (Cumene)	**0.016**	0.0050	ug/l	EPA TO-15	
n-Propylbenzene	**0.027**	0.0050	ug/l	EPA TO-15	
1,3,5-Trimethylbenzene	**0.023**	0.0050	ug/l	EPA TO-15	
1,2,4-Trimethylbenzene	**0.11**	0.0050	ug/l	EPA TO-15	
n-Butylbenzene	**0.0069**	0.0056	ug/l	EPA TO-15	
Naphthalene	**0.0056**	0.0053	ug/l	EPA TO-15	

Sample ID: **SB-44-SV REP** Laboratory ID: **E709045-04**

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	**0.0093**	0.0032	ug/l	EPA TO-15	
Toluene	**0.028**	0.0038	ug/l	EPA TO-15	
Tetrachloroethene	**0.032**	0.0069	ug/l	EPA TO-15	
Ethylbenzene	**0.11**	0.0044	ug/l	EPA TO-15	
m,p-Xylene	**0.073**	0.0088	ug/l	EPA TO-15	
o-Xylene	**0.036**	0.0044	ug/l	EPA TO-15	
Isopropylbenzene (Cumene)	**0.010**	0.0050	ug/l	EPA TO-15	
n-Propylbenzene	**0.013**	0.0050	ug/l	EPA TO-15	

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Sample ID: **SB-44-SV REP** Laboratory ID: **E709045-04**

Analyte	Result	Reporting Limit	Units	Method	Notes
1,3,5-Trimethylbenzene	**0.020**	0.0050	ug/l	EPA TO-15	
1,2,4-Trimethylbenzene	**0.088**	0.0050	ug/l	EPA TO-15	

Sample ID: **SB-39-SV** Laboratory ID: **E709045-05**

Analyte	Result	Reporting Limit	Units	Method	Notes
Toluene	**0.0053**	0.0038	ug/l	EPA TO-15	
Tetrachloroethene	**0.022**	0.0069	ug/l	EPA TO-15	

Sample ID: **SB-35-SV** Laboratory ID: **E709045-06**

Analyte	Result	Reporting Limit	Units	Method	Notes
Isopropyl alcohol (LCC)	**3.0**	0.025	ug/l	EPA TO-15	E
Benzene	**0.023**	0.0032	ug/l	EPA TO-15	
Toluene	**0.017**	0.0038	ug/l	EPA TO-15	
Tetrachloroethene	**0.0085**	0.0069	ug/l	EPA TO-15	
Ethylbenzene	**0.16**	0.0044	ug/l	EPA TO-15	
Isopropylbenzene (Cumene)	**0.011**	0.0050	ug/l	EPA TO-15	
n-Propylbenzene	**0.016**	0.0050	ug/l	EPA TO-15	
1,2,4-Trimethylbenzene	**0.0054**	0.0050	ug/l	EPA TO-15	

Sample ID: **SB-40-SV** Laboratory ID: **E709045-07**

Analyte	Result	Reporting Limit	Units	Method	Notes
cis-1,2-Dichloroethene	**0.040**	0.0040	ug/l	EPA TO-15	
Trichloroethene	**1.7**	0.0055	ug/l	EPA TO-15	
Toluene	**0.019**	0.0038	ug/l	EPA TO-15	
Tetrachloroethene	**6.8**	0.034	ug/l	EPA TO-15	
Ethylbenzene	**0.028**	0.0044	ug/l	EPA TO-15	
m,p-Xylene	**0.018**	0.0088	ug/l	EPA TO-15	
o-Xylene	**0.0052**	0.0044	ug/l	EPA TO-15	
n-Propylbenzene	**0.0063**	0.0050	ug/l	EPA TO-15	
1,2,4-Trimethylbenzene	**0.0059**	0.0050	ug/l	EPA TO-15	

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15

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SB-41-SV (E709045-01) Vapor Sampled: 08-Sep-17 Received: 12-Sep-17

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
Isopropyl alcohol (LCC)	**0.060**	0.025	ug/l	1	EI71315	13-Sep-17	13-Sep-17	EPA TO-15	
Dichlorodifluoromethane (F12)	ND	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0021	"	"	"	"	"	"	
Vinyl chloride	ND	0.0026	"	"	"	"	"	"	
Bromomethane	ND	0.016	"	"	"	"	"	"	
Chloroethane	ND	0.0080	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.0056	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0040	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	0.0077	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.0035	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0080	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.0036	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0041	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0040	"	"	"	"	"	"	
Chloroform	ND	0.0049	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0047	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0055	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.0041	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
Benzene	ND	0.0032	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0064	"	"	"	"	"	"	
Dibromomethane	ND	0.0072	"	"	"	"	"	"	
Trichloroethene	ND	0.0055	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0094	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0068	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0047	"	"	"	"	"	"	
Toluene	**0.0094**	0.0038	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0055	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0086	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0069	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0078	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0070	"	"	"	"	"	"	
Chlorobenzene	ND	0.0047	"	"	"	"	"	"	
Ethylbenzene	ND	0.0044	"	"	"	"	"	"	
m,p-Xylene	ND	0.0088	"	"	"	"	"	"	
Styrene	ND	0.0043	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-41-SV (E709045-01) Vapor Sampled: 08-Sep-17 Received: 12-Sep-17									
o-Xylene	ND	0.0044	ug/l	1	EI71315	13-Sep-17	13-Sep-17	EPA TO-15	
Bromoform	ND	0.010	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0070	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0061	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.0050	"	"	"	"	"	"	
Bromobenzene	ND	0.0065	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.011	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.011	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0056	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.049	"	"	"	"	"	"	
Naphthalene	ND	0.0053	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.038	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0075	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.054	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*106 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*102 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.2 %*		*77-127*	"	"	"	"	

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-42-SV (E709045-02) Vapor Sampled: 08-Sep-17 Received: 12-Sep-17									
Isopropyl alcohol (LCC)	ND	0.025	ug/l	1	EI71315	13-Sep-17	13-Sep-17	EPA TO-15	
Dichlorodifluoromethane (F12)	ND	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0021	"	"	"	"	"	"	
Vinyl chloride	ND	0.0026	"	"	"	"	"	"	
Bromomethane	ND	0.016	"	"	"	"	"	"	
Chloroethane	ND	0.0080	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.0056	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0040	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	0.0077	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.0035	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0080	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.0036	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0041	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0040	"	"	"	"	"	"	
Chloroform	ND	0.0049	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0047	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0055	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.0041	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
Benzene	ND	0.0032	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0064	"	"	"	"	"	"	
Dibromomethane	ND	0.0072	"	"	"	"	"	"	
Trichloroethene	ND	0.0055	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0094	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0068	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0047	"	"	"	"	"	"	
Toluene	**0.0098**	0.0038	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0055	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0086	"	"	"	"	"	"	
Tetrachloroethene	**0.0078**	0.0069	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0078	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0070	"	"	"	"	"	"	
Chlorobenzene	ND	0.0047	"	"	"	"	"	"	
Ethylbenzene	ND	0.0044	"	"	"	"	"	"	
m,p-Xylene	ND	0.0088	"	"	"	"	"	"	
Styrene	ND	0.0043	"	"	"	"	"	"	

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25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-42-SV (E709045-02) Vapor Sampled: 08-Sep-17 Received: 12-Sep-17									
o-Xylene	ND	0.0044	ug/l	1	EI71315	13-Sep-17	13-Sep-17	EPA TO-15	
Bromoform	ND	0.010	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0070	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0061	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.0050	"	"	"	"	"	"	
Bromobenzene	ND	0.0065	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.011	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.011	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0056**	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0056	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.049	"	"	"	"	"	"	
Naphthalene	ND	0.0053	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.038	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0075	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.054	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*107 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*104 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.2 %*		*77-127*	"	"	"	"	

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-44-SV (E709045-03) Vapor Sampled: 08-Sep-17 Received: 12-Sep-17									
Isopropyl alcohol (LCC)	ND	0.025	ug/l	1	EI71315	13-Sep-17	13-Sep-17	EPA TO-15	
Dichlorodifluoromethane (F12)	ND	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0021	"	"	"	"	"	"	
Vinyl chloride	ND	0.0026	"	"	"	"	"	"	
Bromomethane	ND	0.016	"	"	"	"	"	"	
Chloroethane	ND	0.0080	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.0056	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0040	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	0.0077	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.0035	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0080	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.0036	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0041	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0040	"	"	"	"	"	"	
Chloroform	ND	0.0049	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0047	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0055	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.0041	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
Benzene	**0.0081**	0.0032	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0064	"	"	"	"	"	"	
Dibromomethane	ND	0.0072	"	"	"	"	"	"	
Trichloroethene	ND	0.0055	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0094	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0068	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0047	"	"	"	"	"	"	
Toluene	**0.047**	0.0038	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0055	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0086	"	"	"	"	"	"	
Tetrachloroethene	**0.052**	0.0069	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0078	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0070	"	"	"	"	"	"	
Chlorobenzene	ND	0.0047	"	"	"	"	"	"	
Ethylbenzene	**0.17**	0.0044	"	"	"	"	"	"	
m,p-Xylene	**0.080**	0.0088	"	"	"	"	"	"	
Styrene	ND	0.0043	"	"	"	"	"	"	

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25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-44-SV (E709045-03) Vapor Sampled: 08-Sep-17 Received: 12-Sep-17									
o-Xylene	**0.040**	0.0044	ug/l	1	EI71315	13-Sep-17	13-Sep-17	EPA TO-15	
Bromoform	ND	0.010	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0070	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0061	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**0.016**	0.0050	"	"	"	"	"	"	
Bromobenzene	ND	0.0065	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.011	"	"	"	"	"	"	
n-Propylbenzene	**0.027**	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.011	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.023**	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.11**	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0056	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
n-Butylbenzene	**0.0069**	0.0056	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.049	"	"	"	"	"	"	
Naphthalene	**0.0056**	0.0053	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.038	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0075	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.054	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*107 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8		*105 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*77-127*		"	"	"	"	

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-44-SV REP (E709045-04) Vapor Sampled: 08-Sep-17 Received: 12-Sep-17									
Isopropyl alcohol (LCC)	ND	0.025	ug/l	1	EI71315	13-Sep-17	13-Sep-17	EPA TO-15	
Dichlorodifluoromethane (F12)	ND	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0021	"	"	"	"	"	"	
Vinyl chloride	ND	0.0026	"	"	"	"	"	"	
Bromomethane	ND	0.016	"	"	"	"	"	"	
Chloroethane	ND	0.0080	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.0056	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0040	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	0.0077	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.0035	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0080	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.0036	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0041	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0040	"	"	"	"	"	"	
Chloroform	ND	0.0049	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0047	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0055	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.0041	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
Benzene	**0.0093**	0.0032	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0064	"	"	"	"	"	"	
Dibromomethane	ND	0.0072	"	"	"	"	"	"	
Trichloroethene	ND	0.0055	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0094	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0068	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0047	"	"	"	"	"	"	
Toluene	**0.028**	0.0038	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0055	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0086	"	"	"	"	"	"	
Tetrachloroethene	**0.032**	0.0069	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0078	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0070	"	"	"	"	"	"	
Chlorobenzene	ND	0.0047	"	"	"	"	"	"	
Ethylbenzene	**0.11**	0.0044	"	"	"	"	"	"	
m,p-Xylene	**0.073**	0.0088	"	"	"	"	"	"	
Styrene	ND	0.0043	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-44-SV REP (E709045-04) Vapor Sampled: 08-Sep-17 Received: 12-Sep-17									
o-Xylene	**0.036**	0.0044	ug/l	1	EI71315	13-Sep-17	13-Sep-17	EPA TO-15	
Bromoform	ND	0.010	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0070	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0061	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**0.010**	0.0050	"	"	"	"	"	"	
Bromobenzene	ND	0.0065	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.011	"	"	"	"	"	"	
n-Propylbenzene	**0.013**	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.011	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.020**	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.088**	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0056	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.049	"	"	"	"	"	"	
Naphthalene	ND	0.0053	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.038	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0075	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.054	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*104 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*105 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.0 %*		*77-127*	"	"	"	"	

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-39-SV (E709045-05) Vapor Sampled: 11-Sep-17 Received: 12-Sep-17									
Isopropyl alcohol (LCC)	ND	0.025	ug/l	1	EI71315	13-Sep-17	13-Sep-17	EPA TO-15	
Dichlorodifluoromethane (F12)	ND	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0021	"	"	"	"	"	"	
Vinyl chloride	ND	0.0026	"	"	"	"	"	"	
Bromomethane	ND	0.016	"	"	"	"	"	"	
Chloroethane	ND	0.0080	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.0056	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0040	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	0.0077	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.0035	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0080	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.0036	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0041	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0040	"	"	"	"	"	"	
Chloroform	ND	0.0049	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0047	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0055	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.0041	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
Benzene	ND	0.0032	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0064	"	"	"	"	"	"	
Dibromomethane	ND	0.0072	"	"	"	"	"	"	
Trichloroethene	ND	0.0055	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0094	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0068	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0047	"	"	"	"	"	"	
Toluene	**0.0053**	0.0038	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0055	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0086	"	"	"	"	"	"	
Tetrachloroethene	**0.022**	0.0069	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0078	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0070	"	"	"	"	"	"	
Chlorobenzene	ND	0.0047	"	"	"	"	"	"	
Ethylbenzene	ND	0.0044	"	"	"	"	"	"	
m,p-Xylene	ND	0.0088	"	"	"	"	"	"	
Styrene	ND	0.0043	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-39-SV (E709045-05) Vapor Sampled: 11-Sep-17 Received: 12-Sep-17									
o-Xylene	ND	0.0044	ug/l	1	EI71315	13-Sep-17	13-Sep-17	EPA TO-15	
Bromoform	ND	0.010	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0070	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0061	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.0050	"	"	"	"	"	"	
Bromobenzene	ND	0.0065	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.011	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.011	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0056	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.049	"	"	"	"	"	"	
Naphthalene	ND	0.0053	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.038	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0075	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.054	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*104 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*102 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.3 %*		*77-127*	"	"	"	"	

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-35-SV (E709045-06) Vapor Sampled: 11-Sep-17 Received: 12-Sep-17									
Isopropyl alcohol (LCC)	**3.0**	0.025	ug/l	1	EI71315	13-Sep-17	13-Sep-17	EPA TO-15	E
Dichlorodifluoromethane (F12)	ND	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0021	"	"	"	"	"	"	
Vinyl chloride	ND	0.0026	"	"	"	"	"	"	
Bromomethane	ND	0.016	"	"	"	"	"	"	
Chloroethane	ND	0.0080	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.0056	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0040	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	0.0077	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.0035	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0080	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.0036	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0041	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0040	"	"	"	"	"	"	
Chloroform	ND	0.0049	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0047	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0055	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.0041	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
Benzene	**0.023**	0.0032	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0064	"	"	"	"	"	"	
Dibromomethane	ND	0.0072	"	"	"	"	"	"	
Trichloroethene	ND	0.0055	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0094	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0068	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0047	"	"	"	"	"	"	
Toluene	**0.017**	0.0038	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0055	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0086	"	"	"	"	"	"	
Tetrachloroethene	**0.0085**	0.0069	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0078	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0070	"	"	"	"	"	"	
Chlorobenzene	ND	0.0047	"	"	"	"	"	"	
Ethylbenzene	**0.16**	0.0044	"	"	"	"	"	"	
m,p-Xylene	ND	0.0088	"	"	"	"	"	"	
Styrene	ND	0.0043	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-35-SV (E709045-06) Vapor Sampled: 11-Sep-17 Received: 12-Sep-17									
o-Xylene	ND	0.0044	ug/l	1	EI71315	13-Sep-17	13-Sep-17	EPA TO-15	
Bromoform	ND	0.010	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0070	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0061	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**0.011**	0.0050	"	"	"	"	"	"	
Bromobenzene	ND	0.0065	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.011	"	"	"	"	"	"	
n-Propylbenzene	**0.016**	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.011	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0054**	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0056	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.049	"	"	"	"	"	"	
Naphthalene	ND	0.0053	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.038	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0075	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.054	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*107 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*100 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93.8 %*		*77-127*	"	"	"	"	

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-40-SV (E709045-07) Vapor Sampled: 11-Sep-17 Received: 12-Sep-17									
Isopropyl alcohol (LCC)	ND	0.025	ug/l	1	EI71315	13-Sep-17	13-Sep-17	EPA TO-15	
Dichlorodifluoromethane (F12)	ND	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0021	"	"	"	"	"	"	
Vinyl chloride	ND	0.0026	"	"	"	"	"	"	
Bromomethane	ND	0.016	"	"	"	"	"	"	
Chloroethane	ND	0.0080	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.0056	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0040	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	0.0077	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.0035	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0080	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.0036	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0041	"	"	"	"	"	"	
cis-1,2-Dichloroethene	**0.040**	0.0040	"	"	"	"	"	"	
Chloroform	ND	0.0049	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0047	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0055	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.0041	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
Benzene	ND	0.0032	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0064	"	"	"	"	"	"	
Dibromomethane	ND	0.0072	"	"	"	"	"	"	
Trichloroethene	**1.7**	0.0055	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0094	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0068	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0046	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0047	"	"	"	"	"	"	
Toluene	**0.019**	0.0038	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0055	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0086	"	"	"	"	"	"	
Tetrachloroethene	**6.8**	0.034	"	5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0078	"	1	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0070	"	"	"	"	"	"	
Chlorobenzene	ND	0.0047	"	"	"	"	"	"	
Ethylbenzene	**0.028**	0.0044	"	"	"	"	"	"	
m,p-Xylene	**0.018**	0.0088	"	"	"	"	"	"	
Styrene	ND	0.0043	"	"	"	"	"	"	

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SB-40-SV (E709045-07) Vapor Sampled: 11-Sep-17 Received: 12-Sep-17									
o-Xylene	**0.0052**	0.0044	ug/l	1	EI71315	13-Sep-17	13-Sep-17	EPA TO-15	
Bromoform	ND	0.010	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0070	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0061	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.0050	"	"	"	"	"	"	
Bromobenzene	ND	0.0065	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.011	"	"	"	"	"	"	
n-Propylbenzene	**0.0063**	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.011	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0059**	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0056	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.012	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0056	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.049	"	"	"	"	"	"	
Naphthalene	ND	0.0053	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.038	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0075	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.054	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*107 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*109 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*96.7 %*		*77-127*	"	"	"	"	

H&P Mobile
Geochemistry Inc.

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760-804-9678 Phone
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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EI71315 - TO-15										
Blank (EI71315-BLK1)				Prepared & Analyzed: 13-Sep-17						
Isopropyl alcohol (LCC)	ND	0.025	ug/l							
Dichlorodifluoromethane (F12)	ND	0.0050	"							
Chloromethane	ND	0.0021	"							
Vinyl chloride	ND	0.0026	"							
Bromomethane	ND	0.016	"							
Chloroethane	ND	0.0080	"							
Trichlorofluoromethane (F11)	ND	0.0056	"							
1,1-Dichloroethene	ND	0.0040	"							
1,1,2-Trichlorotrifluoroethane (F113)	ND	0.0077	"							
Methylene chloride (Dichloromethane)	ND	0.0035	"							
trans-1,2-Dichloroethene	ND	0.0080	"							
Methyl tertiary-butyl ether (MTBE)	ND	0.0036	"							
1,1-Dichloroethane	ND	0.0041	"							
cis-1,2-Dichloroethene	ND	0.0040	"							
Chloroform	ND	0.0049	"							
2,2-Dichloropropane	ND	0.0047	"							
1,1,1-Trichloroethane	ND	0.0055	"							
1,2-Dichloroethane (EDC)	ND	0.0041	"							
1,1-Dichloropropene	ND	0.0046	"							
Benzene	ND	0.0032	"							
Carbon tetrachloride	ND	0.0064	"							
Dibromomethane	ND	0.0072	"							
Trichloroethene	ND	0.0055	"							
1,2-Dichloropropane	ND	0.0094	"							
Bromodichloromethane	ND	0.0068	"							
cis-1,3-Dichloropropene	ND	0.0046	"							
trans-1,3-Dichloropropene	ND	0.0046	"							
1,3-Dichloropropane	ND	0.0047	"							
Toluene	ND	0.0038	"							
1,1,2-Trichloroethane	ND	0.0055	"							
Dibromochloromethane	ND	0.0086	"							
Tetrachloroethene	ND	0.0069	"							
1,2-Dibromoethane (EDB)	ND	0.0078	"							
1,1,1,2-Tetrachloroethane	ND	0.0070	"							

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EI71315 - TO-15										
Blank (EI71315-BLK1)				Prepared & Analyzed: 13-Sep-17						
Chlorobenzene	ND	0.0047	ug/l							
Ethylbenzene	ND	0.0044	"							
m,p-Xylene	ND	0.0088	"							
Styrene	ND	0.0043	"							
o-Xylene	ND	0.0044	"							
Bromoform	ND	0.010	"							
1,1,2,2-Tetrachloroethane	ND	0.0070	"							
1,2,3-Trichloropropane	ND	0.0061	"							
Isopropylbenzene (Cumene)	ND	0.0050	"							
Bromobenzene	ND	0.0065	"							
2-Chlorotoluene	ND	0.011	"							
n-Propylbenzene	ND	0.0050	"							
4-Chlorotoluene	ND	0.011	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
tert-Butylbenzene	ND	0.0056	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3-Dichlorobenzene	ND	0.012	"							
1,4-Dichlorobenzene	ND	0.012	"							
sec-Butylbenzene	ND	0.0056	"							
p-Isopropyltoluene	ND	0.0056	"							
1,2-Dichlorobenzene	ND	0.012	"							
n-Butylbenzene	ND	0.0056	"							
1,2-Dibromo-3-chloropropane	ND	0.049	"							
Naphthalene	ND	0.0053	"							
1,2,4-Trichlorobenzene	ND	0.038	"							
1,2,3-Trichlorobenzene	ND	0.0075	"							
Hexachlorobutadiene	ND	0.054	"							
Surrogate: 1,2-Dichloroethane-d4	*0.223*		*"*	*0.214*		*104*	*76-134*			
Surrogate: Toluene-d8	*0.217*		*"*	*0.207*		*105*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*0.352*		*"*	*0.364*		*96.4*	*77-127*			

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EI71315 - TO-15										
LCS (EI71315-BS1)				Prepared & Analyzed: 13-Sep-17						
Dichlorodifluoromethane (F12)	0.10	0.0050	ug/l	0.101		102	59-128			
Vinyl chloride	0.053	0.0026	"	0.0520		103	64-127			
Chloroethane	0.052	0.0080	"	0.0536		97.1	63-127			
Trichlorofluoromethane (F11)	0.11	0.0056	"	0.113		98.4	62-126			
1,1-Dichloroethene	0.082	0.0040	"	0.0808		102	61-133			
1,1,2-Trichlorotrifluoroethane (F113)	0.15	0.0077	"	0.155		94.6	66-126			
Methylene chloride (Dichloromethane)	0.066	0.0035	"	0.0708		92.5	62-115			
trans-1,2-Dichloroethene	0.072	0.0080	"	0.0808		89.4	67-124			
1,1-Dichloroethane	0.074	0.0041	"	0.0824		90.2	68-126			
cis-1,2-Dichloroethene	0.075	0.0040	"	0.0800		93.4	70-121			
Chloroform	0.095	0.0049	"	0.0992		95.3	68-123			
1,1,1-Trichloroethane	0.11	0.0055	"	0.111		97.0	68-125			
1,2-Dichloroethane (EDC)	0.082	0.0041	"	0.0824		99.0	65-128			
Benzene	0.060	0.0032	"	0.0648		91.9	69-119			
Carbon tetrachloride	0.12	0.0064	"	0.128		97.4	68-132			
Trichloroethene	0.10	0.0055	"	0.110		91.5	71-123			
Toluene	0.063	0.0038	"	0.0768		81.4	66-119			
1,1,2-Trichloroethane	0.099	0.0055	"	0.111		89.1	73-119			
Tetrachloroethene	0.12	0.0069	"	0.138		90.0	66-124			
1,1,1,2-Tetrachloroethane	0.13	0.0070	"	0.140		91.9	67-129			
Ethylbenzene	0.083	0.0044	"	0.0884		93.9	70-124			
m,p-Xylene	0.080	0.0088	"	0.0884		90.3	61-134			
o-Xylene	0.078	0.0044	"	0.0884		87.9	67-125			
1,1,2,2-Tetrachloroethane	0.12	0.0070	"	0.140		85.5	65-127			
Surrogate: 1,2-Dichloroethane-d4	*0.233*		*"*	*0.214*		*109*	*76-134*			
Surrogate: Toluene-d8	*0.210*		*"*	*0.207*		*101*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*0.366*		*"*	*0.364*		*100*	*77-127*			

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Stantec - Redlands	Project: ST091217-12	
25864-F Business Center Drive	Project Number: 185803982 / Placentia	Reported:
Redlands, CA 92374	Project Manager: Mr. Dion Monge	14-Sep-17 08:18

Notes and Definitions

E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate (CLP E-flag).
LCC	Leak Check Compound
ND	Analyte NOT DETECTED at or above the reporting limit
MDL	Method Detection Limit
%REC	Percent Recovery
RPD	Relative Percent Difference

All soil results are reported in wet weight.

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP Program and ISO/IEC 17025:2005 programs, accreditation number 69070 for EPA Method TO-15, H&P Method TO-15, EPA Method 8260B and H&P 8260SV.

H&P is approved by the State of Arizona as an Environmental Testing Laboratory and Mobile Laboratory, certification numbers AZM758 and AZ0779.

H&P is approved by the State of California as an Environmental Laboratory and Mobile Laboratory in conformance with the Environmental Laboratory Accreditation Program (ELAP) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste, certification numbers 2740, 2741, 2743, 2744, 2745, 2754 & 2930.

H&P is approved by the State of Florida Department of Health under the National Environmental Laboratory Accreditation Conference (NELAC) certification number E871100.

The complete list of stationary and mobile laboratory certifications along with the fields of testing (FOTs) and analyte lists are available at www.handpmg.com/about/certifications.

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VAPOR / AIR Chain of Custody

DATE: 9-11-17
Page 1 of 1

Lab Client and Project Information

Lab Client/Consultant: Stantec	Project Name / #: Placentia/185803582
Lab Client Project Manager: Dion Monge	Project Location: Placentia
Lab Client Address: 25864-F Business Center Dr	Report E-Mail(s): dion.monge@stantec.com
Lab Client City, State, Zip: Redlands, CA 92374	
Phone Number: 909.556.6516	

Sample Receipt (Lab Use Only)

Date Rec'd: 9/12/17	Control #: 170793.01
H&P Project #: ST091217-12	
Lab Work Order #: E709045	
Sample Intact: ☑ Yes ☐ No ☐ See Notes Below	
Receipt Gauge ID: 11167	Temp: RT
Outside Lab:	
Receipt Notes/Tracking #: 1Z 93T T61 84 5096 3770	
Lab PM Initials: FIM	

Reporting Requirements

☒ Standard Report ☐ Level III ☐ Level IV
☐ Excel EDD ☐ Other EDD:_____
☐ CA Geotracker Global ID:_____

Turnaround Time

☐ 5-7 day Stnd ☐ 24-Hr Rush
☐ 3-day Rush ☐ Mobile Lab
☒ 48-Hr Rush ☐ Other:____

Sampler Information

Sampler(s): Dion Monge
Signature:
Date: 9-11-17

Additional Instructions to Laboratory: Need prelims by 9/14. Final rpt by 9/18

Preferred VOC units (please choose one):
☐ µg/L ☐ µg/m³ ☐ ppbv ☐ ppmv *use 8260SV VOC w/ TO-15 analysis + RLs

SAMPLE NAME	FIELD POINT NAME (if applicable)	DATE mm/dd/yy	TIME 24hr clock	SAMPLE TYPE Indoor Air (IA), Ambient Air (AA), Subslab (SS), Soil Vapor (SV)	CONTAINER SIZE & TYPE 400mL/1L/6L Summa, Tedlar, Tube, etc.	CONTAINER ID (###)	Lab use only: Receipt Vac	VOCs Standard Full List ☐ 8260SV ☒ TO-15 *	VOCs Short List / Project List ☐ 8260SV ☐ TO-15	Oxygenates ☐ 8260SV ☐ TO-15	Naphthalene ☐ 8260SV ☐ TO-15	TPHv as Gas ☐ 8260SVm ☐ TO-15m	Aromatic/Aliphatic Fractions ☐ 8260SVm ☐ TO-15m	Leak Check Compound ☐ DFA ☒ IPA ☐ He	Methane by EPA 8015m	Fixed Gases by ASTM D1945 ☐ CO2 ☐ O2 ☐ N2				
SB-41-SV		9/8/17	0842	SV	400mL	005	-.74	X						X						
SB-42-SV		9/8/17	0920			151	-.95	X						X						
SB-44-SV		9/8/17	1015			146	-2.31	X						X						
SB-44-SV REP		9/8/17	1019			052	-1.96	X						X						
SB-39-SV		9/11/17	0914			060	-1.07	X						X						
SB-35-SV		9/11/17	0947			300	-.88	X						X						
SB-40-SV		9/11/17	1024	↓	↓	249	-1.05	X						X						

Approved/Relinquished by:	Company: Stantec	Date: 9-11-17	Time:	Received by:	Company: H&P	Date: 9-12-17	Time: 1115
Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:

*Approval constitutes as authorization to proceed with analysis and acceptance of conditions on back

ADVANCED TECHNOLOGY LABORATORIES

September 15, 2017

Dion Monge
Stantec
25864-F Business Center Drive
Redlands, CA 92374
Tel: (909) 335-6116
Fax:(909) 335-6120

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1703229
Client Reference : 185803982, Olson-Placentia

Enclosed are the results for sample(s) received on September 06, 2017 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,



Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/15/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-44-15	1703229-03	Soil	9/06/17 8:45	9/06/17 15:22
SB-43-7	1703229-05	Soil	9/06/17 9:30	9/06/17 15:22
SB-42-1	1703229-06	Soil	9/06/17 9:50	9/06/17 15:22
SB-41-4.5	1703229-11	Soil	9/06/17 10:50	9/06/17 15:22
SB-36-1	1703229-12	Soil	9/06/17 11:45	9/06/17 15:22
SB-36-3	1703229-13	Soil	9/06/17 11:55	9/06/17 15:22
SB-35-1	1703229-16	Soil	9/06/17 12:20	9/06/17 15:22
SB-38-1	1703229-20	Soil	9/06/17 13:07	9/06/17 15:22
SB-37-1	1703229-23	Soil	9/06/17 13:30	9/06/17 15:22
SB-39-1	1703229-25	Soil	9/06/17 13:45	9/06/17 15:22
SB-40-1	1703229-28	Soil	9/06/17 14:40	9/06/17 15:22

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/15/2017

Client Sample ID SB-44-15

Lab ID: 1703229-03

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7I0149	09/07/2017	09/07/17 22:13	
Surrogate: 4-Bromofluorobenzene	*111 %*	*50 - 138*		B7I0149	09/07/2017	*09/07/17 22:13*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	10	1	B7I0253	09/11/2017	09/14/17 22:26	
ORO	ND	10	1	B7I0253	09/11/2017	09/14/17 22:26	
Surrogate: p-Terphenyl	*107 %*	*22 - 143*		B7I0253	09/11/2017	*09/14/17 22:26*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,1,1-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,1,2-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,1-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,1-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,1-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,2,3-Trichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0228	09/11/2017	09/11/17 10:44	
1,2-Dibromoethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,2-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,2-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,3-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,3-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
1,4-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
2,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
2-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/15/2017

Client Sample ID SB-44-15

Lab ID: 1703229-03

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
4-Isopropyltoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Benzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Bromobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Bromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Bromodichloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Bromoform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Bromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Carbon disulfide	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Carbon tetrachloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Chlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Chloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Chloroform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Chloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Di-isopropyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Dibromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Dibromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Dichlorodifluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Ethyl Acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 10:44	
Ethyl Ether	ND	50	1	B7I0228	09/11/2017	09/11/17 10:44	
Ethyl tert-butyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Ethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Freon-113	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Hexachlorobutadiene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Isopropylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
m,p-Xylene	ND	10	1	B7I0228	09/11/2017	09/11/17 10:44	
Methylene chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
MTBE	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
n-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
n-Propylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Naphthalene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
o-Xylene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
sec-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Styrene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
tert-Amyl methyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	

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Lab ID: 1703229-03

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7I0228	09/11/2017	09/11/17 10:44	
tert-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Tetrachloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Toluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Trichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Trichlorofluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Vinyl acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 10:44	
Vinyl chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 10:44	
Surrogate: 1,2-Dichloroethane-d4	*96.1 %*	*32 - 140*		B7I0228	09/11/2017	*09/11/17 10:44*	
Surrogate: 4-Bromofluorobenzene	*91.4 %*	*68 - 131*		B7I0228	09/11/2017	*09/11/17 10:44*	
Surrogate: Dibromofluoromethane	*99.8 %*	*49 - 134*		B7I0228	09/11/2017	*09/11/17 10:44*	
Surrogate: Toluene-d8	*109 %*	*75 - 132*		B7I0228	09/11/2017	*09/11/17 10:44*	

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Stantec	Project Number : 185803982, Olson-Placentia
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Client Sample ID SB-43-7

Lab ID: 1703229-05

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7I0128	09/07/2017	09/07/17 14:50	
Surrogate: 4-Bromofluorobenzene	*109 %*		*50 - 138*		B7I0128	09/07/2017	*09/07/17 14:50*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		ND	10	1	B7I0253	09/11/2017	09/15/17 00:09	
ORO		ND	10	1	B7I0253	09/11/2017	09/15/17 00:09	
Surrogate: p-Terphenyl	*120 %*		*22 - 143*		B7I0253	09/11/2017	*09/15/17 00:09*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,1,1-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,1,2-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,1-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,1-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,1-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,2,3-Trichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0228	09/11/2017	09/11/17 13:32	
1,2-Dibromoethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,2-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,2-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,3-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,3-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
1,4-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
2,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
2-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	

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Lab ID: 1703229-05

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
4-Isopropyltoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Benzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Bromobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Bromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Bromodichloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Bromoform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Bromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Carbon disulfide	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Carbon tetrachloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Chlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Chloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Chloroform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Chloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Di-isopropyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Dibromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Dibromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Dichlorodifluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Ethyl Acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 13:32	
Ethyl Ether	ND	50	1	B7I0228	09/11/2017	09/11/17 13:32	
Ethyl tert-butyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Ethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Freon-113	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Hexachlorobutadiene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Isopropylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
m,p-Xylene	ND	10	1	B7I0228	09/11/2017	09/11/17 13:32	
Methylene chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
MTBE	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
n-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
n-Propylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Naphthalene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
o-Xylene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
sec-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Styrene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
tert-Amyl methyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	

Certificate of Analysis

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Lab ID: 1703229-05

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7I0228	09/11/2017	09/11/17 13:32	
tert-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Tetrachloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Toluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Trichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Trichlorofluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Vinyl acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 13:32	
Vinyl chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:32	
Surrogate: 1,2-Dichloroethane-d4	*101 %*	*32 - 140*		B7I0228	09/11/2017	*09/11/17 13:32*	
Surrogate: 4-Bromofluorobenzene	*96.7 %*	*68 - 131*		B7I0228	09/11/2017	*09/11/17 13:32*	
Surrogate: Dibromofluoromethane	*101 %*	*49 - 134*		B7I0228	09/11/2017	*09/11/17 13:32*	
Surrogate: Toluene-d8	*109 %*	*75 - 132*		B7I0228	09/11/2017	*09/11/17 13:32*	

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Stantec	Project Number : 185803982, Olson-Placentia
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Client Sample ID SB-42-1

Lab ID: 1703229-06

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7I0128	09/07/2017	09/07/17 15:08	
Surrogate: 4-Bromofluorobenzene	*112 %*		*50 - 138*		B7I0128	09/07/2017	*09/07/17 15:08*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		ND	10	1	B7I0253	09/11/2017	09/14/17 23:00	
ORO		ND	10	1	B7I0253	09/11/2017	09/14/17 23:00	
Surrogate: p-Terphenyl	*119 %*		*22 - 143*		B7I0253	09/11/2017	*09/14/17 23:00*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,1,1-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,1,2-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,1-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,1-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,1-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,2,3-Trichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0228	09/11/2017	09/11/17 13:51	
1,2-Dibromoethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,2-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,2-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,3-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,3-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
1,4-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
2,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
2-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	

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Lab ID: 1703229-06

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
4-Isopropyltoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Benzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Bromobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Bromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Bromodichloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Bromoform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Bromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Carbon disulfide	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Carbon tetrachloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Chlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Chloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Chloroform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Chloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Di-isopropyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Dibromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Dibromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Dichlorodifluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Ethyl Acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 13:51	
Ethyl Ether	ND	50	1	B7I0228	09/11/2017	09/11/17 13:51	
Ethyl tert-butyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Ethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Freon-113	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Hexachlorobutadiene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Isopropylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
m,p-Xylene	ND	10	1	B7I0228	09/11/2017	09/11/17 13:51	
Methylene chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
MTBE	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
n-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
n-Propylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Naphthalene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
o-Xylene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
sec-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Styrene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
tert-Amyl methyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	

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Lab ID: 1703229-06

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7I0228	09/11/2017	09/11/17 13:51	
tert-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Tetrachloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Toluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Trichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Trichlorofluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Vinyl acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 13:51	
Vinyl chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 13:51	
Surrogate: 1,2-Dichloroethane-d4	*107 %*	*32 - 140*		B7I0228	09/11/2017	*09/11/17 13:51*	
Surrogate: 4-Bromofluorobenzene	*92.5 %*	*68 - 131*		B7I0228	09/11/2017	*09/11/17 13:51*	
Surrogate: Dibromofluoromethane	*99.7 %*	*49 - 134*		B7I0228	09/11/2017	*09/11/17 13:51*	
Surrogate: Toluene-d8	*107 %*	*75 - 132*		B7I0228	09/11/2017	*09/11/17 13:51*	

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Stantec	Project Number : 185803982, Olson-Placentia
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Client Sample ID SB-41-4.5

Lab ID: 1703229-11

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7I0128	09/07/2017	09/07/17 15:27	
Surrogate: 4-Bromofluorobenzene *110 %*		*50 - 138*		B7I0128	09/07/2017	*09/07/17 15:27*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	10	1	B7I0253	09/11/2017	09/14/17 22:43	
ORO	ND	10	1	B7I0253	09/11/2017	09/14/17 22:43	
Surrogate: p-Terphenyl *109 %*		*22 - 143*		B7I0253	09/11/2017	*09/14/17 22:43*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,1,1-Trichloroethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,1,2-Trichloroethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,1-Dichloroethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,1-Dichloroethene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,1-Dichloropropene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,2,3-Trichloropropane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0323	09/13/2017	09/13/17 17:19	
1,2-Dibromoethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,2-Dichlorobenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,2-Dichloroethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,2-Dichloropropane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,3-Dichlorobenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,3-Dichloropropane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
1,4-Dichlorobenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
2,2-Dichloropropane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
2-Chlorotoluene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	

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Lab ID: 1703229-11

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
4-Isopropyltoluene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Benzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Bromobenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Bromochloromethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Bromodichloromethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Bromoform	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Bromomethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Carbon disulfide	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Carbon tetrachloride	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Chlorobenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Chloroethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Chloroform	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Chloromethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Di-isopropyl ether	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Dibromochloromethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Dibromomethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Dichlorodifluoromethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Ethyl Acetate	ND	50	1	B7I0323	09/13/2017	09/13/17 17:19	
Ethyl Ether	ND	50	1	B7I0323	09/13/2017	09/13/17 17:19	
Ethyl tert-butyl ether	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Ethylbenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Freon-113	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Hexachlorobutadiene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Isopropylbenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
m,p-Xylene	ND	10	1	B7I0323	09/13/2017	09/13/17 17:19	
Methylene chloride	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
MTBE	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
n-Butylbenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
n-Propylbenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Naphthalene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
o-Xylene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
sec-Butylbenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Styrene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
tert-Amyl methyl ether	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	

Certificate of Analysis

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Lab ID: 1703229-11

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7I0323	09/13/2017	09/13/17 17:19	
tert-Butylbenzene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Tetrachloroethene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Toluene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Trichloroethene	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Trichlorofluoromethane	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Vinyl acetate	ND	50	1	B7I0323	09/13/2017	09/13/17 17:19	
Vinyl chloride	ND	5.0	1	B7I0323	09/13/2017	09/13/17 17:19	
Surrogate: 1,2-Dichloroethane-d4	*90.0 %*	*32 - 140*		B7I0323	09/13/2017	*09/13/17 17:19*	
Surrogate: 4-Bromofluorobenzene	*89.0 %*	*68 - 131*		B7I0323	09/13/2017	*09/13/17 17:19*	
Surrogate: Dibromofluoromethane	*102 %*	*49 - 134*		B7I0323	09/13/2017	*09/13/17 17:19*	
Surrogate: Toluene-d8	*104 %*	*75 - 132*		B7I0323	09/13/2017	*09/13/17 17:19*	

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
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Client Sample ID SB-36-1

Lab ID: 1703229-12

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Arsenic	ND	1.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Barium	**59**	1.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Beryllium	ND	1.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Cadmium	ND	1.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Chromium	**12**	1.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Cobalt	**6.2**	1.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Copper	**11**	2.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Lead	**130**	1.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Molybdenum	ND	1.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Nickel	**10**	1.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Selenium	ND	1.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Silver	ND	1.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Thallium	ND	1.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Vanadium	**26**	1.0	1	B7I0278	09/12/2017	09/12/17 13:51	
Zinc	**56**	1.0	1	B7I0278	09/12/2017	09/12/17 13:51	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7I0281	09/12/2017	09/12/17 15:13	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7I0128	09/07/2017	09/07/17 15:45	
Surrogate: 4-Bromofluorobenzene	*118 %*	*50 - 138*		B7I0128	09/07/2017	*09/07/17 15:45*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	10	1	B7I0253	09/11/2017	09/15/17 02:25	
ORO	**43**	10	1	B7I0253	09/11/2017	09/15/17 02:25	

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Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*124 %*	*22 - 143*		B7I0253	09/11/2017	*09/15/17 02:25*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,1,1-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,1,2-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,1-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,1-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,1-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,2,3-Trichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0228	09/11/2017	09/11/17 14:29	
1,2-Dibromoethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,2-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,2-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,3-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,3-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
1,4-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
2,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
2-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
4-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
4-Isopropyltoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Benzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Bromobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Bromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Bromodichloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Bromoform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Bromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Carbon disulfide	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon tetrachloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Chlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Chloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Chloroform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Chloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Di-isopropyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Dibromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Dibromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Dichlorodifluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Ethyl Acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 14:29	
Ethyl Ether	ND	50	1	B7I0228	09/11/2017	09/11/17 14:29	
Ethyl tert-butyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Ethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Freon-113	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Hexachlorobutadiene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Isopropylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
m,p-Xylene	ND	10	1	B7I0228	09/11/2017	09/11/17 14:29	
Methylene chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
MTBE	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
n-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
n-Propylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Naphthalene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
o-Xylene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
sec-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Styrene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
tert-Amyl methyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
tert-Butanol	ND	100	1	B7I0228	09/11/2017	09/11/17 14:29	
tert-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Tetrachloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Toluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Trichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Trichlorofluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Vinyl acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 14:29	

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Lab ID: 1703229-12

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

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl chloride		ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:29	
Surrogate: 1,2-Dichloroethane-d4	*109 %*		*32 - 140*		B7I0228	09/11/2017	*09/11/17 14:29*	
Surrogate: 4-Bromofluorobenzene	*97.4 %*		*68 - 131*		B7I0228	09/11/2017	*09/11/17 14:29*	
Surrogate: Dibromofluoromethane	*96.8 %*		*49 - 134*		B7I0228	09/11/2017	*09/11/17 14:29*	
Surrogate: Toluene-d8	*107 %*		*75 - 132*		B7I0228	09/11/2017	*09/11/17 14:29*	

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Stantec	Project Number : 185803982, Olson-Placentia
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Lab ID: 1703229-13

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Arsenic	ND	1.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Barium	**32**	1.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Beryllium	ND	1.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Cadmium	ND	1.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Chromium	**6.5**	1.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Cobalt	**3.5**	1.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Copper	**4.9**	2.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Lead	**2.6**	1.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Molybdenum	ND	1.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Nickel	**4.8**	1.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Selenium	ND	1.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Silver	ND	1.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Thallium	ND	1.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Vanadium	**14**	1.0	1	B7I0278	09/12/2017	09/12/17 13:52	
Zinc	**20**	1.0	1	B7I0278	09/12/2017	09/12/17 13:52	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7I0281	09/12/2017	09/12/17 15:15	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7I0128	09/07/2017	09/07/17 16:03	
Surrogate: 4-Bromofluorobenzene	*114 %*	*50 - 138*		B7I0128	09/07/2017	*09/07/17 16:03*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	10	1	B7I0253	09/11/2017	09/14/17 23:17	
ORO	ND	10	1	B7I0253	09/11/2017	09/14/17 23:17	

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Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*116 %*	*22 - 143*		B7I0253	09/11/2017	*09/14/17 23:17*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,1,1-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,1,2-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,1-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,1-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,1-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,2,3-Trichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0228	09/11/2017	09/11/17 14:47	
1,2-Dibromoethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,2-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,2-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,3-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,3-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
1,4-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
2,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
2-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
4-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
4-Isopropyltoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Benzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Bromobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Bromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Bromodichloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Bromoform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Bromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Carbon disulfide	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	

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Lab ID: 1703229-13

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon tetrachloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Chlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Chloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Chloroform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Chloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Di-isopropyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Dibromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Dibromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Dichlorodifluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Ethyl Acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 14:47	
Ethyl Ether	ND	50	1	B7I0228	09/11/2017	09/11/17 14:47	
Ethyl tert-butyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Ethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Freon-113	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Hexachlorobutadiene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Isopropylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
m,p-Xylene	ND	10	1	B7I0228	09/11/2017	09/11/17 14:47	
Methylene chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
MTBE	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
n-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
n-Propylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Naphthalene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
o-Xylene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
sec-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Styrene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
tert-Amyl methyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
tert-Butanol	ND	100	1	B7I0228	09/11/2017	09/11/17 14:47	
tert-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Tetrachloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Toluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Trichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Trichlorofluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Vinyl acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 14:47	

Certificate of Analysis

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Lab ID: 1703229-13

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

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl chloride		ND	5.0	1	B7I0228	09/11/2017	09/11/17 14:47	
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*32 - 140*		B7I0228	09/11/2017	*09/11/17 14:47*	
Surrogate: 4-Bromofluorobenzene	*93.8 %*		*68 - 131*		B7I0228	09/11/2017	*09/11/17 14:47*	
Surrogate: Dibromofluoromethane	*102 %*		*49 - 134*		B7I0228	09/11/2017	*09/11/17 14:47*	
Surrogate: Toluene-d8	*111 %*		*75 - 132*		B7I0228	09/11/2017	*09/11/17 14:47*	

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Lab ID: 1703229-16

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7I0128	09/07/2017	09/07/17 16:22	
Surrogate: 4-Bromofluorobenzene	*108 %*		*50 - 138*		B7I0128	09/07/2017	*09/07/17 16:22*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**350**	10	1	B7I0253	09/11/2017	09/15/17 02:42	
ORO		**490**	10	1	B7I0253	09/11/2017	09/15/17 02:42	
Surrogate: p-Terphenyl	*114 %*		*22 - 143*		B7I0253	09/11/2017	*09/15/17 02:42*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,1,1-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,1,2-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,1-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,1-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,1-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,2,3-Trichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0228	09/11/2017	09/11/17 15:06	
1,2-Dibromoethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,2-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,2-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,3-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,3-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
1,4-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
2,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
2-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	

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Lab ID: 1703229-16

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
4-Isopropyltoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Benzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Bromobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Bromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Bromodichloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Bromoform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Bromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Carbon disulfide	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Carbon tetrachloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Chlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Chloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Chloroform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Chloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Di-isopropyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Dibromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Dibromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Dichlorodifluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Ethyl Acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 15:06	
Ethyl Ether	ND	50	1	B7I0228	09/11/2017	09/11/17 15:06	
Ethyl tert-butyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Ethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Freon-113	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Hexachlorobutadiene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Isopropylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
m,p-Xylene	ND	10	1	B7I0228	09/11/2017	09/11/17 15:06	
Methylene chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
MTBE	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
n-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
n-Propylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Naphthalene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
o-Xylene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
sec-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Styrene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
tert-Amyl methyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	

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Lab ID: 1703229-16

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7I0228	09/11/2017	09/11/17 15:06	
tert-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Tetrachloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Toluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Trichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Trichlorofluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Vinyl acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 15:06	
Vinyl chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:06	
Surrogate: 1,2-Dichloroethane-d4	*104 %*	*32 - 140*		B7I0228	09/11/2017	*09/11/17 15:06*	
Surrogate: 4-Bromofluorobenzene	*92.3 %*	*68 - 131*		B7I0228	09/11/2017	*09/11/17 15:06*	
Surrogate: Dibromofluoromethane	*106 %*	*49 - 134*		B7I0228	09/11/2017	*09/11/17 15:06*	
Surrogate: Toluene-d8	*109 %*	*75 - 132*		B7I0228	09/11/2017	*09/11/17 15:06*	

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Lab ID: 1703229-20

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7I0128	09/07/2017	09/07/17 16:40	
Surrogate: 4-Bromofluorobenzene	*111 %*		*50 - 138*		B7I0128	09/07/2017	*09/07/17 16:40*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		ND	10	1	B7I0253	09/11/2017	09/15/17 00:26	
ORO		ND	10	1	B7I0253	09/11/2017	09/15/17 00:26	
Surrogate: p-Terphenyl	*114 %*		*22 - 143*		B7I0253	09/11/2017	*09/15/17 00:26*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,1,1-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,1,2-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,1-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,1-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,1-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,2,3-Trichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0228	09/11/2017	09/11/17 15:25	
1,2-Dibromoethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,2-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,2-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,3-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,3-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
1,4-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
2,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
2-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	

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Lab ID: 1703229-20

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
4-Isopropyltoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Benzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Bromobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Bromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Bromodichloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Bromoform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Bromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Carbon disulfide	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Carbon tetrachloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Chlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Chloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Chloroform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Chloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Di-isopropyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Dibromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Dibromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Dichlorodifluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Ethyl Acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 15:25	
Ethyl Ether	ND	50	1	B7I0228	09/11/2017	09/11/17 15:25	
Ethyl tert-butyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Ethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Freon-113	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Hexachlorobutadiene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Isopropylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
m,p-Xylene	ND	10	1	B7I0228	09/11/2017	09/11/17 15:25	
Methylene chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
MTBE	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
n-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
n-Propylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Naphthalene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
o-Xylene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
sec-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Styrene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
tert-Amyl methyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	

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Lab ID: 1703229-20

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7I0228	09/11/2017	09/11/17 15:25	
tert-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Tetrachloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Toluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Trichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Trichlorofluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Vinyl acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 15:25	
Vinyl chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:25	
Surrogate: 1,2-Dichloroethane-d4	*107 %*	*32 - 140*		B7I0228	09/11/2017	*09/11/17 15:25*	
Surrogate: 4-Bromofluorobenzene	*94.8 %*	*68 - 131*		B7I0228	09/11/2017	*09/11/17 15:25*	
Surrogate: Dibromofluoromethane	*102 %*	*49 - 134*		B7I0228	09/11/2017	*09/11/17 15:25*	
Surrogate: Toluene-d8	*108 %*	*75 - 132*		B7I0228	09/11/2017	*09/11/17 15:25*	

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Client Sample ID SB-37-1

Lab ID: 1703229-23

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7I0149	09/07/2017	09/07/17 22:31	
Surrogate: 4-Bromofluorobenzene	*113 %*		*50 - 138*		B7I0149	09/07/2017	*09/07/17 22:31*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**110**	10	1	B7I0253	09/11/2017	09/15/17 00:43	
ORO		**170**	10	1	B7I0253	09/11/2017	09/15/17 00:43	
Surrogate: p-Terphenyl	*114 %*		*22 - 143*		B7I0253	09/11/2017	*09/15/17 00:43*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,1,1-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,1,2-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,1-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,1-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,1-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,2,3-Trichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0228	09/11/2017	09/11/17 15:44	
1,2-Dibromoethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,2-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,2-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,3-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,3-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
1,4-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
2,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
2-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	

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Lab ID: 1703229-23

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
4-Isopropyltoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Benzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Bromobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Bromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Bromodichloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Bromoform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Bromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Carbon disulfide	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Carbon tetrachloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Chlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Chloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Chloroform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Chloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Di-isopropyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Dibromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Dibromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Dichlorodifluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Ethyl Acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 15:44	
Ethyl Ether	ND	50	1	B7I0228	09/11/2017	09/11/17 15:44	
Ethyl tert-butyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Ethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Freon-113	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Hexachlorobutadiene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Isopropylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
m,p-Xylene	ND	10	1	B7I0228	09/11/2017	09/11/17 15:44	
Methylene chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
MTBE	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
n-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
n-Propylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Naphthalene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
o-Xylene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
sec-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Styrene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
tert-Amyl methyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	

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Lab ID: 1703229-23

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7I0228	09/11/2017	09/11/17 15:44	
tert-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Tetrachloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Toluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Trichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Trichlorofluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Vinyl acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 15:44	
Vinyl chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 15:44	
Surrogate: 1,2-Dichloroethane-d4	*101 %*	*32 - 140*		B7I0228	09/11/2017	*09/11/17 15:44*	
Surrogate: 4-Bromofluorobenzene	*91.6 %*	*68 - 131*		B7I0228	09/11/2017	*09/11/17 15:44*	
Surrogate: Dibromofluoromethane	*99.2 %*	*49 - 134*		B7I0228	09/11/2017	*09/11/17 15:44*	
Surrogate: Toluene-d8	*105 %*	*75 - 132*		B7I0228	09/11/2017	*09/11/17 15:44*	

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Stantec	Project Number : 185803982, Olson-Placentia
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Client Sample ID SB-39-1

Lab ID: 1703229-25

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7I0149	09/07/2017	09/07/17 22:49	
Surrogate: 4-Bromofluorobenzene	*112 %*		*50 - 138*		B7I0149	09/07/2017	*09/07/17 22:49*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		ND	10	1	B7I0253	09/11/2017	09/14/17 23:35	
ORO		ND	10	1	B7I0253	09/11/2017	09/14/17 23:35	
Surrogate: p-Terphenyl	*110 %*		*22 - 143*		B7I0253	09/11/2017	*09/14/17 23:35*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,1,1-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,1,2-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,1-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,1-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,1-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,2,3-Trichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0228	09/11/2017	09/11/17 16:02	
1,2-Dibromoethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,2-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,2-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,3-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,3-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
1,4-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
2,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
2-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/15/2017

Client Sample ID SB-39-1

Lab ID: 1703229-25

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
4-Isopropyltoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Benzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Bromobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Bromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Bromodichloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Bromoform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Bromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Carbon disulfide	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Carbon tetrachloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Chlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Chloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Chloroform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Chloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Di-isopropyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Dibromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Dibromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Dichlorodifluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Ethyl Acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 16:02	
Ethyl Ether	ND	50	1	B7I0228	09/11/2017	09/11/17 16:02	
Ethyl tert-butyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Ethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Freon-113	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Hexachlorobutadiene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Isopropylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
m,p-Xylene	ND	10	1	B7I0228	09/11/2017	09/11/17 16:02	
Methylene chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
MTBE	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
n-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
n-Propylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Naphthalene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
o-Xylene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
sec-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Styrene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
tert-Amyl methyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/15/2017

Client Sample ID SB-39-1

Lab ID: 1703229-25

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7I0228	09/11/2017	09/11/17 16:02	
tert-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Tetrachloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Toluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Trichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Trichlorofluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Vinyl acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 16:02	
Vinyl chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:02	
Surrogate: 1,2-Dichloroethane-d4	*105 %*	*32 - 140*		B7I0228	09/11/2017	*09/11/17 16:02*	
Surrogate: 4-Bromofluorobenzene	*89.9 %*	*68 - 131*		B7I0228	09/11/2017	*09/11/17 16:02*	
Surrogate: Dibromofluoromethane	*94.2 %*	*49 - 134*		B7I0228	09/11/2017	*09/11/17 16:02*	
Surrogate: Toluene-d8	*105 %*	*75 - 132*		B7I0228	09/11/2017	*09/11/17 16:02*	

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/15/2017

Client Sample ID SB-40-1

Lab ID: 1703229-28

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7I0149	09/07/2017	09/07/17 23:08	
Surrogate: 4-Bromofluorobenzene	*113 %*		*50 - 138*		B7I0149	09/07/2017	*09/07/17 23:08*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		ND	10	1	B7I0253	09/11/2017	09/14/17 23:52	
ORO		ND	10	1	B7I0253	09/11/2017	09/14/17 23:52	
Surrogate: p-Terphenyl	*113 %*		*22 - 143*		B7I0253	09/11/2017	*09/14/17 23:52*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,1,1-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,1,2-Trichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,1-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,1-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,1-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,2,3-Trichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0228	09/11/2017	09/11/17 16:21	
1,2-Dibromoethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,2-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,2-Dichloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,3-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,3-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
1,4-Dichlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
2,2-Dichloropropane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
2-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/15/2017

Client Sample ID SB-40-1

Lab ID: 1703229-28

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
4-Isopropyltoluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Benzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Bromobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Bromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Bromodichloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Bromoform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Bromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Carbon disulfide	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Carbon tetrachloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Chlorobenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Chloroethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Chloroform	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Chloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Di-isopropyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Dibromochloromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Dibromomethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Dichlorodifluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Ethyl Acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 16:21	
Ethyl Ether	ND	50	1	B7I0228	09/11/2017	09/11/17 16:21	
Ethyl tert-butyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Ethylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Freon-113	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Hexachlorobutadiene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Isopropylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
m,p-Xylene	ND	10	1	B7I0228	09/11/2017	09/11/17 16:21	
Methylene chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
MTBE	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
n-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
n-Propylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Naphthalene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
o-Xylene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
sec-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Styrene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
tert-Amyl methyl ether	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/15/2017

Client Sample ID SB-40-1

Lab ID: 1703229-28

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7I0228	09/11/2017	09/11/17 16:21	
tert-Butylbenzene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Tetrachloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Toluene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Trichloroethene	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Trichlorofluoromethane	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Vinyl acetate	ND	50	1	B7I0228	09/11/2017	09/11/17 16:21	
Vinyl chloride	ND	5.0	1	B7I0228	09/11/2017	09/11/17 16:21	
Surrogate: 1,2-Dichloroethane-d4	*106 %*	*32 - 140*		B7I0228	09/11/2017	*09/11/17 16:21*	
Surrogate: 4-Bromofluorobenzene	*94.5 %*	*68 - 131*		B7I0228	09/11/2017	*09/11/17 16:21*	
Surrogate: Dibromofluoromethane	*101 %*	*49 - 134*		B7I0228	09/11/2017	*09/11/17 16:21*	
Surrogate: Toluene-d8	*112 %*	*75 - 132*		B7I0228	09/11/2017	*09/11/17 16:21*	

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/15/2017

QUALITY CONTROL SECTION

Title 22 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 B7I0278 - EPA 3050B_S										
Blank (B7I0278-BLK1)						Prepared: 9/12/2017 Analyzed: 9/12/2017				
Antimony	ND	2.0	0.51							
Arsenic	ND	1.0	0.12							
Barium	ND	1.0	0.12							
Beryllium	ND	1.0	0.03							
Cadmium	ND	1.0	0.14							
Chromium	ND	1.0	0.26							
Cobalt	ND	1.0	0.07							
Copper	ND	2.0	0.19							
Lead	ND	1.0	0.18							
Molybdenum	ND	1.0	0.12							
Nickel	ND	1.0	0.18							
Selenium	ND	1.0	0.40							
Silver	ND	1.0	0.12							
Thallium	ND	1.0	0.38							
Vanadium	ND	1.0	0.06							
Zinc	ND	1.0	0.15							
LCS (B7I0278-BS1)						Prepared: 9/12/2017 Analyzed: 9/12/2017				
Antimony	44.8948	2.0	0.51	50.0000		89.8	80 - 120			
Arsenic	42.3246	1.0	0.12	50.0000		84.6	80 - 120			
Barium	44.0072	1.0	0.12	50.0000		88.0	80 - 120			
Beryllium	43.6108	1.0	0.03	50.0000		87.2	80 - 120			
Cadmium	42.1355	1.0	0.14	50.0000		84.3	80 - 120			
Chromium	44.9340	1.0	0.26	50.0000		89.9	80 - 120			
Cobalt	45.0001	1.0	0.07	50.0000		90.0	80 - 120			
Copper	44.7660	2.0	0.19	50.0000		89.5	80 - 120			
Lead	43.9440	1.0	0.18	50.0000		87.9	80 - 120			
Molybdenum	44.2249	1.0	0.12	50.0000		88.4	80 - 120			
Nickel	43.8596	1.0	0.18	50.0000		87.7	80 - 120			
Selenium	41.0537	1.0	0.40	50.0000		82.1	80 - 120			
Silver	42.9401	1.0	0.12	50.0000		85.9	80 - 120			
Thallium	44.9724	1.0	0.38	50.0000		89.9	80 - 120			
Vanadium	44.9352	1.0	0.06	50.0000		89.9	80 - 120			
Zinc	41.9052	1.0	0.15	50.0000		83.8	80 - 120			
Matrix Spike (B7I0278-MS1)			**Source: 1703224-01**			Prepared: 9/12/2017 Analyzed: 9/12/2017				
Antimony	69.4456	2.0	0.51	125.000	0.614492	55.1	33 - 98			
Arsenic	88.8842	1.0	0.12	125.000	5.40748	66.8	48 - 101			
Barium	252.238	1.0	0.12	125.000	186.148	52.9	25 - 131			
Beryllium	84.7969	1.0	0.03	125.000	ND	67.8	56 - 97			

Stantec	Project Number : 185803982, Olson-Placentia
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Redlands , CA 92374	Reported : 09/15/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0278 - EPA 3050B_S (continued)										
Matrix Spike (B7I0278-MS1) - Continued			**Source: 1703224-01**			Prepared: 9/12/2017 Analyzed: 9/12/2017				
Cadmium	79.8164	1.0	0.14	125.000	0.260820	63.6	53 - 94			
Chromium	103.950	1.0	0.26	125.000	20.7936	66.5	45 - 113			
Cobalt	91.5724	1.0	0.07	125.000	9.67238	65.5	51 - 97			
Copper	122.704	2.0	0.19	125.000	37.4337	68.2	51 - 113			
Lead	117.642	1.0	0.18	125.000	36.0860	65.2	33 - 127			
Molybdenum	83.1804	1.0	0.12	125.000	ND	66.5	54 - 97			
Nickel	97.2350	1.0	0.18	125.000	17.1018	64.1	46 - 102			
Selenium	82.0618	1.0	0.40	125.000	0.594570	65.2	52 - 93			
Silver	86.3834	1.0	0.12	125.000	ND	69.1	58 - 98			
Thallium	73.4394	1.0	0.38	125.000	ND	58.8	46 - 93			
Vanadium	116.770	1.0	0.06	125.000	34.6087	65.7	55 - 104			
Zinc	181.687	1.0	0.15	125.000	109.094	58.1	26 - 118			
Matrix Spike Dup (B7I0278-MSD1)			**Source: 1703224-01**			Prepared: 9/12/2017 Analyzed: 9/12/2017				
Antimony	69.2224	2.0	0.51	125.000	0.614492	54.9	33 - 98	0.322	20	
Arsenic	88.6728	1.0	0.12	125.000	5.40748	66.6	48 - 101	0.238	20	
Barium	252.520	1.0	0.12	125.000	186.148	53.1	25 - 131	0.112	20	
Beryllium	83.1960	1.0	0.03	125.000	ND	66.6	56 - 97	1.91	20	
Cadmium	79.7516	1.0	0.14	125.000	0.260820	63.6	53 - 94	0.0812	20	
Chromium	101.716	1.0	0.26	125.000	20.7936	64.7	45 - 113	2.17	20	
Cobalt	90.3517	1.0	0.07	125.000	9.67238	64.5	51 - 97	1.34	20	
Copper	127.309	2.0	0.19	125.000	37.4337	71.9	51 - 113	3.68	20	
Lead	137.472	1.0	0.18	125.000	36.0860	81.1	33 - 127	15.5	20	
Molybdenum	82.4536	1.0	0.12	125.000	ND	66.0	54 - 97	0.878	20	
Nickel	95.5775	1.0	0.18	125.000	17.1018	62.8	46 - 102	1.72	20	
Selenium	80.8476	1.0	0.40	125.000	0.594570	64.2	52 - 93	1.49	20	
Silver	86.0690	1.0	0.12	125.000	ND	68.9	58 - 98	0.365	20	
Thallium	72.6433	1.0	0.38	125.000	ND	58.1	46 - 93	1.09	20	
Vanadium	116.570	1.0	0.06	125.000	34.6087	65.6	55 - 104	0.171	20	
Zinc	196.780	1.0	0.15	125.000	109.094	70.1	26 - 118	7.98	20	

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Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0281 - EPA 7471_S										
Blank (B7I0281-BLK1)					Prepared: 9/12/2017 Analyzed: 9/12/2017					
Mercury	ND	0.10	0.005							
LCS (B7I0281-BS1)					Prepared: 9/12/2017 Analyzed: 9/12/2017					
Mercury	0.867117	0.10	0.005	0.833333		104	80 - 120			
Matrix Spike (B7I0281-MS1)			**Source: 1703224-01**		Prepared: 9/12/2017 Analyzed: 9/12/2017					
Mercury	1.15433	0.10	0.005	0.833333	0.365499	94.7	70 - 130			
Matrix Spike Dup (B7I0281-MSD1)			**Source: 1703224-01**		Prepared: 9/12/2017 Analyzed: 9/12/2017					
Mercury	1.23575	0.10	0.005	0.833333	0.365499	104	70 - 130	6.81	20	
Post Spike (B7I0281-PS1)			**Source: 1703224-01**		Prepared: 9/12/2017 Analyzed: 9/12/2017					
Mercury	0.010431			5.00000E-3	0.004386	121	85 - 115			M1

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

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0128 - GCVOA_S										
Blank (B7I0128-BLK1)						Prepared: 9/7/2017 Analyzed: 9/7/2017				
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2141*			*0.200000*		*107*	*50 - 138*			
LCS (B7I0128-BS1)						Prepared: 9/7/2017 Analyzed: 9/7/2017				
Gasoline Range Organics	4.32300	1.0	0.20	5.00000		86.5	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2196*			*0.200000*		*110*	*50 - 138*			
Matrix Spike (B7I0128-MS1)			**Source: 1703227-01**			Prepared: 9/7/2017 Analyzed: 9/7/2017				
Gasoline Range Organics	3.60000	1.0	0.20	5.00000	0.324000	65.5	17 - 141			
Surrogate: 4-Bromofluorobenzene	*0.2173*			*0.200000*		*109*	*50 - 138*			
Matrix Spike Dup (B7I0128-MSD1)			**Source: 1703227-01**			Prepared: 9/7/2017 Analyzed: 9/7/2017				
Gasoline Range Organics	3.60000	1.0	0.20	5.00000	0.324000	65.5	17 - 141	0.00	20	
Surrogate: 4-Bromofluorobenzene	*0.2179*			*0.200000*		*109*	*50 - 138*			

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

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0149 - GCVOA_S										
Blank (B7I0149-BLK1)						Prepared: 9/7/2017 Analyzed: 9/7/2017				
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2162*			*0.200000*		*108*	*50 - 138*			
LCS (B7I0149-BS1)						Prepared: 9/7/2017 Analyzed: 9/7/2017				
Gasoline Range Organics	4.08000	1.0	0.20	5.00000		81.6	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2250*			*0.200000*		*113*	*50 - 138*			
Matrix Spike (B7I0149-MS1)			**Source: 1703236-31**			Prepared: 9/7/2017 Analyzed: 9/7/2017				
Gasoline Range Organics	3.83000	1.0	0.20	5.00000	ND	76.6	17 - 141			
Surrogate: 4-Bromofluorobenzene	*0.2408*			*0.200000*		*120*	*50 - 138*			
Matrix Spike Dup (B7I0149-MSD1)			**Source: 1703236-31**			Prepared: 9/7/2017 Analyzed: 9/7/2017				
Gasoline Range Organics	3.33700	1.0	0.20	5.00000	ND	66.7	17 - 141	13.8	20	
Surrogate: 4-Bromofluorobenzene	*0.2274*			*0.200000*		*114*	*50 - 138*			

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Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0253 - GCSEMI_DRO_S										
Blank (B7I0253-BLK1)						Prepared: 9/11/2017 Analyzed: 9/13/2017				
DRO	ND	10	10							
ORO	ND	10	10							
Surrogate: p-Terphenyl	*111.6*			*80.0000*		*139*	*22 - 143*			
LCS (B7I0253-BS1)						Prepared: 9/11/2017 Analyzed: 9/13/2017				
DRO	1325.86	10	10	1000.00		133	30 - 133			
Surrogate: p-Terphenyl	*100.1*			*80.0000*		*125*	*22 - 143*			
Matrix Spike (B7I0253-MS1)			**Source: 1703234-01**			Prepared: 9/11/2017 Analyzed: 9/13/2017				
DRO	1836.61	10	10	1000.00	684.000	115	13 - 148			
Surrogate: p-Terphenyl	*97.08*			*80.0000*		*121*	*22 - 143*			
Matrix Spike Dup (B7I0253-MSD1)			**Source: 1703234-01**			Prepared: 9/11/2017 Analyzed: 9/13/2017				
DRO	1779.53	10	10	1000.00	684.000	110	13 - 148	3.16	20	
Surrogate: p-Terphenyl	*96.95*			*80.0000*		*121*	*22 - 143*			

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Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0228 - MSVOA_S										
Blank (B7I0228-BLK1)					Prepared: 9/11/2017 Analyzed: 9/11/2017					
1,1,1,2-Tetrachloroethane	ND	5.0	0.96							
1,1,1-Trichloroethane	ND	5.0	1.1							
1,1,2,2-Tetrachloroethane	ND	5.0	0.62							
1,1,2-Trichloroethane	ND	5.0	1.6							
1,1-Dichloroethane	ND	5.0	0.81							
1,1-Dichloroethene	ND	5.0	2.6							
1,1-Dichloropropene	ND	5.0	2.3							
1,2,3-Trichloropropane	ND	5.0	0.54							
1,2,3-Trichlorobenzene	ND	5.0	1.2							
1,2,4-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trimethylbenzene	ND	5.0	1.5							
1,2-Dibromo-3-chloropropane	ND	10	1.6							
1,2-Dibromoethane	ND	5.0	3.2							
1,2-Dichlorobenzene	ND	5.0	1.1							
1,2-Dichloroethane	ND	5.0	1.2							
1,2-Dichloropropane	ND	5.0	1.8							
1,3,5-Trimethylbenzene	ND	5.0	1.7							
1,3-Dichlorobenzene	ND	5.0	1.3							
1,3-Dichloropropane	ND	5.0	1.1							
1,4-Dichlorobenzene	ND	5.0	1.2							
2,2-Dichloropropane	ND	5.0	1.2							
2-Chlorotoluene	ND	5.0	1.6							
4-Chlorotoluene	ND	5.0	1.5							
4-Isopropyltoluene	ND	5.0	2.3							
Benzene	ND	5.0	0.64							
Bromobenzene	ND	5.0	1.1							
Bromochloromethane	ND	5.0	0.64							
Bromodichloromethane	ND	5.0	1.2							
Bromoform	ND	5.0	0.80							
Bromomethane	ND	5.0	2.5							
Carbon disulfide	ND	5.0	3.5							
Carbon tetrachloride	ND	5.0	1.2							
Chlorobenzene	ND	5.0	1.0							
Chloroethane	ND	5.0	1.1							
Chloroform	ND	5.0	0.82							
Chloromethane	ND	5.0	1.4							
cis-1,2-Dichloroethene	ND	5.0	0.67							
cis-1,3-Dichloropropene	ND	5.0	1.9							
Di-isopropyl ether	ND	5.0	0.55							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	1.6							

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Volatile Organic Compounds by EPA 8260B - 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 B7I0228 - MSVOA_S (continued)										
Blank (B7I0228-BLK1) - Continued					Prepared: 9/11/2017 Analyzed: 9/11/2017					
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	8.1							
Ethyl Ether	ND	50	6.1							
Ethyl tert-butyl ether	ND	5.0	0.67							
Ethylbenzene	ND	5.0	0.91							
Freon-113	ND	5.0	2.8							
Hexachlorobutadiene	ND	5.0	2.5							
Isopropylbenzene	ND	5.0	1.8							
m,p-Xylene	ND	10	1.5							
Methylene chloride	ND	5.0	2.3							
MTBE	ND	5.0	0.63							
n-Butylbenzene	ND	5.0	2.4							
n-Propylbenzene	ND	5.0	2.2							
Naphthalene	ND	5.0	0.97							
o-Xylene	ND	5.0	0.87							
sec-Butylbenzene	ND	5.0	2.3							
Styrene	ND	5.0	1.5							
tert-Amyl methyl ether	ND	5.0	0.59							
tert-Butanol	ND	100	19							
tert-Butylbenzene	ND	5.0	2.0							
Tetrachloroethene	ND	5.0	1.6							
Toluene	ND	5.0	0.94							
trans-1,2-Dichloroethene	ND	5.0	0.59							
trans-1,3-Dichloropropene	ND	5.0	2.1							
Trichloroethene	ND	5.0	3.1							
Trichlorofluoromethane	ND	5.0	1.4							
Vinyl acetate	ND	50	9.8							
Vinyl chloride	ND	5.0	1.7							
Surrogate: 1,2-Dichloroethane-d4	*48.24*			*50.0000*		*96.5*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*43.86*			*50.0000*		*87.7*	*68 - 131*			
Surrogate: Dibromofluoromethan	*49.56*			*50.0000*		*99.1*	*49 - 134*			
Surrogate: Toluene-d8	*53.64*			*50.0000*		*107*	*75 - 132*			
LCS (B7I0228-BS1)					Prepared: 9/11/2017 Analyzed: 9/11/2017					
1,1,1,2-Tetrachloroethane	46.3200	5.0	0.96	50.0000		92.6	80 - 117			
1,1,1-Trichloroethane	50.1100	5.0	1.1	50.0000		100	70 - 122			
1,1,2,2-Tetrachloroethane	54.6600	5.0	0.62	50.0000		109	69 - 115			
1,1,2-Trichloroethane	49.7100	5.0	1.6	50.0000		99.4	74 - 120			
1,1-Dichloroethane	54.4400	5.0	0.81	50.0000		109	72 - 118			
1,1-Dichloroethene	49.5700	5.0	2.6	50.0000		99.1	61 - 124			
1,1-Dichloropropene	48.0000	5.0	2.3	50.0000		96.0	74 - 128			

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Volatile Organic Compounds by EPA 8260B - 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 B7I0228 - MSVOA_S (continued)										
LCS (B7I0228-BS1) - Continued					Prepared: 9/11/2017 Analyzed: 9/11/2017					
1,2,3-Trichloropropane	54.9700	5.0	0.54	50.0000		110	67 - 116			
1,2,3-Trichlorobenzene	44.7500	5.0	1.2	50.0000		89.5	86 - 127			
1,2,4-Trichlorobenzene	47.5500	5.0	1.1	50.0000		95.1	88 - 137			
1,2,4-Trimethylbenzene	49.2900	5.0	1.5	50.0000		98.6	78 - 125			
1,2-Dibromo-3-chloropropane	63.1000	10	1.6	50.0000		126	70 - 134			
1,2-Dibromoethane	47.4000	5.0	3.2	50.0000		94.8	73 - 127			
1,2-Dichlorobenzene	43.8700	5.0	1.1	50.0000		87.7	85 - 116			
1,2-Dichloroethane	54.9500	5.0	1.2	50.0000		110	65 - 120			
1,2-Dichloropropane	57.2900	5.0	1.8	50.0000		115	81 - 114			L4
1,3,5-Trimethylbenzene	53.4800	5.0	1.7	50.0000		107	76 - 125			
1,3-Dichlorobenzene	45.3400	5.0	1.3	50.0000		90.7	83 - 117			
1,3-Dichloropropane	51.5000	5.0	1.1	50.0000		103	79 - 119			
1,4-Dichlorobenzene	44.9400	5.0	1.2	50.0000		89.9	84 - 115			
2,2-Dichloropropane	58.9800	5.0	1.2	50.0000		118	72 - 121			
2-Chlorotoluene	49.6500	5.0	1.6	50.0000		99.3	76 - 120			
4-Chlorotoluene	50.6200	5.0	1.5	50.0000		101	77 - 122			
4-Isopropyltoluene	53.4200	5.0	2.3	50.0000		107	77 - 131			
Benzene	102.730	5.0	0.64	100.000		103	78 - 115			
Bromobenzene	44.1100	5.0	1.1	50.0000		88.2	79 - 113			
Bromochloromethane	44.1700	5.0	0.64	50.0000		88.3	66 - 123			
Bromodichloromethane	51.1000	5.0	1.2	50.0000		102	79 - 112			
Bromoform	44.3400	5.0	0.80	50.0000		88.7	67 - 125			
Bromomethane	56.9600	5.0	2.5	50.0000		114	49 - 150			
Carbon disulfide	56.7500	5.0	3.5	50.0000		114	61 - 146			
Carbon tetrachloride	49.9600	5.0	1.2	50.0000		99.9	65 - 133			
Chlorobenzene	46.4200	5.0	1.0	50.0000		92.8	82 - 113			
Chloroethane	58.6400	5.0	1.1	50.0000		117	46 - 146			
Chloroform	49.6300	5.0	0.82	50.0000		99.3	73 - 116			
Chloromethane	61.7300	5.0	1.4	50.0000		123	46 - 158			
cis-1,2-Dichloroethene	47.5300	5.0	0.67	50.0000		95.1	72 - 121			
cis-1,3-Dichloropropene	55.9200	5.0	1.9	50.0000		112	79 - 123			
Di-isopropyl ether	58.9100	5.0	0.55	50.0000		118	67 - 125			
Dibromochloromethane	45.9600	5.0	1.0	50.0000		91.9	79 - 116			
Dibromomethane	47.2400	5.0	1.6	50.0000		94.5	72 - 117			
Dichlorodifluoromethane	62.4700	5.0	2.2	50.0000		125	38 - 168			
Ethyl Acetate	672.120	50	8.1	500.000		134	55 - 144			
Ethyl Ether	567.700	50	6.1	500.000		114	52 - 133			
Ethyl tert-butyl ether	63.0000	5.0	0.67	50.0000		126	68 - 126			
Ethylbenzene	100.500	5.0	0.91	100.000		100	79 - 116			
Freon-113	51.4300	5.0	2.8	50.0000		103	66 - 134			
Hexachlorobutadiene	42.1600	5.0	2.5	50.0000		84.3	84 - 133			
Isopropylbenzene	53.3900	5.0	1.8	50.0000		107	67 - 134			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0228 - MSVOA_S (continued)										
LCS (B7I0228-BS1) - Continued					Prepared: 9/11/2017 Analyzed: 9/11/2017					
m,p-Xylene	105.180	10	1.5	100.000		105	78 - 126			
Methylene chloride	49.5100	5.0	2.3	50.0000		99.0	31 - 148			
MTBE	55.9600	5.0	0.63	50.0000		112	59 - 131			
n-Butylbenzene	52.9900	5.0	2.4	50.0000		106	75 - 141			
n-Propylbenzene	51.2000	5.0	2.2	50.0000		102	73 - 127			
Naphthalene	52.9600	5.0	0.97	50.0000		106	78 - 129			
o-Xylene	96.8900	5.0	0.87	100.000		96.9	81 - 113			
sec-Butylbenzene	54.7500	5.0	2.3	50.0000		110	73 - 129			
Styrene	49.7700	5.0	1.5	50.0000		99.5	88 - 118			
tert-Amyl methyl ether	58.1800	5.0	0.59	50.0000		116	62 - 122			
tert-Butanol	258.800	100	19	250.000		104	36 - 142			
tert-Butylbenzene	46.3000	5.0	2.0	50.0000		92.6	74 - 126			
Tetrachloroethene	44.3100	5.0	1.6	50.0000		88.6	74 - 127			
Toluene	113.550	5.0	0.94	100.000		114	79 - 119			
trans-1,2-Dichloroethene	47.5500	5.0	0.59	50.0000		95.1	61 - 128			
trans-1,3-Dichloropropene	51.5000	5.0	2.1	50.0000		103	75 - 116			
Trichloroethene	46.5000	5.0	3.1	50.0000		93.0	76 - 123			
Trichlorofluoromethane	45.5600	5.0	1.4	50.0000		91.1	58 - 134			
Vinyl acetate	667.090	50	9.8	500.000		133	63 - 143			
Vinyl chloride	65.4700	5.0	1.7	50.0000		131	51 - 145			
Surrogate: 1,2-Dichloroethane-d4	*60.77*			*50.0000*		*122*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*55.45*			*50.0000*		*111*	*68 - 131*			
Surrogate: Dibromofluoromethan	*51.68*			*50.0000*		*103*	*49 - 134*			
Surrogate: Toluene-d8	*55.88*			*50.0000*		*112*	*75 - 132*			
Duplicate (B7I0228-DUP1)			**Source: 1703257-02**		Prepared: 9/11/2017 Analyzed: 9/11/2017					
1,1,1,2-Tetrachloroethane	ND	250	48		ND				20	
1,1,1-Trichloroethane	ND	250	53		ND				20	
1,1,2,2-Tetrachloroethane	ND	250	31		ND				20	
1,1,2-Trichloroethane	ND	250	82		ND				20	
1,1-Dichloroethane	ND	250	40		ND				20	
1,1-Dichloroethene	ND	250	130		ND				20	
1,1-Dichloropropene	ND	250	120		ND				20	
1,2,3-Trichloropropane	ND	250	27		ND				20	
1,2,3-Trichlorobenzene	ND	250	60		ND				20	
1,2,4-Trichlorobenzene	ND	250	57		ND				20	
1,2,4-Trimethylbenzene	12888.5	250	77		12483.5			3.19	20	
1,2-Dibromo-3-chloropropane	ND	500	78		ND				20	
1,2-Dibromoethane	ND	250	160		ND				20	
1,2-Dichlorobenzene	ND	250	54		ND				20	
1,2-Dichloroethane	ND	250	60		ND				20	

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Volatile Organic Compounds by EPA 8260B - 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 B7I0228 - MSVOA_S (continued)										
Duplicate (B7I0228-DUP1) - Continued			**Source: 1703257-02**		Prepared: 9/11/2017 Analyzed: 9/11/2017					
1,2-Dichloropropane	ND	250	89		ND				20	
1,3,5-Trimethylbenzene	4644.00	250	84		4507.50			2.98	20	
1,3-Dichlorobenzene	ND	250	65		ND				20	
1,3-Dichloropropane	ND	250	56		ND				20	
1,4-Dichlorobenzene	ND	250	59		ND				20	
2,2-Dichloropropane	ND	250	61		ND				20	
2-Chlorotoluene	ND	250	78		ND				20	
4-Chlorotoluene	ND	250	76		ND				20	
4-Isopropyltoluene	260.000	250	110		238.500			8.63	20	
Benzene	ND	250	32		ND				20	
Bromobenzene	ND	250	57		ND				20	
Bromochloromethane	ND	250	32		ND				20	
Bromodichloromethane	ND	250	59		ND				20	
Bromoform	ND	250	40		ND				20	
Bromomethane	ND	250	130		ND				20	
Carbon disulfide	ND	250	180		ND				20	
Carbon tetrachloride	ND	250	60		ND				20	
Chlorobenzene	ND	250	50		ND				20	
Chloroethane	ND	250	57		ND				20	
Chloroform	ND	250	41		ND				20	
Chloromethane	ND	250	71		ND				20	
cis-1,2-Dichloroethene	ND	250	34		ND				20	
cis-1,3-Dichloropropene	ND	250	97		ND				20	
Di-isopropyl ether	ND	250	27		ND				20	
Dibromochloromethane	ND	250	50		ND				20	
Dibromomethane	ND	250	81		ND				20	
Dichlorodifluoromethane	ND	250	110		ND				20	
Ethyl Acetate	ND	2500	400		ND				20	
Ethyl Ether	ND	2500	300		ND				20	
Ethyl tert-butyl ether	ND	250	33		ND				20	
Ethylbenzene	2692.00	250	46		2700.00			0.297	20	
Freon-113	ND	250	140		ND				20	
Hexachlorobutadiene	ND	250	120		ND				20	
Isopropylbenzene	297.500	250	90		282.500			5.17	20	
m,p-Xylene	10208.0	500	73		10228.5			0.201	20	
Methylene chloride	ND	250	110		ND				20	
MTBE	ND	250	32		ND				20	
n-Butylbenzene	1539.50	250	120		1503.50			2.37	20	
n-Propylbenzene	2233.50	250	110		2137.00			4.42	20	
Naphthalene	2218.50	250	48		2184.00			1.57	20	
o-Xylene	2814.00	250	44		2833.50			0.691	20	
sec-Butylbenzene	ND	250	110		ND			NR	20	

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0228 - MSVOA_S (continued)										
Duplicate (B7I0228-DUP1) - Continued			**Source: 1703257-02**		Prepared: 9/11/2017 Analyzed: 9/11/2017					
Styrene	ND	250	73		ND				20	
tert-Amyl methyl ether	ND	250	30		ND				20	
tert-Butanol	ND	5000	930		ND				20	
tert-Butylbenzene	ND	250	98		ND				20	
Tetrachloroethene	ND	250	79		ND				20	
Toluene	ND	250	47		ND				20	
trans-1,2-Dichloroethene	ND	250	30		ND				20	
trans-1,3-Dichloropropene	ND	250	110		ND				20	
Trichloroethene	ND	250	150		ND				20	
Trichlorofluoromethane	ND	250	70		ND				20	
Vinyl acetate	ND	2500	490		ND				20	
Vinyl chloride	ND	250	84		ND				20	
Surrogate: 1,2-Dichloroethane-d4	*52.44*			*50.0000*		*105*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*57.04*			*50.0000*		*114*	*68 - 131*			
Surrogate: Dibromofluoromethan	*47.97*			*50.0000*		*95.9*	*49 - 134*			
Surrogate: Toluene-d8	*52.69*			*50.0000*		*105*	*75 - 132*			
Matrix Spike (B7I0228-MS1)			**Source: 1703229-03**		Prepared: 9/11/2017 Analyzed: 9/11/2017					
1,1,1,2-Tetrachloroethane	42.2700	5.0	0.96	50.0000	ND	84.5	27 - 130			
1,1,1-Trichloroethane	49.5700	5.0	1.1	50.0000	ND	99.1	32 - 135			
1,1,2,2-Tetrachloroethane	46.5400	5.0	0.62	50.0000	ND	93.1	17 - 135			
1,1,2-Trichloroethane	43.0100	5.0	1.6	50.0000	ND	86.0	31 - 129			
1,1-Dichloroethane	52.0800	5.0	0.81	50.0000	ND	104	37 - 130			
1,1-Dichloroethene	50.5500	5.0	2.6	50.0000	ND	101	41 - 125			
1,1-Dichloropropene	48.1400	5.0	2.3	50.0000	ND	96.3	33 - 138			
1,2,3-Trichloropropane	47.1800	5.0	0.54	50.0000	ND	94.4	20 - 137			
1,2,3-Trichlorobenzene	37.1300	5.0	1.2	50.0000	ND	74.3	0 - 147			
1,2,4-Trichlorobenzene	40.0700	5.0	1.1	50.0000	ND	80.1	0 - 156			
1,2,4-Trimethylbenzene	47.1600	5.0	1.5	50.0000	ND	94.3	10 - 139			
1,2-Dibromo-3-chloropropane	50.5000	10	1.6	50.0000	ND	101	17 - 145			
1,2-Dibromoethane	41.7200	5.0	3.2	50.0000	ND	83.4	25 - 136			
1,2-Dichlorobenzene	39.0300	5.0	1.1	50.0000	ND	78.1	8 - 134			
1,2-Dichloroethane	49.1800	5.0	1.2	50.0000	ND	98.4	31 - 123			
1,2-Dichloropropane	51.2100	5.0	1.8	50.0000	ND	102	38 - 123			
1,3,5-Trimethylbenzene	50.6900	5.0	1.7	50.0000	ND	101	10 - 139			
1,3-Dichlorobenzene	41.6000	5.0	1.3	50.0000	ND	83.2	8 - 134			
1,3-Dichloropropane	45.6400	5.0	1.1	50.0000	ND	91.3	34 - 130			
1,4-Dichlorobenzene	41.9400	5.0	1.2	50.0000	ND	83.9	10 - 134			
2,2-Dichloropropane	59.0000	5.0	1.2	50.0000	ND	118	36 - 133			
2-Chlorotoluene	47.3400	5.0	1.6	50.0000	ND	94.7	15 - 133			
4-Chlorotoluene	48.0800	5.0	1.5	50.0000	ND	96.2	13 - 135			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0228 - MSVOA_S (continued)										
Matrix Spike (B7I0228-MS1) - Continued			**Source: 1703229-03**		Prepared: 9/11/2017 Analyzed: 9/11/2017					
4-Isopropyltoluene	51.0300	5.0	2.3	50.0000	ND	102	2 - 146			
Benzene	95.3300	5.0	0.64	100.000	ND	95.3	40 - 123			
Bromobenzene	41.0300	5.0	1.1	50.0000	ND	82.1	18 - 132			
Bromochloromethane	41.3800	5.0	0.64	50.0000	ND	82.8	32 - 130			
Bromodichloromethane	46.4800	5.0	1.2	50.0000	ND	93.0	33 - 122			
Bromoform	38.2700	5.0	0.80	50.0000	ND	76.5	20 - 134			
Bromomethane	52.5100	5.0	2.5	50.0000	ND	105	35 - 140			
Carbon disulfide	57.0500	5.0	3.5	50.0000	ND	114	32 - 143			
Carbon tetrachloride	50.9600	5.0	1.2	50.0000	ND	102	23 - 144			
Chlorobenzene	43.4900	5.0	1.0	50.0000	ND	87.0	24 - 128			
Chloroethane	62.4600	5.0	1.1	50.0000	ND	125	35 - 135			
Chloroform	46.6000	5.0	0.82	50.0000	ND	93.2	36 - 126			
Chloromethane	61.0100	5.0	1.4	50.0000	ND	122	36 - 146			
cis-1,2-Dichloroethene	44.7600	5.0	0.67	50.0000	ND	89.5	31 - 136			
cis-1,3-Dichloropropene	51.3800	5.0	1.9	50.0000	ND	103	28 - 130			
Di-isopropyl ether	54.2700	5.0	0.55	50.0000	ND	109	32 - 133			
Dibromochloromethane	40.4300	5.0	1.0	50.0000	ND	80.9	30 - 129			
Dibromomethane	42.3200	5.0	1.6	50.0000	ND	84.6	28 - 126			
Dichlorodifluoromethane	64.1700	5.0	2.2	50.0000	ND	128	23 - 162			
Ethyl Acetate	555.360	50	8.1	500.000	ND	111	0 - 156			
Ethyl Ether	513.670	50	6.1	500.000	ND	103	33 - 128			
Ethyl tert-butyl ether	57.8000	5.0	0.67	50.0000	ND	116	33 - 138			
Ethylbenzene	95.8900	5.0	0.91	100.000	ND	95.9	22 - 132			
Freon-113	52.6500	5.0	2.8	50.0000	ND	105	31 - 140			
Hexachlorobutadiene	35.2900	5.0	2.5	50.0000	ND	70.6	0 - 150			
Isopropylbenzene	52.4600	5.0	1.8	50.0000	ND	105	15 - 144			
m,p-Xylene	100.120	10	1.5	100.000	ND	100	19 - 138			
Methylene chloride	46.0000	5.0	2.3	50.0000	ND	92.0	9 - 145			
MTBE	50.3900	5.0	0.63	50.0000	ND	101	31 - 136			
n-Butylbenzene	50.4700	5.0	2.4	50.0000	ND	101	0 - 153			
n-Propylbenzene	49.7100	5.0	2.2	50.0000	ND	99.4	12 - 141			
Naphthalene	43.1400	5.0	0.97	50.0000	ND	86.3	0 - 145			
o-Xylene	91.2200	5.0	0.87	100.000	ND	91.2	20 - 129			
sec-Butylbenzene	52.7100	5.0	2.3	50.0000	ND	105	4 - 143			
Styrene	46.5600	5.0	1.5	50.0000	ND	93.1	19 - 136			
tert-Amyl methyl ether	53.3000	5.0	0.59	50.0000	ND	107	30 - 128			
tert-Butanol	230.800	100	19	250.000	ND	92.3	22 - 146			
tert-Butylbenzene	44.7900	5.0	2.0	50.0000	ND	89.6	9 - 140			
Tetrachloroethene	42.7200	5.0	1.6	50.0000	ND	85.4	18 - 143			
Toluene	109.090	5.0	0.94	100.000	ND	109	30 - 132			
trans-1,2-Dichloroethene	46.8600	5.0	0.59	50.0000	ND	93.7	32 - 134			
trans-1,3-Dichloropropene	44.2300	5.0	2.1	50.0000	ND	88.5	23 - 127			

Certificate of Analysis

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0228 - MSVOA_S (continued)										
Matrix Spike (B7I0228-MS1) - Continued			**Source: 1703229-03**		Prepared: 9/11/2017 Analyzed: 9/11/2017					
Trichloroethene	44.7300	5.0	3.1	50.0000	ND	89.5	17 - 158			
Trichlorofluoromethane	48.8000	5.0	1.4	50.0000	ND	97.6	36 - 135			
Vinyl acetate	599.460	50	9.8	500.000	ND	120	0 - 154			
Vinyl chloride	67.1700	5.0	1.7	50.0000	ND	134	38 - 140			
Surrogate: 1,2-Dichloroethane-d4	*59.99*			*50.0000*		*120*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*54.47*			*50.0000*		*109*	*68 - 131*			
Surrogate: Dibromofluoromethan	*51.89*			*50.0000*		*104*	*49 - 134*			
Surrogate: Toluene-d8	*54.71*			*50.0000*		*109*	*75 - 132*			
Matrix Spike Dup (B7I0228-MSD1)			**Source: 1703229-03**		Prepared: 9/11/2017 Analyzed: 9/11/2017					
1,1,1,2-Tetrachloroethane	39.8700	5.0	0.96	50.0000	ND	79.7	27 - 130	5.84	20	
1,1,1-Trichloroethane	47.6400	5.0	1.1	50.0000	ND	95.3	32 - 135	3.97	20	
1,1,2,2-Tetrachloroethane	46.0400	5.0	0.62	50.0000	ND	92.1	17 - 135	1.08	20	
1,1,2-Trichloroethane	42.1800	5.0	1.6	50.0000	ND	84.4	31 - 129	1.95	20	
1,1-Dichloroethane	49.9700	5.0	0.81	50.0000	ND	99.9	37 - 130	4.14	20	
1,1-Dichloroethene	47.0800	5.0	2.6	50.0000	ND	94.2	41 - 125	7.11	20	
1,1-Dichloropropene	45.5300	5.0	2.3	50.0000	ND	91.1	33 - 138	5.57	20	
1,2,3-Trichloropropane	48.3200	5.0	0.54	50.0000	ND	96.6	20 - 137	2.39	20	
1,2,3-Trichlorobenzene	36.5000	5.0	1.2	50.0000	ND	73.0	0 - 147	1.71	20	
1,2,4-Trichlorobenzene	38.9400	5.0	1.1	50.0000	ND	77.9	0 - 156	2.86	20	
1,2,4-Trimethylbenzene	44.8100	5.0	1.5	50.0000	ND	89.6	10 - 139	5.11	20	
1,2-Dibromo-3-chloropropane	50.7800	10	1.6	50.0000	ND	102	17 - 145	0.553	20	
1,2-Dibromoethane	41.8200	5.0	3.2	50.0000	ND	83.6	25 - 136	0.239	20	
1,2-Dichlorobenzene	37.4600	5.0	1.1	50.0000	ND	74.9	8 - 134	4.11	20	
1,2-Dichloroethane	45.5200	5.0	1.2	50.0000	ND	91.0	31 - 123	7.73	20	
1,2-Dichloropropane	49.4000	5.0	1.8	50.0000	ND	98.8	38 - 123	3.60	20	
1,3,5-Trimethylbenzene	48.3200	5.0	1.7	50.0000	ND	96.6	10 - 139	4.79	20	
1,3-Dichlorobenzene	39.7300	5.0	1.3	50.0000	ND	79.5	8 - 134	4.60	20	
1,3-Dichloropropane	43.4100	5.0	1.1	50.0000	ND	86.8	34 - 130	5.01	20	
1,4-Dichlorobenzene	39.3100	5.0	1.2	50.0000	ND	78.6	10 - 134	6.47	20	
2,2-Dichloropropane	55.8100	5.0	1.2	50.0000	ND	112	36 - 133	5.56	20	
2-Chlorotoluene	44.3100	5.0	1.6	50.0000	ND	88.6	15 - 133	6.61	20	
4-Chlorotoluene	45.1800	5.0	1.5	50.0000	ND	90.4	13 - 135	6.22	20	
4-Isopropyltoluene	48.1100	5.0	2.3	50.0000	ND	96.2	2 - 146	5.89	20	
Benzene	91.6500	5.0	0.64	100.000	ND	91.6	40 - 123	3.94	20	
Bromobenzene	39.2700	5.0	1.1	50.0000	ND	78.5	18 - 132	4.38	20	
Bromochloromethane	40.4200	5.0	0.64	50.0000	ND	80.8	32 - 130	2.35	20	
Bromodichloromethane	45.5300	5.0	1.2	50.0000	ND	91.1	33 - 122	2.06	20	
Bromoform	36.9200	5.0	0.80	50.0000	ND	73.8	20 - 134	3.59	20	
Bromomethane	50.2100	5.0	2.5	50.0000	ND	100	35 - 140	4.48	20	
Carbon disulfide	53.7600	5.0	3.5	50.0000	ND	108	32 - 143	5.94	20	

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0228 - MSVOA_S (continued)										
Matrix Spike Dup (B7I0228-MSD1) - Continued			**Source: 1703229-03**		Prepared: 9/11/2017 Analyzed: 9/11/2017					
Carbon tetrachloride	48.7900	5.0	1.2	50.0000	ND	97.6	23 - 144	4.35	20	
Chlorobenzene	40.9000	5.0	1.0	50.0000	ND	81.8	24 - 128	6.14	20	
Chloroethane	58.9000	5.0	1.1	50.0000	ND	118	35 - 135	5.87	20	
Chloroform	44.9300	5.0	0.82	50.0000	ND	89.9	36 - 126	3.65	20	
Chloromethane	57.3700	5.0	1.4	50.0000	ND	115	36 - 146	6.15	20	
cis-1,2-Dichloroethene	43.2600	5.0	0.67	50.0000	ND	86.5	31 - 136	3.41	20	
cis-1,3-Dichloropropene	48.1500	5.0	1.9	50.0000	ND	96.3	28 - 130	6.49	20	
Di-isopropyl ether	51.4700	5.0	0.55	50.0000	ND	103	32 - 133	5.30	20	
Dibromochloromethane	39.2300	5.0	1.0	50.0000	ND	78.5	30 - 129	3.01	20	
Dibromomethane	40.5900	5.0	1.6	50.0000	ND	81.2	28 - 126	4.17	20	
Dichlorodifluoromethane	60.2600	5.0	2.2	50.0000	ND	121	23 - 162	6.28	20	
Ethyl Acetate	555.280	50	8.1	500.000	ND	111	0 - 156	0.0144	20	
Ethyl Ether	482.800	50	6.1	500.000	ND	96.6	33 - 128	6.20	20	
Ethyl tert-butyl ether	55.4000	5.0	0.67	50.0000	ND	111	33 - 138	4.24	20	
Ethylbenzene	90.9400	5.0	0.91	100.000	ND	90.9	22 - 132	5.30	20	
Freon-113	50.0800	5.0	2.8	50.0000	ND	100	31 - 140	5.00	20	
Hexachlorobutadiene	33.7800	5.0	2.5	50.0000	ND	67.6	0 - 150	4.37	20	
Isopropylbenzene	49.5900	5.0	1.8	50.0000	ND	99.2	15 - 144	5.62	20	
m,p-Xylene	94.0000	10	1.5	100.000	ND	94.0	19 - 138	6.31	20	
Methylene chloride	44.6500	5.0	2.3	50.0000	ND	89.3	9 - 145	2.98	20	
MTBE	48.5500	5.0	0.63	50.0000	ND	97.1	31 - 136	3.72	20	
n-Butylbenzene	47.8600	5.0	2.4	50.0000	ND	95.7	0 - 153	5.31	20	
n-Propylbenzene	47.3600	5.0	2.2	50.0000	ND	94.7	12 - 141	4.84	20	
Naphthalene	42.5200	5.0	0.97	50.0000	ND	85.0	0 - 145	1.45	20	
o-Xylene	85.9500	5.0	0.87	100.000	ND	86.0	20 - 129	5.95	20	
sec-Butylbenzene	49.7700	5.0	2.3	50.0000	ND	99.5	4 - 143	5.74	20	
Styrene	43.5000	5.0	1.5	50.0000	ND	87.0	19 - 136	6.80	20	
tert-Amyl methyl ether	50.6300	5.0	0.59	50.0000	ND	101	30 - 128	5.14	20	
tert-Butanol	238.380	100	19	250.000	ND	95.4	22 - 146	3.23	20	
tert-Butylbenzene	42.7000	5.0	2.0	50.0000	ND	85.4	9 - 140	4.78	20	
Tetrachloroethene	41.0300	5.0	1.6	50.0000	ND	82.1	18 - 143	4.04	20	
Toluene	101.980	5.0	0.94	100.000	ND	102	30 - 132	6.74	20	
trans-1,2-Dichloroethene	44.1500	5.0	0.59	50.0000	ND	88.3	32 - 134	5.96	20	
trans-1,3-Dichloropropene	43.3600	5.0	2.1	50.0000	ND	86.7	23 - 127	1.99	20	
Trichloroethene	43.1700	5.0	3.1	50.0000	ND	86.3	17 - 158	3.55	20	
Trichlorofluoromethane	46.7200	5.0	1.4	50.0000	ND	93.4	36 - 135	4.36	20	
Vinyl acetate	571.360	50	9.8	500.000	ND	114	0 - 154	4.80	20	
Vinyl chloride	62.5900	5.0	1.7	50.0000	ND	125	38 - 140	7.06	20	
Surrogate: 1,2-Dichloroethane-d4	*59.14*			*50.0000*		*118*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*54.51*			*50.0000*		*109*	*68 - 131*			
Surrogate: Dibromofluoromethan	*49.97*			*50.0000*		*99.9*	*49 - 134*			

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0228 - MSVOA_S (continued)									
Matrix Spike Dup (B7I0228-MSD1) - Continued			**Source: 1703229-03**		Prepared: 9/11/2017 Analyzed: 9/11/2017				
Surrogate: Toluene-d8	*54.46*		*50.0000*		*109*	*75 - 132*			

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Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0323 - MSVOA_S										
Blank (B7I0323-BLK1)					Prepared: 9/13/2017 Analyzed: 9/13/2017					
1,1,1,2-Tetrachloroethane	ND	5.0	0.96							
1,1,1-Trichloroethane	ND	5.0	1.1							
1,1,2,2-Tetrachloroethane	ND	5.0	0.62							
1,1,2-Trichloroethane	ND	5.0	1.6							
1,1-Dichloroethane	ND	5.0	0.81							
1,1-Dichloroethene	ND	5.0	2.6							
1,1-Dichloropropene	ND	5.0	2.3							
1,2,3-Trichloropropane	ND	5.0	0.54							
1,2,3-Trichlorobenzene	ND	5.0	1.2							
1,2,4-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trimethylbenzene	ND	5.0	1.5							
1,2-Dibromo-3-chloropropane	ND	10	1.6							
1,2-Dibromoethane	ND	5.0	3.2							
1,2-Dichlorobenzene	ND	5.0	1.1							
1,2-Dichloroethane	ND	5.0	1.2							
1,2-Dichloropropane	ND	5.0	1.8							
1,3,5-Trimethylbenzene	ND	5.0	1.7							
1,3-Dichlorobenzene	ND	5.0	1.3							
1,3-Dichloropropane	ND	5.0	1.1							
1,4-Dichlorobenzene	ND	5.0	1.2							
2,2-Dichloropropane	ND	5.0	1.2							
2-Chlorotoluene	ND	5.0	1.6							
4-Chlorotoluene	ND	5.0	1.5							
4-Isopropyltoluene	ND	5.0	2.3							
Benzene	ND	5.0	0.64							
Bromobenzene	ND	5.0	1.1							
Bromochloromethane	ND	5.0	0.64							
Bromodichloromethane	ND	5.0	1.2							
Bromoform	ND	5.0	0.80							
Bromomethane	ND	5.0	2.5							
Carbon disulfide	ND	5.0	3.5							
Carbon tetrachloride	ND	5.0	1.2							
Chlorobenzene	ND	5.0	1.0							
Chloroethane	ND	5.0	1.1							
Chloroform	ND	5.0	0.82							
Chloromethane	ND	5.0	1.4							
cis-1,2-Dichloroethene	ND	5.0	0.67							
cis-1,3-Dichloropropene	ND	5.0	1.9							
Di-isopropyl ether	ND	5.0	0.55							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	1.6							

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Volatile Organic Compounds by EPA 8260B - 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 B7I0323 - MSVOA_S (continued)										
Blank (B7I0323-BLK1) - Continued					Prepared: 9/13/2017 Analyzed: 9/13/2017					
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	8.1							
Ethyl Ether	ND	50	6.1							
Ethyl tert-butyl ether	ND	5.0	0.67							
Ethylbenzene	ND	5.0	0.91							
Freon-113	ND	5.0	2.8							
Hexachlorobutadiene	ND	5.0	2.5							
Isopropylbenzene	ND	5.0	1.8							
m,p-Xylene	ND	10	1.5							
Methylene chloride	ND	5.0	2.3							
MTBE	ND	5.0	0.63							
n-Butylbenzene	ND	5.0	2.4							
n-Propylbenzene	ND	5.0	2.2							
Naphthalene	ND	5.0	0.97							
o-Xylene	ND	5.0	0.87							
sec-Butylbenzene	ND	5.0	2.3							
Styrene	ND	5.0	1.5							
tert-Amyl methyl ether	ND	5.0	0.59							
tert-Butanol	ND	100	19							
tert-Butylbenzene	ND	5.0	2.0							
Tetrachloroethene	ND	5.0	1.6							
Toluene	ND	5.0	0.94							
trans-1,2-Dichloroethene	ND	5.0	0.59							
trans-1,3-Dichloropropene	ND	5.0	2.1							
Trichloroethene	ND	5.0	3.1							
Trichlorofluoromethane	ND	5.0	1.4							
Vinyl acetate	ND	50	9.8							
Vinyl chloride	ND	5.0	1.7							
Surrogate: 1,2-Dichloroethane-d4	*45.83*			*50.0000*		*91.7*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*42.29*			*50.0000*		*84.6*	*68 - 131*			
Surrogate: Dibromofluoromethan	*50.47*			*50.0000*		*101*	*49 - 134*			
Surrogate: Toluene-d8	*51.67*			*50.0000*		*103*	*75 - 132*			
LCS (B7I0323-BS1)					Prepared: 9/13/2017 Analyzed: 9/13/2017					
1,1,1,2-Tetrachloroethane	48.4300	5.0	0.96	50.0000		96.9	80 - 117			
1,1,1-Trichloroethane	50.9700	5.0	1.1	50.0000		102	70 - 122			
1,1,2,2-Tetrachloroethane	48.3700	5.0	0.62	50.0000		96.7	69 - 115			
1,1,2-Trichloroethane	49.4100	5.0	1.6	50.0000		98.8	74 - 120			
1,1-Dichloroethane	53.1700	5.0	0.81	50.0000		106	72 - 118			
1,1-Dichloroethene	51.5800	5.0	2.6	50.0000		103	61 - 124			
1,1-Dichloropropene	51.4000	5.0	2.3	50.0000		103	74 - 128			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0323 - MSVOA_S (continued)										
LCS (B7I0323-BS1) - Continued					Prepared: 9/13/2017 Analyzed: 9/13/2017					
1,2,3-Trichloropropane	48.0900	5.0	0.54	50.0000		96.2	67 - 116			
1,2,3-Trichlorobenzene	51.3000	5.0	1.2	50.0000		103	86 - 127			
1,2,4-Trichlorobenzene	54.8600	5.0	1.1	50.0000		110	88 - 137			
1,2,4-Trimethylbenzene	54.3000	5.0	1.5	50.0000		109	78 - 125			
1,2-Dibromo-3-chloropropane	46.9100	10	1.6	50.0000		93.8	70 - 134			
1,2-Dibromoethane	46.1900	5.0	3.2	50.0000		92.4	73 - 127			
1,2-Dichlorobenzene	51.7100	5.0	1.1	50.0000		103	85 - 116			
1,2-Dichloroethane	50.8300	5.0	1.2	50.0000		102	65 - 120			
1,2-Dichloropropane	49.1000	5.0	1.8	50.0000		98.2	81 - 114			
1,3,5-Trimethylbenzene	54.5300	5.0	1.7	50.0000		109	76 - 125			
1,3-Dichlorobenzene	48.7400	5.0	1.3	50.0000		97.5	83 - 117			
1,3-Dichloropropane	48.4500	5.0	1.1	50.0000		96.9	79 - 119			
1,4-Dichlorobenzene	51.8300	5.0	1.2	50.0000		104	84 - 115			
2,2-Dichloropropane	51.9400	5.0	1.2	50.0000		104	72 - 121			
2-Chlorotoluene	48.7700	5.0	1.6	50.0000		97.5	76 - 120			
4-Chlorotoluene	49.2000	5.0	1.5	50.0000		98.4	77 - 122			
4-Isopropyltoluene	56.0600	5.0	2.3	50.0000		112	77 - 131			
Benzene	101.060	5.0	0.64	100.000		101	78 - 115			
Bromobenzene	47.5700	5.0	1.1	50.0000		95.1	79 - 113			
Bromochloromethane	48.8000	5.0	0.64	50.0000		97.6	66 - 123			
Bromodichloromethane	50.3700	5.0	1.2	50.0000		101	79 - 112			
Bromoform	45.8500	5.0	0.80	50.0000		91.7	67 - 125			
Bromomethane	46.8300	5.0	2.5	50.0000		93.7	49 - 150			
Carbon disulfide	58.2900	5.0	3.5	50.0000		117	61 - 146			
Carbon tetrachloride	51.4900	5.0	1.2	50.0000		103	65 - 133			
Chlorobenzene	49.9800	5.0	1.0	50.0000		100	82 - 113			
Chloroethane	50.8600	5.0	1.1	50.0000		102	46 - 146			
Chloroform	50.3600	5.0	0.82	50.0000		101	73 - 116			
Chloromethane	54.9700	5.0	1.4	50.0000		110	46 - 158			
cis-1,2-Dichloroethene	50.9700	5.0	0.67	50.0000		102	72 - 121			
cis-1,3-Dichloropropene	49.0400	5.0	1.9	50.0000		98.1	79 - 123			
Di-isopropyl ether	49.3600	5.0	0.55	50.0000		98.7	67 - 125			
Dibromochloromethane	47.1500	5.0	1.0	50.0000		94.3	79 - 116			
Dibromomethane	48.5800	5.0	1.6	50.0000		97.2	72 - 117			
Dichlorodifluoromethane	64.4200	5.0	2.2	50.0000		129	38 - 168			
Ethyl Acetate	529.510	50	8.1	500.000		106	55 - 144			
Ethyl Ether	469.930	50	6.1	500.000		94.0	52 - 133			
Ethyl tert-butyl ether	45.3400	5.0	0.67	50.0000		90.7	68 - 126			
Ethylbenzene	116.370	5.0	0.91	100.000		116	79 - 116			L4
Freon-113	56.4600	5.0	2.8	50.0000		113	66 - 134			
Hexachlorobutadiene	61.0100	5.0	2.5	50.0000		122	84 - 133			
Isopropylbenzene	54.1800	5.0	1.8	50.0000		108	67 - 134			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0323 - MSVOA_S (continued)										
LCS (B7I0323-BS1) - Continued					Prepared: 9/13/2017 Analyzed: 9/13/2017					
m,p-Xylene	101.040	10	1.5	100.000		101	78 - 126			
Methylene chloride	52.5800	5.0	2.3	50.0000		105	31 - 148			
MTBE	48.3200	5.0	0.63	50.0000		96.6	59 - 131			
n-Butylbenzene	56.9600	5.0	2.4	50.0000		114	75 - 141			
n-Propylbenzene	48.4900	5.0	2.2	50.0000		97.0	73 - 127			
Naphthalene	47.1100	5.0	0.97	50.0000		94.2	78 - 129			
o-Xylene	95.8400	5.0	0.87	100.000		95.8	81 - 113			
sec-Butylbenzene	55.7100	5.0	2.3	50.0000		111	73 - 129			
Styrene	50.7500	5.0	1.5	50.0000		102	88 - 118			
tert-Amyl methyl ether	47.2900	5.0	0.59	50.0000		94.6	62 - 122			
tert-Butanol	227.600	100	19	250.000		91.0	36 - 142			
tert-Butylbenzene	54.1400	5.0	2.0	50.0000		108	74 - 126			
Tetrachloroethene	50.1800	5.0	1.6	50.0000		100	74 - 127			
Toluene	115.210	5.0	0.94	100.000		115	79 - 119			
trans-1,2-Dichloroethene	51.0600	5.0	0.59	50.0000		102	61 - 128			
trans-1,3-Dichloropropene	49.4400	5.0	2.1	50.0000		98.9	75 - 116			
Trichloroethene	53.6500	5.0	3.1	50.0000		107	76 - 123			
Trichlorofluoromethane	54.4600	5.0	1.4	50.0000		109	58 - 134			
Vinyl acetate	517.830	50	9.8	500.000		104	63 - 143			
Vinyl chloride	59.5600	5.0	1.7	50.0000		119	51 - 145			
Surrogate: 1,2-Dichloroethane-d4	*47.58*			*50.0000*		*95.2*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*49.60*			*50.0000*		*99.2*	*68 - 131*			
Surrogate: Dibromofluoromethan	*52.89*			*50.0000*		*106*	*49 - 134*			
Surrogate: Toluene-d8	*52.63*			*50.0000*		*105*	*75 - 132*			
Matrix Spike (B7I0323-MS1)			**Source: 1703287-05**		Prepared: 9/13/2017 Analyzed: 9/13/2017					
1,1,1,2-Tetrachloroethane	35.9800	5.0	0.96	50.0000	ND	72.0	27 - 130			
1,1,1-Trichloroethane	43.3800	5.0	1.1	50.0000	ND	86.8	32 - 135			
1,1,2,2-Tetrachloroethane	39.2500	5.0	0.62	50.0000	ND	78.5	17 - 135			
1,1,2-Trichloroethane	36.8000	5.0	1.6	50.0000	ND	73.6	31 - 129			
1,1-Dichloroethane	43.3700	5.0	0.81	50.0000	ND	86.7	37 - 130			
1,1-Dichloroethene	45.4200	5.0	2.6	50.0000	ND	90.8	41 - 125			
1,1-Dichloropropene	41.4900	5.0	2.3	50.0000	ND	83.0	33 - 138			
1,2,3-Trichloropropane	38.2200	5.0	0.54	50.0000	ND	76.4	20 - 137			
1,2,3-Trichlorobenzene	20.4200	5.0	1.2	50.0000	ND	40.8	0 - 147			
1,2,4-Trichlorobenzene	21.3800	5.0	1.1	50.0000	ND	42.8	0 - 156			
1,2,4-Trimethylbenzene	36.0800	5.0	1.5	50.0000	ND	72.2	10 - 139			
1,2-Dibromo-3-chloropropane	38.2700	10	1.6	50.0000	ND	76.5	17 - 145			
1,2-Dibromoethane	35.7500	5.0	3.2	50.0000	ND	71.5	25 - 136			
1,2-Dichlorobenzene	30.2800	5.0	1.1	50.0000	ND	60.6	8 - 134			
1,2-Dichloroethane	39.9100	5.0	1.2	50.0000	ND	79.8	31 - 123			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0323 - MSVOA_S (continued)										
Matrix Spike (B7I0323-MS1) - Continued			**Source: 1703287-05**		Prepared: 9/13/2017 Analyzed: 9/13/2017					
1,2-Dichloropropane	39.2900	5.0	1.8	50.0000	ND	78.6	38 - 123			
1,3,5-Trimethylbenzene	35.7200	5.0	1.7	50.0000	ND	71.4	10 - 139			
1,3-Dichlorobenzene	29.9000	5.0	1.3	50.0000	ND	59.8	8 - 134			
1,3-Dichloropropane	37.1100	5.0	1.1	50.0000	ND	74.2	34 - 130			
1,4-Dichlorobenzene	30.9500	5.0	1.2	50.0000	ND	61.9	10 - 134			
2,2-Dichloropropane	43.5600	5.0	1.2	50.0000	ND	87.1	36 - 133			
2-Chlorotoluene	33.8700	5.0	1.6	50.0000	ND	67.7	15 - 133			
4-Chlorotoluene	33.5800	5.0	1.5	50.0000	ND	67.2	13 - 135			
4-Isopropyltoluene	31.1800	5.0	2.3	50.0000	ND	62.4	2 - 146			
Benzene	82.4400	5.0	0.64	100.000	ND	82.4	40 - 123			
Bromobenzene	34.2700	5.0	1.1	50.0000	ND	68.5	18 - 132			
Bromochloromethane	40.4900	5.0	0.64	50.0000	ND	81.0	32 - 130			
Bromodichloromethane	37.9300	5.0	1.2	50.0000	ND	75.9	33 - 122			
Bromoform	33.3700	5.0	0.80	50.0000	ND	66.7	20 - 134			
Bromomethane	37.0000	5.0	2.5	50.0000	ND	74.0	35 - 140			
Carbon disulfide	49.1700	5.0	3.5	50.0000	ND	98.3	32 - 143			
Carbon tetrachloride	42.8100	5.0	1.2	50.0000	ND	85.6	23 - 144			
Chlorobenzene	35.9200	5.0	1.0	50.0000	ND	71.8	24 - 128			
Chloroethane	35.3000	5.0	1.1	50.0000	ND	70.6	35 - 135			
Chloroform	40.7800	5.0	0.82	50.0000	ND	81.6	36 - 126			
Chloromethane	47.4100	5.0	1.4	50.0000	ND	94.8	36 - 146			
cis-1,2-Dichloroethene	40.3900	5.0	0.67	50.0000	ND	80.8	31 - 136			
cis-1,3-Dichloropropene	39.7500	5.0	1.9	50.0000	ND	79.5	28 - 130			
Di-isopropyl ether	40.2700	5.0	0.55	50.0000	ND	80.5	32 - 133			
Dibromochloromethane	35.2800	5.0	1.0	50.0000	ND	70.6	30 - 129			
Dibromomethane	38.2700	5.0	1.6	50.0000	ND	76.5	28 - 126			
Dichlorodifluoromethane	55.0600	5.0	2.2	50.0000	ND	110	23 - 162			
Ethyl Acetate	387.200	50	8.1	500.000	ND	77.4	0 - 156			
Ethyl Ether	409.510	50	6.1	500.000	ND	81.9	33 - 128			
Ethyl tert-butyl ether	36.4000	5.0	0.67	50.0000	ND	72.8	33 - 138			
Ethylbenzene	84.2100	5.0	0.91	100.000	ND	84.2	22 - 132			
Freon-113	48.1000	5.0	2.8	50.0000	ND	96.2	31 - 140			
Hexachlorobutadiene	15.5700	5.0	2.5	50.0000	ND	31.1	0 - 150			
Isopropylbenzene	38.7100	5.0	1.8	50.0000	ND	77.4	15 - 144			
m,p-Xylene	73.5200	10	1.5	100.000	ND	73.5	19 - 138			
Methylene chloride	41.2400	5.0	2.3	50.0000	ND	82.5	9 - 145			
MTBE	38.3400	5.0	0.63	50.0000	ND	76.7	31 - 136			
n-Butylbenzene	27.2200	5.0	2.4	50.0000	ND	54.4	0 - 153			
n-Propylbenzene	33.7500	5.0	2.2	50.0000	ND	67.5	12 - 141			
Naphthalene	27.0600	5.0	0.97	50.0000	ND	54.1	0 - 145			
o-Xylene	69.7500	5.0	0.87	100.000	ND	69.8	20 - 129			
sec-Butylbenzene	31.2100	5.0	2.3	50.0000	ND	62.4	4 - 143			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0323 - MSVOA_S (continued)										
Matrix Spike (B7I0323-MS1) - Continued			**Source: 1703287-05**		Prepared: 9/13/2017 Analyzed: 9/13/2017					
Styrene	35.1900	5.0	1.5	50.0000	ND	70.4	19 - 136			
tert-Amyl methyl ether	37.6800	5.0	0.59	50.0000	ND	75.4	30 - 128			
tert-Butanol	229.560	100	19	250.000	ND	91.8	22 - 146			
tert-Butylbenzene	34.4200	5.0	2.0	50.0000	ND	68.8	9 - 140			
Tetrachloroethene	36.1700	5.0	1.6	50.0000	ND	72.3	18 - 143			
Toluene	90.8000	5.0	0.94	100.000	ND	90.8	30 - 132			
trans-1,2-Dichloroethene	42.4000	5.0	0.59	50.0000	ND	84.8	32 - 134			
trans-1,3-Dichloropropene	37.3000	5.0	2.1	50.0000	ND	74.6	23 - 127			
Trichloroethene	40.3900	5.0	3.1	50.0000	ND	80.8	17 - 158			
Trichlorofluoromethane	49.3000	5.0	1.4	50.0000	ND	98.6	36 - 135			
Vinyl acetate	312.350	50	9.8	500.000	ND	62.5	0 - 154			
Vinyl chloride	52.0200	5.0	1.7	50.0000	ND	104	38 - 140			
Surrogate: 1,2-Dichloroethane-d4	*55.25*			*50.0000*		*110*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*49.32*			*50.0000*		*98.6*	*68 - 131*			
Surrogate: Dibromofluoromethan	*54.03*			*50.0000*		*108*	*49 - 134*			
Surrogate: Toluene-d8	*52.36*			*50.0000*		*105*	*75 - 132*			
Matrix Spike Dup (B7I0323-MSD1)			**Source: 1703287-05**		Prepared: 9/13/2017 Analyzed: 9/13/2017					
1,1,1,2-Tetrachloroethane	35.7700	5.0	0.96	50.0000	ND	71.5	27 - 130	0.585	20	
1,1,1-Trichloroethane	42.1400	5.0	1.1	50.0000	ND	84.3	32 - 135	2.90	20	
1,1,2,2-Tetrachloroethane	36.0900	5.0	0.62	50.0000	ND	72.2	17 - 135	8.39	20	
1,1,2-Trichloroethane	37.5500	5.0	1.6	50.0000	ND	75.1	31 - 129	2.02	20	
1,1-Dichloroethane	42.5900	5.0	0.81	50.0000	ND	85.2	37 - 130	1.81	20	
1,1-Dichloroethene	44.0000	5.0	2.6	50.0000	ND	88.0	41 - 125	3.18	20	
1,1-Dichloropropene	40.0900	5.0	2.3	50.0000	ND	80.2	33 - 138	3.43	20	
1,2,3-Trichloropropane	35.3000	5.0	0.54	50.0000	ND	70.6	20 - 137	7.94	20	
1,2,3-Trichlorobenzene	18.2100	5.0	1.2	50.0000	ND	36.4	0 - 147	11.4	20	
1,2,4-Trichlorobenzene	19.1700	5.0	1.1	50.0000	ND	38.3	0 - 156	10.9	20	
1,2,4-Trimethylbenzene	33.5600	5.0	1.5	50.0000	ND	67.1	10 - 139	7.24	20	
1,2-Dibromo-3-chloropropane	33.7100	10	1.6	50.0000	ND	67.4	17 - 145	12.7	20	
1,2-Dibromoethane	33.1400	5.0	3.2	50.0000	ND	66.3	25 - 136	7.58	20	
1,2-Dichlorobenzene	27.2800	5.0	1.1	50.0000	ND	54.6	8 - 134	10.4	20	
1,2-Dichloroethane	38.7000	5.0	1.2	50.0000	ND	77.4	31 - 123	3.08	20	
1,2-Dichloropropane	38.5100	5.0	1.8	50.0000	ND	77.0	38 - 123	2.01	20	
1,3,5-Trimethylbenzene	33.8100	5.0	1.7	50.0000	ND	67.6	10 - 139	5.49	20	
1,3-Dichlorobenzene	28.2400	5.0	1.3	50.0000	ND	56.5	8 - 134	5.71	20	
1,3-Dichloropropane	36.7400	5.0	1.1	50.0000	ND	73.5	34 - 130	1.00	20	
1,4-Dichlorobenzene	28.8300	5.0	1.2	50.0000	ND	57.7	10 - 134	7.09	20	
2,2-Dichloropropane	42.5600	5.0	1.2	50.0000	ND	85.1	36 - 133	2.32	20	
2-Chlorotoluene	31.7200	5.0	1.6	50.0000	ND	63.4	15 - 133	6.56	20	
4-Chlorotoluene	31.2000	5.0	1.5	50.0000	ND	62.4	13 - 135	7.35	20	

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/15/2017

Volatile Organic Compounds by EPA 8260B - 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 B7I0323 - MSVOA_S (continued)										
Matrix Spike Dup (B7I0323-MSD1) - Continued			**Source: 1703287-05**		Prepared: 9/13/2017 Analyzed: 9/13/2017					
4-Isopropyltoluene	30.3100	5.0	2.3	50.0000	ND	60.6	2 - 146	2.83	20	
Benzene	79.8200	5.0	0.64	100.000	ND	79.8	40 - 123	3.23	20	
Bromobenzene	31.8400	5.0	1.1	50.0000	ND	63.7	18 - 132	7.35	20	
Bromochloromethane	38.8200	5.0	0.64	50.0000	ND	77.6	32 - 130	4.21	20	
Bromodichloromethane	37.2900	5.0	1.2	50.0000	ND	74.6	33 - 122	1.70	20	
Bromoform	32.6300	5.0	0.80	50.0000	ND	65.3	20 - 134	2.24	20	
Bromomethane	40.5800	5.0	2.5	50.0000	ND	81.2	35 - 140	9.23	20	
Carbon disulfide	49.1600	5.0	3.5	50.0000	ND	98.3	32 - 143	0.0203	20	
Carbon tetrachloride	41.3800	5.0	1.2	50.0000	ND	82.8	23 - 144	3.40	20	
Chlorobenzene	34.9100	5.0	1.0	50.0000	ND	69.8	24 - 128	2.85	20	
Chloroethane	46.8400	5.0	1.1	50.0000	ND	93.7	35 - 135	28.1	20	R
Chloroform	39.4900	5.0	0.82	50.0000	ND	79.0	36 - 126	3.21	20	
Chloromethane	47.5400	5.0	1.4	50.0000	ND	95.1	36 - 146	0.274	20	
cis-1,2-Dichloroethene	40.7000	5.0	0.67	50.0000	ND	81.4	31 - 136	0.765	20	
cis-1,3-Dichloropropene	37.3000	5.0	1.9	50.0000	ND	74.6	28 - 130	6.36	20	
Di-isopropyl ether	39.3900	5.0	0.55	50.0000	ND	78.8	32 - 133	2.21	20	
Dibromochloromethane	34.6400	5.0	1.0	50.0000	ND	69.3	30 - 129	1.83	20	
Dibromomethane	38.5000	5.0	1.6	50.0000	ND	77.0	28 - 126	0.599	20	
Dichlorodifluoromethane	53.8300	5.0	2.2	50.0000	ND	108	23 - 162	2.26	20	
Ethyl Acetate	316.180	50	8.1	500.000	ND	63.2	0 - 156	20.2	20	R
Ethyl Ether	386.920	50	6.1	500.000	ND	77.4	33 - 128	5.67	20	
Ethyl tert-butyl ether	36.5000	5.0	0.67	50.0000	ND	73.0	33 - 138	0.274	20	
Ethylbenzene	82.0600	5.0	0.91	100.000	ND	82.1	22 - 132	2.59	20	
Freon-113	47.3300	5.0	2.8	50.0000	ND	94.7	31 - 140	1.61	20	
Hexachlorobutadiene	17.0400	5.0	2.5	50.0000	ND	34.1	0 - 150	9.02	20	
Isopropylbenzene	36.1700	5.0	1.8	50.0000	ND	72.3	15 - 144	6.78	20	
m,p-Xylene	71.0900	10	1.5	100.000	ND	71.1	19 - 138	3.36	20	
Methylene chloride	40.5800	5.0	2.3	50.0000	ND	81.2	9 - 145	1.61	20	
MTBE	38.7200	5.0	0.63	50.0000	ND	77.4	31 - 136	0.986	20	
n-Butylbenzene	26.8300	5.0	2.4	50.0000	ND	53.7	0 - 153	1.44	20	
n-Propylbenzene	32.0900	5.0	2.2	50.0000	ND	64.2	12 - 141	5.04	20	
Naphthalene	24.8300	5.0	0.97	50.0000	ND	49.7	0 - 145	8.60	20	
o-Xylene	68.0300	5.0	0.87	100.000	ND	68.0	20 - 129	2.50	20	
sec-Butylbenzene	30.1500	5.0	2.3	50.0000	ND	60.3	4 - 143	3.46	20	
Styrene	34.5200	5.0	1.5	50.0000	ND	69.0	19 - 136	1.92	20	
tert-Amyl methyl ether	37.3400	5.0	0.59	50.0000	ND	74.7	30 - 128	0.906	20	
tert-Butanol	229.390	100	19	250.000	ND	91.8	22 - 146	0.0741	20	
tert-Butylbenzene	32.5700	5.0	2.0	50.0000	ND	65.1	9 - 140	5.52	20	
Tetrachloroethene	35.1600	5.0	1.6	50.0000	ND	70.3	18 - 143	2.83	20	
Toluene	88.1200	5.0	0.94	100.000	ND	88.1	30 - 132	3.00	20	
trans-1,2-Dichloroethene	40.4900	5.0	0.59	50.0000	ND	81.0	32 - 134	4.61	20	
trans-1,3-Dichloropropene	36.7900	5.0	2.1	50.0000	ND	73.6	23 - 127	1.38	20	

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/15/2017

Volatile Organic Compounds by EPA 8260B - 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 B7I0323 - MSVOA_S (continued)										
Matrix Spike Dup (B7I0323-MSD1) - Continued			**Source: 1703287-05**		Prepared: 9/13/2017 Analyzed: 9/13/2017					
Trichloroethene	39.7900	5.0	3.1	50.0000	ND	79.6	17 - 158	1.50	20	
Trichlorofluoromethane	47.7500	5.0	1.4	50.0000	ND	95.5	36 - 135	3.19	20	
Vinyl acetate	219.760	50	9.8	500.000	ND	44.0	0 - 154	34.8	20	R
Vinyl chloride	51.8600	5.0	1.7	50.0000	ND	104	38 - 140	0.308	20	
Surrogate: 1,2-Dichloroethane-d4	*55.79*			*50.0000*		*112*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*50.99*			*50.0000*		*102*	*68 - 131*			
Surrogate: Dibromofluoromethan	*54.90*			*50.0000*		*110*	*49 - 134*			
Surrogate: Toluene-d8	*50.10*			*50.0000*		*100*	*75 - 132*			

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/15/2017

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.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
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)
TX1	TX-NELAP (TCEQ)

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.

Stantec

CHAIN OF CUSTODY

Laboratory Project Number:

Page 1 of 3

Client Name/Address:	Project Manager:
Stantec Consulting Services 25864-F Business Center Drive Redlands, CA 92374	Dion Monge
	E-Mail Address: dion.monge@stantec.com
	Sampler Name: M. Bohn
Laboratory (circle): Cal Science - 714-895-5494 ATL - 800-499-4388 TAL - 949-261-1022 Jones Environmental - 714-449-9937	Stantec Project Number: 185803982
	Project: Olson - Placentia

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

Sample Temp °C: 5.4

	Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	VOCs - 8260B	TPH g - 8015B TPH g/d/o	~~TPH-DRO/ORO~~	Title 22 Metals	Special Instructions
1703129 1	SB-44-5	Soil	1	1	9/6/17	0805						Hold
2	SB-44-10					0830						Hold
3	SB-44-15					0845		X	X			
4	SB-42-5					0915						Hold
5	SB-43-7					0931		X	X			
6	SB-42-1					0950		X	X			
7	SB-42-3					0952						Hold
8	SB-42-5					1000						Hold
9	SB-41-1					1030						Hold
10	SB-41-3					1035						Hold
11	SB-41-4.5					1050		X	X			
12	SB-36-1					1145		X	X		X	
13	SB-36-3					0955		X	X		X	
14	SB-36-5					1158						Hold
15	SB-36-10					1207						Hold

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
	9/6/17	1520	ATL	9/6/17	1522
Relinquished By + Company Name: ATL	9/6/17	1738	Received By + Company Name: ATL	9/16/17	1738
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time 5.4

Stantec

CHAIN OF CUSTODY

Laboratory Project Number:

Page 2 of 3

Client Name/Address:	Project Manager:
Stantec Consulting Services 25864-F Business Center Drive Redlands, CA 92374	Dion Monge
	E-Mail Address: dion.monge@stantec.com
	Sampler Name: M. Bohn
Laboratory (circle): Cal Science - 714-895-5494 ATL - 800-499-4388 TAL - 949-261-1022 Jones Environmental - 714-449-9937	Stantec Project Number: 185803982
	Project: Olson - Placentia

Analysis Required

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

Sample Temp °C:

Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	VOCs - 8260B	TPH g - 8015B TPH s/d/o	~~TPH D/O~~	Title 22 Metals	Special Instructions
SB-35-1	Soil	1	1	9/6/17	1220		X	X			
SB-35-3					1224						Hold
SB-35-5					1230						Hold
SB-35-10					1240						Hold
SB-38-1					1307		X	X			
SB-38-3					1311						Hold
SB-38-5					1315						Hold
SB-37-1					1330		X	X			
SB-37-3					1342						Hold
SB-39-1					1345		X	X			
SB-39-3					1348						Hold
SB-39-5					1356						Hold
SB-40-1					1440		X	X			
SB-40-3					1444						Hold
SB-40-5					1452						Hold

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
	9/6/17	1522		9/6/17	15:22
Relinquished By + Company Name: ATL	9/6/17	1738	Received By + Company Name: ATL	9/6/17	1738
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

Stantec

CHAIN OF CUSTODY

Laboratory Project Number: _____

Page 3 of 3

Client Name/Address:	Project Manager:
Stantec Consulting Services 25864-F Business Center Drive Redlands, CA 92374	**Dion Monge**
	E-Mail Address: **dion.monge@stantec.com**
Laboratory (circle):	Sampler Name: **M. Bohn**
Cal Science - 714-895-5494	Stantec Project Number: **185803982**
ATL - 800-499-4388	Project: **Olson - Placentia**
TAL - 949-261-1022	
Jones Environmental - 714-449-9937	

Analysis Required

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

Sample Temp °C: _____

Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	VOCs - 8260B	TPH g - 8015B TPH d/o	~~TPH BTEX/MTBE~~	Title 22 Metals	Special Instructions
SB-40-10	Soil	1	1	9/6/17	1500		~~X~~	~~X~~			HOLD

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
	9/6/17	1522		9/6/17	1522
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time
ATL	9/6/17	1738	ATL	9/6/17	1738
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

ADVANCED TECHNOLOGY LABORATORIES

September 18, 2017

Dion Monge
Stantec
25864-F Business Center Drive
Redlands, CA 92374
Tel: (909) 335-6116
Fax:(909) 335-6120

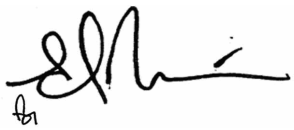
ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1703229
Client Reference : 185803982, Olson-Placentia

Enclosed are the results for sample(s) received on September 06, 2017 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,



Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/18/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-35-3	1703229-17	Soil	9/06/17 12:24	9/06/17 15:22

CASE NARRATIVE

Documentation pertaining to additional analyses/change order available upon request.

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/18/2017

Client Sample ID SB-35-3

Lab ID: 1703229-17

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	10	1	B7I0392	09/15/2017	09/16/17 07:38	
ORO	ND	10	1	B7I0392	09/15/2017	09/16/17 07:38	
Surrogate: p-Terphenyl	*115 %*	*22 - 143*		B7I0392	09/15/2017	*09/16/17 07:38*	

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/18/2017

QUALITY CONTROL SECTION

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0392 - GCSEMI_DRO_S										
Blank (B7I0392-BLK1)					Prepared: 9/15/2017 Analyzed: 9/15/2017					
DRO	ND	10	10							
ORO	ND	10	10							
Surrogate: p-Terphenyl	*90.16*			*80.0000*		*113*	*22 - 143*			
LCS (B7I0392-BS1)					Prepared: 9/15/2017 Analyzed: 9/18/2017					
DRO	1107.56	10	10	1000.00		111	30 - 133			
Surrogate: p-Terphenyl	*75.25*			*80.0000*		*94.1*	*22 - 143*			
Matrix Spike (B7I0392-MS1)			**Source: 1703346-01**		Prepared: 9/15/2017 Analyzed: 9/15/2017					
DRO	1235.50	10	10	1000.00	ND	124	13 - 148			
Surrogate: p-Terphenyl	*89.14*			*80.0000*		*111*	*22 - 143*			
Matrix Spike Dup (B7I0392-MSD1)			**Source: 1703346-01**		Prepared: 9/15/2017 Analyzed: 9/15/2017					
DRO	1233.35	10	10	1000.00	ND	123	13 - 148	0.174	20	
Surrogate: p-Terphenyl	*91.13*			*80.0000*		*114*	*22 - 143*			

Certificate of Analysis

Stantec	Project Number : 185803982, Olson-Placentia
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/18/2017

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)
TX1	TX-NELAP (TCEQ)

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.

Stantec

CHAIN OF CUSTODY

Laboratory Project Number:

Page 1 of 3

Client Name/Address:	Project Manager:
Stantec Consulting Services 25864-F Business Center Drive Redlands, CA 92374	Dion Monge
	E-Mail Address: dion.monge@stantec.com
	Sampler Name: M. Bohn
Laboratory (circle): Cal Science - 714-895-5494 ATL - 800-499-4388 TAL - 949-261-1022 Jones Environmental - 714-449-9937	Stantec Project Number: 185803982
	Project: Olson - Placentia

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

Sample Temp °C: 5.4

	Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	VOCs - 8260B	TPH g - 8015B TPH s/c/o	~~TPH-DRO/ORO~~	Title 22 Metals	Special Instructions
1	SB-44-5	Soil	1	1	9/6/17	0805						Hold
2	SB-44-10					0830						Hold
3	SB-44-15					0845		X	X	[redacted]		
4	SB-42-5					0915						Hold
5	SB-43-7					0930		X	X			
6	SB-42-1					0950		X	X			
7	SB-42-3					0952						Hold
8	SB-42-5					1000						Hold
9	SB-41-1					1030						Hold
10	SB-41-3					1035						Hold
11	SB-41-4.5					1050		X	X			
12	SB-36-1					1145		X	X		X	
13	SB-36-3					0955		X	X		X	
14	SB-36-5					1158						Hold
15	SB-36-10					1207						Hold

1703129

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
[redacted]	9/6/17	1520	ATL	9/6/17	1522
Relinquished By + Company Name: ATL	Date 9/6/17	Time 1738	Received By + Company Name: C. ATL	Date 9/16/17	Time 1738
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time 5.4

Stantec

CHAIN OF CUSTODY

Laboratory Project Number:

Client Name/Address:	Project Manager:
Stantec Consulting Services 25864-F Business Center Drive Redlands, CA 92374	Dion Monge
	E-Mail Address: dion.monge@stantec.com
Laboratory (circle):	Sampler Name: M. Bohn
Cal Science - 714-895-5494 ATL - 800-499-4388 TAL - 949-261-1022 Jones Environmental - 714-449-9937	Stantec Project Number: 185803982
	Project: Olson - Placentia

Analysis Required

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

Sample Temp °C:

	Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	VOCs - 8260B	TPH g - 8015B TPH g/d/o	~~TPH DRO/ORO~~	Title 22 Metals							Special Instructions
703229 16	SB-35-1	Soil	1	1	9/6/17	1220		X	X									
17	SB-35-3					1224												Hold
18	SB-35-5					1230												Hold
19	SB-35-10					1240												Hold
20	SB-38-1					1307		X	X									
21	SB-38-3					1311												Hold
22	SB-38-5					1315												Hold
23	SB-37-1					1330		X	X									
24	SB-37-3					1342												Hold
25	SB-39-1					1345		X	X									
26	SB-39-3					1348												Hold
27	SB-39-5					1356												Hold
28	SB-40-1					1440		X	X									
29	SB-40-3					1444												Hold
30	SB-40-5					1452												Hold

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
[signature]	9/6/17	1522	[signature]	9/6/17	1522
Relinquished By + Company Name: [signature] ATL	9/6/17	1738	Received By + Company Name: C. Azuba ATL	9/6/17	1738
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

Stantec

CHAIN OF CUSTODY

Laboratory Project Number: _____

Page 3 of 3

Client Name/Address:	Project Manager:
Stantec Consulting Services 25864-F Business Center Drive Redlands, CA 92374	**Dion Monge**
	E-Mail Address: **dion.monge@stantec.com**
Laboratory (circle):	Sampler Name: **M. Bohn**
Cal Science - 714-895-5494	Stantec Project Number: **185803982**
ATL - 800-499-4388	Project: **Olson - Placentia**
TAL - 949-261-1022	
Jones Environmental - 714-449-9937	

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

Sample Temp °C: _____

Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	VOCs - 8260B	TPH g - 8015B TPH d/o	~~TPH BTEX/MTBE~~	Title 22 Metals	Special Instructions
SB-40-10	Soil	1	1	9/6/17	1500						HOLD

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
	9/6/17	1522		9/6/17	1522
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time
ATL	9/6/17	1738	ATL	9/6/17	1738
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

ADVANCED TECHNOLOGY LABORATORIES

September 22, 2017

Dion Monge
Stantec
25864-F Business Center Drive
Redlands, CA 92374
Tel: (909) 335-6116
Fax:(909) 335-6120

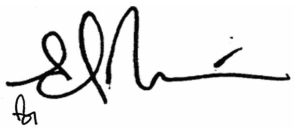
ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1703429
Client Reference : Olson Placentia, 185803982

Enclosed are the results for sample(s) received on September 21, 2017 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,



Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec		Project Number :	Olson Placentia, 185803982
25864-F Business Center Drive		Report To :	Dion Monge
Redlands , CA 92374		Reported :	09/22/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-48-1	1703429-01	Soil	9/21/17 9:15	9/21/17 15:38
SB-45-1	1703429-04	Soil	9/21/17 13:52	9/21/17 15:38
SB-46-1	1703429-07	Soil	9/21/17 14:15	9/21/17 15:38
SB-47-1	1703429-10	Soil	9/21/17 14:28	9/21/17 15:38

Certificate of Analysis

Stantec	Project Number : Olson Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/22/2017

Client Sample ID SB-48-1

Lab ID: 1703429-01

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7I0507	09/21/2017	09/21/17 19:21	
Surrogate: 4-Bromofluorobenzene	*97.4 %*		*50 - 138*		B7I0507	09/21/2017	*09/21/17 19:21*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**38**	10	1	B7I0563	09/21/2017	09/22/17 03:02	
ORO		**89**	10	1	B7I0563	09/21/2017	09/22/17 03:02	
Surrogate: p-Terphenyl	*125 %*		*22 - 143*		B7I0563	09/21/2017	*09/22/17 03:02*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,1,1-Trichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,1,2-Trichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,1-Dichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,1-Dichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,1-Dichloropropene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,2,3-Trichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0537	09/21/2017	09/21/17 18:01	
1,2-Dibromoethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,2-Dichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,2-Dichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,2-Dichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,3-Dichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,3-Dichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
1,4-Dichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
2,2-Dichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
2-Chlorotoluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	

Certificate of Analysis

Stantec	Project Number : Olson Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/22/2017

Client Sample ID SB-48-1

Lab ID: 1703429-01

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
4-Isopropyltoluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Benzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Bromobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Bromochloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Bromodichloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Bromoform	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Bromomethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Carbon disulfide	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Carbon tetrachloride	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Chlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Chloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Chloroform	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Chloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Di-isopropyl ether	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Dibromochloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Dibromomethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Dichlorodifluoromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Ethyl Acetate	ND	50	1	B7I0537	09/21/2017	09/21/17 18:01	
Ethyl Ether	ND	50	1	B7I0537	09/21/2017	09/21/17 18:01	
Ethyl tert-butyl ether	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Ethylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Freon-113	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Hexachlorobutadiene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Isopropylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
m,p-Xylene	ND	10	1	B7I0537	09/21/2017	09/21/17 18:01	
Methylene chloride	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
MTBE	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
n-Butylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
n-Propylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Naphthalene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
o-Xylene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
sec-Butylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Styrene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
tert-Amyl methyl ether	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	

Certificate of Analysis

Stantec	Project Number : Olson Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/22/2017

Client Sample ID SB-48-1

Lab ID: 1703429-01

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7I0537	09/21/2017	09/21/17 18:01	
tert-Butylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Tetrachloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Toluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Trichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Trichlorofluoromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Vinyl acetate	ND	50	1	B7I0537	09/21/2017	09/21/17 18:01	
Vinyl chloride	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:01	
Surrogate: 1,2-Dichloroethane-d4	*88.5 %*	*32 - 140*		B7I0537	09/21/2017	*09/21/17 18:01*	
Surrogate: 4-Bromofluorobenzene	*87.9 %*	*68 - 131*		B7I0537	09/21/2017	*09/21/17 18:01*	
Surrogate: Dibromofluoromethane	*101 %*	*49 - 134*		B7I0537	09/21/2017	*09/21/17 18:01*	
Surrogate: Toluene-d8	*106 %*	*75 - 132*		B7I0537	09/21/2017	*09/21/17 18:01*	

Certificate of Analysis

Stantec		Project Number :	Olson Placentia, 185803982
25864-F Business Center Drive		Report To :	Dion Monge
Redlands , CA 92374		Reported :	09/22/2017

Client Sample ID SB-45-1

Lab ID: 1703429-04

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7I0507	09/21/2017	09/21/17 19:40	
Surrogate: 4-Bromofluorobenzene	*102 %*		*50 - 138*		B7I0507	09/21/2017	*09/21/17 19:40*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**43**	10	1	B7I0563	09/21/2017	09/22/17 02:28	
ORO		**93**	10	1	B7I0563	09/21/2017	09/22/17 02:28	
Surrogate: p-Terphenyl	*131 %*		*22 - 143*		B7I0563	09/21/2017	*09/22/17 02:28*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,1,1-Trichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,1,2-Trichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,1-Dichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,1-Dichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,1-Dichloropropene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,2,3-Trichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0537	09/21/2017	09/21/17 18:20	
1,2-Dibromoethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,2-Dichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,2-Dichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,2-Dichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,3-Dichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,3-Dichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
1,4-Dichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
2,2-Dichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
2-Chlorotoluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	

Certificate of Analysis

Stantec	Project Number : Olson Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/22/2017

Client Sample ID SB-45-1

Lab ID: 1703429-04

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
4-Isopropyltoluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Benzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Bromobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Bromochloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Bromodichloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Bromoform	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Bromomethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Carbon disulfide	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Carbon tetrachloride	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Chlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Chloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Chloroform	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Chloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Di-isopropyl ether	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Dibromochloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Dibromomethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Dichlorodifluoromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Ethyl Acetate	ND	50	1	B7I0537	09/21/2017	09/21/17 18:20	
Ethyl Ether	ND	50	1	B7I0537	09/21/2017	09/21/17 18:20	
Ethyl tert-butyl ether	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Ethylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Freon-113	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Hexachlorobutadiene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Isopropylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
m,p-Xylene	ND	10	1	B7I0537	09/21/2017	09/21/17 18:20	
Methylene chloride	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
MTBE	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
n-Butylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
n-Propylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Naphthalene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
o-Xylene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
sec-Butylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Styrene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
tert-Amyl methyl ether	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	

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Stantec	Project Number : Olson Placentia, 185803982
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Client Sample ID SB-45-1

Lab ID: 1703429-04

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7I0537	09/21/2017	09/21/17 18:20	
tert-Butylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Tetrachloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Toluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Trichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Trichlorofluoromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Vinyl acetate	ND	50	1	B7I0537	09/21/2017	09/21/17 18:20	
Vinyl chloride	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:20	
Surrogate: 1,2-Dichloroethane-d4	*89.9 %*	*32 - 140*		B7I0537	09/21/2017	*09/21/17 18:20*	
Surrogate: 4-Bromofluorobenzene	*88.6 %*	*68 - 131*		B7I0537	09/21/2017	*09/21/17 18:20*	
Surrogate: Dibromofluoromethane	*100 %*	*49 - 134*		B7I0537	09/21/2017	*09/21/17 18:20*	
Surrogate: Toluene-d8	*107 %*	*75 - 132*		B7I0537	09/21/2017	*09/21/17 18:20*	

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Stantec	Project Number : Olson Placentia, 185803982
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Client Sample ID SB-46-1

Lab ID: 1703429-07

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7I0507	09/21/2017	09/21/17 19:58	
Surrogate: 4-Bromofluorobenzene	*97.2 %*		*50 - 138*		B7I0507	09/21/2017	*09/21/17 19:58*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		ND	10	1	B7I0563	09/21/2017	09/22/17 02:45	
ORO		**21**	10	1	B7I0563	09/21/2017	09/22/17 02:45	
Surrogate: p-Terphenyl	*127 %*		*22 - 143*		B7I0563	09/21/2017	*09/22/17 02:45*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,1,1-Trichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,1,2-Trichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,1-Dichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,1-Dichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,1-Dichloropropene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,2,3-Trichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0537	09/21/2017	09/21/17 18:39	
1,2-Dibromoethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,2-Dichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,2-Dichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,2-Dichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,3-Dichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,3-Dichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
1,4-Dichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
2,2-Dichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
2-Chlorotoluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	

Certificate of Analysis

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Client Sample ID SB-46-1

Lab ID: 1703429-07

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
4-Isopropyltoluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Benzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Bromobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Bromochloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Bromodichloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Bromoform	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Bromomethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Carbon disulfide	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Carbon tetrachloride	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Chlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Chloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Chloroform	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Chloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Di-isopropyl ether	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Dibromochloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Dibromomethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Dichlorodifluoromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Ethyl Acetate	ND	50	1	B7I0537	09/21/2017	09/21/17 18:39	
Ethyl Ether	ND	50	1	B7I0537	09/21/2017	09/21/17 18:39	
Ethyl tert-butyl ether	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Ethylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Freon-113	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Hexachlorobutadiene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Isopropylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
m,p-Xylene	ND	10	1	B7I0537	09/21/2017	09/21/17 18:39	
Methylene chloride	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
MTBE	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
n-Butylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
n-Propylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Naphthalene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
o-Xylene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
sec-Butylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Styrene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
tert-Amyl methyl ether	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	

Certificate of Analysis

Stantec	Project Number : Olson Placentia, 185803982
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Client Sample ID SB-46-1

Lab ID: 1703429-07

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7I0537	09/21/2017	09/21/17 18:39	
tert-Butylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Tetrachloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Toluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Trichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Trichlorofluoromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Vinyl acetate	ND	50	1	B7I0537	09/21/2017	09/21/17 18:39	
Vinyl chloride	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:39	
Surrogate: 1,2-Dichloroethane-d4	*79.5 %*	*32 - 140*		B7I0537	09/21/2017	*09/21/17 18:39*	
Surrogate: 4-Bromofluorobenzene	*87.1 %*	*68 - 131*		B7I0537	09/21/2017	*09/21/17 18:39*	
Surrogate: Dibromofluoromethane	*97.8 %*	*49 - 134*		B7I0537	09/21/2017	*09/21/17 18:39*	
Surrogate: Toluene-d8	*107 %*	*75 - 132*		B7I0537	09/21/2017	*09/21/17 18:39*	

Certificate of Analysis

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Client Sample ID SB-47-1

Lab ID: 1703429-10

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7I0507	09/21/2017	09/21/17 20:16	
Surrogate: 4-Bromofluorobenzene	*99.9 %*		*50 - 138*		B7I0507	09/21/2017	*09/21/17 20:16*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		ND	10	1	B7I0563	09/21/2017	09/22/17 02:11	
ORO		ND	10	1	B7I0563	09/21/2017	09/22/17 02:11	
Surrogate: p-Terphenyl	*121 %*		*22 - 143*		B7I0563	09/21/2017	*09/22/17 02:11*	

Volatile Organic Compounds by EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,1,1-Trichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,1,2-Trichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,1-Dichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,1-Dichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,1-Dichloropropene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,2,3-Trichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,2,3-Trichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,2,4-Trichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,2,4-Trimethylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,2-Dibromo-3-chloropropane	ND	10	1	B7I0537	09/21/2017	09/21/17 18:57	
1,2-Dibromoethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,2-Dichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,2-Dichloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,2-Dichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,3,5-Trimethylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,3-Dichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,3-Dichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
1,4-Dichlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
2,2-Dichloropropane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
2-Chlorotoluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	

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Lab ID: 1703429-10

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
4-Isopropyltoluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Benzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Bromobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Bromochloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Bromodichloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Bromoform	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Bromomethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Carbon disulfide	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Carbon tetrachloride	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Chlorobenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Chloroethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Chloroform	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Chloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
cis-1,2-Dichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
cis-1,3-Dichloropropene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Di-isopropyl ether	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Dibromochloromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Dibromomethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Dichlorodifluoromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Ethyl Acetate	ND	50	1	B7I0537	09/21/2017	09/21/17 18:57	
Ethyl Ether	ND	50	1	B7I0537	09/21/2017	09/21/17 18:57	
Ethyl tert-butyl ether	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Ethylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Freon-113	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Hexachlorobutadiene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Isopropylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
m,p-Xylene	ND	10	1	B7I0537	09/21/2017	09/21/17 18:57	
Methylene chloride	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
MTBE	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
n-Butylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
n-Propylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Naphthalene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
o-Xylene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
sec-Butylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Styrene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
tert-Amyl methyl ether	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	

Certificate of Analysis

Stantec	Project Number : Olson Placentia, 185803982
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Lab ID: 1703429-10

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	100	1	B7I0537	09/21/2017	09/21/17 18:57	
tert-Butylbenzene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Tetrachloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Toluene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
trans-1,2-Dichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
trans-1,3-Dichloropropene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Trichloroethene	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Trichlorofluoromethane	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Vinyl acetate	ND	50	1	B7I0537	09/21/2017	09/21/17 18:57	
Vinyl chloride	ND	5.0	1	B7I0537	09/21/2017	09/21/17 18:57	
Surrogate: 1,2-Dichloroethane-d4	*87.3 %*	*32 - 140*		B7I0537	09/21/2017	*09/21/17 18:57*	
Surrogate: 4-Bromofluorobenzene	*85.4 %*	*68 - 131*		B7I0537	09/21/2017	*09/21/17 18:57*	
Surrogate: Dibromofluoromethane	*100 %*	*49 - 134*		B7I0537	09/21/2017	*09/21/17 18:57*	
Surrogate: Toluene-d8	*108 %*	*75 - 132*		B7I0537	09/21/2017	*09/21/17 18:57*	

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QUALITY CONTROL SECTION

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

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0507 - GCVOA_S										
Blank (B7I0507-BLK1)					Prepared: 9/21/2017 Analyzed: 9/21/2017					
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2114*			*0.200000*		*106*	*50 - 138*			
LCS (B7I0507-BS1)					Prepared: 9/21/2017 Analyzed: 9/21/2017					
Gasoline Range Organics	4.08400	1.0	0.20	5.00000		81.7	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.1997*			*0.200000*		*99.9*	*50 - 138*			
Matrix Spike (B7I0507-MS1)			**Source: 1703429-01**		Prepared: 9/21/2017 Analyzed: 9/21/2017					
Gasoline Range Organics	3.16200	1.0	0.20	5.00000	ND	63.2	17 - 141			
Surrogate: 4-Bromofluorobenzene	*0.2118*			*0.200000*		*106*	*50 - 138*			
Matrix Spike Dup (B7I0507-MSD1)			**Source: 1703429-01**		Prepared: 9/21/2017 Analyzed: 9/21/2017					
Gasoline Range Organics	2.66200	1.0	0.20	5.00000	ND	53.2	17 - 141	17.2	20	
Surrogate: 4-Bromofluorobenzene	*0.2036*			*0.200000*		*102*	*50 - 138*			

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Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0563 - GCSEMI_DRO_S										
Blank (B7I0563-BLK1)						Prepared: 9/21/2017 Analyzed: 9/22/2017				
DRO	ND	10	10							
ORO	ND	10	10							
Surrogate: p-Terphenyl	*95.36*			*80.0000*		*119*	*22 - 143*			
LCS (B7I0563-BS1)						Prepared: 9/21/2017 Analyzed: 9/22/2017				
DRO	1276.49	10	10	1000.00		128	30 - 133			
Surrogate: p-Terphenyl	*101.8*			*80.0000*		*127*	*22 - 143*			
Matrix Spike (B7I0563-MS1)			**Source: 1703429-10**			Prepared: 9/21/2017 Analyzed: 9/22/2017				
DRO	1317.75	10	10	1000.00	ND	132	13 - 148			
Surrogate: p-Terphenyl	*105.0*			*80.0000*		*131*	*22 - 143*			
Matrix Spike Dup (B7I0563-MSD1)			**Source: 1703429-10**			Prepared: 9/21/2017 Analyzed: 9/22/2017				
DRO	1299.63	10	10	1000.00	ND	130	13 - 148	1.38	20	
Surrogate: p-Terphenyl	*104.7*			*80.0000*		*131*	*22 - 143*			

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Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0537 - MSVOA_S										
Blank (B7I0537-BLK1)					Prepared: 9/21/2017 Analyzed: 9/21/2017					
1,1,1,2-Tetrachloroethane	ND	5.0	0.96							
1,1,1-Trichloroethane	ND	5.0	1.1							
1,1,2,2-Tetrachloroethane	ND	5.0	0.62							
1,1,2-Trichloroethane	ND	5.0	1.6							
1,1-Dichloroethane	ND	5.0	0.81							
1,1-Dichloroethene	ND	5.0	2.6							
1,1-Dichloropropene	ND	5.0	2.3							
1,2,3-Trichloropropane	ND	5.0	0.54							
1,2,3-Trichlorobenzene	ND	5.0	1.2							
1,2,4-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trimethylbenzene	ND	5.0	1.5							
1,2-Dibromo-3-chloropropane	ND	10	1.6							
1,2-Dibromoethane	ND	5.0	3.2							
1,2-Dichlorobenzene	ND	5.0	1.1							
1,2-Dichloroethane	ND	5.0	1.2							
1,2-Dichloropropane	ND	5.0	1.8							
1,3,5-Trimethylbenzene	ND	5.0	1.7							
1,3-Dichlorobenzene	ND	5.0	1.3							
1,3-Dichloropropane	ND	5.0	1.1							
1,4-Dichlorobenzene	ND	5.0	1.2							
2,2-Dichloropropane	ND	5.0	1.2							
2-Chlorotoluene	ND	5.0	1.6							
4-Chlorotoluene	ND	5.0	1.5							
4-Isopropyltoluene	ND	5.0	2.3							
Benzene	ND	5.0	0.64							
Bromobenzene	ND	5.0	1.1							
Bromochloromethane	ND	5.0	0.64							
Bromodichloromethane	ND	5.0	1.2							
Bromoform	ND	5.0	0.80							
Bromomethane	ND	5.0	2.5							
Carbon disulfide	ND	5.0	3.5							
Carbon tetrachloride	ND	5.0	1.2							
Chlorobenzene	ND	5.0	1.0							
Chloroethane	ND	5.0	1.1							
Chloroform	ND	5.0	0.82							
Chloromethane	ND	5.0	1.4							
cis-1,2-Dichloroethene	ND	5.0	0.67							
cis-1,3-Dichloropropene	ND	5.0	1.9							
Di-isopropyl ether	ND	5.0	0.55							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	1.6							

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Volatile Organic Compounds by EPA 8260B - 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 B7I0537 - MSVOA_S (continued)										
Blank (B7I0537-BLK1) - Continued					Prepared: 9/21/2017 Analyzed: 9/21/2017					
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	8.1							
Ethyl Ether	ND	50	6.1							
Ethyl tert-butyl ether	ND	5.0	0.67							
Ethylbenzene	ND	5.0	0.91							
Freon-113	ND	5.0	2.8							
Hexachlorobutadiene	ND	5.0	2.5							
Isopropylbenzene	ND	5.0	1.8							
m,p-Xylene	ND	10	1.5							
Methylene chloride	ND	5.0	2.3							
MTBE	ND	5.0	0.63							
n-Butylbenzene	ND	5.0	2.4							
n-Propylbenzene	ND	5.0	2.2							
Naphthalene	ND	5.0	0.97							
o-Xylene	ND	5.0	0.87							
sec-Butylbenzene	ND	5.0	2.3							
Styrene	ND	5.0	1.5							
tert-Amyl methyl ether	ND	5.0	0.59							
tert-Butanol	ND	100	19							
tert-Butylbenzene	ND	5.0	2.0							
Tetrachloroethene	ND	5.0	1.6							
Toluene	ND	5.0	0.94							
trans-1,2-Dichloroethene	ND	5.0	0.59							
trans-1,3-Dichloropropene	ND	5.0	2.1							
Trichloroethene	ND	5.0	3.1							
Trichlorofluoromethane	ND	5.0	1.4							
Vinyl acetate	ND	50	9.8							
Vinyl chloride	ND	5.0	1.7							
Surrogate: 1,2-Dichloroethane-d4	*42.39*			*50.0000*		*84.8*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*45.14*			*50.0000*		*90.3*	*68 - 131*			
Surrogate: Dibromofluoromethan	*47.52*			*50.0000*		*95.0*	*49 - 134*			
Surrogate: Toluene-d8	*51.22*			*50.0000*		*102*	*75 - 132*			
LCS (B7I0537-BS1)					Prepared: 9/21/2017 Analyzed: 9/21/2017					
1,1,1,2-Tetrachloroethane	48.1100	5.0	0.96	50.0000		96.2	80 - 117			
1,1,1-Trichloroethane	50.4400	5.0	1.1	50.0000		101	70 - 122			
1,1,2,2-Tetrachloroethane	44.5400	5.0	0.62	50.0000		89.1	69 - 115			
1,1,2-Trichloroethane	47.3500	5.0	1.6	50.0000		94.7	74 - 120			
1,1-Dichloroethane	47.5400	5.0	0.81	50.0000		95.1	72 - 118			
1,1-Dichloroethene	45.4400	5.0	2.6	50.0000		90.9	61 - 124			
1,1-Dichloropropene	50.4800	5.0	2.3	50.0000		101	74 - 128			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0537 - MSVOA_S (continued)										
LCS (B7I0537-BS1) - Continued					Prepared: 9/21/2017 Analyzed: 9/21/2017					
1,2,3-Trichloropropane	45.4100	5.0	0.54	50.0000		90.8	67 - 116			
1,2,3-Trichlorobenzene	46.8000	5.0	1.2	50.0000		93.6	86 - 127			
1,2,4-Trichlorobenzene	50.2100	5.0	1.1	50.0000		100	88 - 137			
1,2,4-Trimethylbenzene	50.4700	5.0	1.5	50.0000		101	78 - 125			
1,2-Dibromo-3-chloropropane	49.8300	10	1.6	50.0000		99.7	70 - 134			
1,2-Dibromoethane	45.2800	5.0	3.2	50.0000		90.6	73 - 127			
1,2-Dichlorobenzene	47.3100	5.0	1.1	50.0000		94.6	85 - 116			
1,2-Dichloroethane	46.2700	5.0	1.2	50.0000		92.5	65 - 120			
1,2-Dichloropropane	46.4800	5.0	1.8	50.0000		93.0	81 - 114			
1,3,5-Trimethylbenzene	50.1500	5.0	1.7	50.0000		100	76 - 125			
1,3-Dichlorobenzene	48.4300	5.0	1.3	50.0000		96.9	83 - 117			
1,3-Dichloropropane	47.2400	5.0	1.1	50.0000		94.5	79 - 119			
1,4-Dichlorobenzene	50.5000	5.0	1.2	50.0000		101	84 - 115			
2,2-Dichloropropane	49.4900	5.0	1.2	50.0000		99.0	72 - 121			
2-Chlorotoluene	48.8000	5.0	1.6	50.0000		97.6	76 - 120			
4-Chlorotoluene	49.5000	5.0	1.5	50.0000		99.0	77 - 122			
4-Isopropyltoluene	53.7500	5.0	2.3	50.0000		108	77 - 131			
Benzene	93.8100	5.0	0.64	100.000		93.8	78 - 115			
Bromobenzene	46.0700	5.0	1.1	50.0000		92.1	79 - 113			
Bromochloromethane	45.7800	5.0	0.64	50.0000		91.6	66 - 123			
Bromodichloromethane	46.7300	5.0	1.2	50.0000		93.5	79 - 112			
Bromoform	46.0400	5.0	0.80	50.0000		92.1	67 - 125			
Bromomethane	47.2700	5.0	2.5	50.0000		94.5	49 - 150			
Carbon disulfide	48.5900	5.0	3.5	50.0000		97.2	61 - 146			
Carbon tetrachloride	50.1900	5.0	1.2	50.0000		100	65 - 133			
Chlorobenzene	48.2700	5.0	1.0	50.0000		96.5	82 - 113			
Chloroethane	51.0400	5.0	1.1	50.0000		102	46 - 146			
Chloroform	47.4900	5.0	0.82	50.0000		95.0	73 - 116			
Chloromethane	43.0700	5.0	1.4	50.0000		86.1	46 - 158			
cis-1,2-Dichloroethene	45.4300	5.0	0.67	50.0000		90.9	72 - 121			
cis-1,3-Dichloropropene	48.9900	5.0	1.9	50.0000		98.0	79 - 123			
Di-isopropyl ether	46.6000	5.0	0.55	50.0000		93.2	67 - 125			
Dibromochloromethane	46.4500	5.0	1.0	50.0000		92.9	79 - 116			
Dibromomethane	46.8500	5.0	1.6	50.0000		93.7	72 - 117			
Dichlorodifluoromethane	48.2000	5.0	2.2	50.0000		96.4	38 - 168			
Ethyl Acetate	489.880	50	8.1	500.000		98.0	55 - 144			
Ethyl Ether	407.530	50	6.1	500.000		81.5	52 - 133			
Ethyl tert-butyl ether	51.0700	5.0	0.67	50.0000		102	68 - 126			
Ethylbenzene	101.240	5.0	0.91	100.000		101	79 - 116			
Freon-113	50.2400	5.0	2.8	50.0000		100	66 - 134			
Hexachlorobutadiene	57.7900	5.0	2.5	50.0000		116	84 - 133			
Isopropylbenzene	50.0400	5.0	1.8	50.0000		100	67 - 134			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0537 - MSVOA_S (continued)										
LCS (B7I0537-BS1) - Continued						Prepared: 9/21/2017 Analyzed: 9/21/2017				
m,p-Xylene	106.680	10	1.5	100.000		107	78 - 126			
Methylene chloride	43.8500	5.0	2.3	50.0000		87.7	31 - 148			
MTBE	46.5200	5.0	0.63	50.0000		93.0	59 - 131			
n-Butylbenzene	57.0400	5.0	2.4	50.0000		114	75 - 141			
n-Propylbenzene	51.9100	5.0	2.2	50.0000		104	73 - 127			
Naphthalene	47.6600	5.0	0.97	50.0000		95.3	78 - 129			
o-Xylene	98.7600	5.0	0.87	100.000		98.8	81 - 113			
sec-Butylbenzene	52.9500	5.0	2.3	50.0000		106	73 - 129			
Styrene	50.6700	5.0	1.5	50.0000		101	88 - 118			
tert-Amyl methyl ether	47.7500	5.0	0.59	50.0000		95.5	62 - 122			
tert-Butanol	196.090	100	19	250.000		78.4	36 - 142			
tert-Butylbenzene	51.7000	5.0	2.0	50.0000		103	74 - 126			
Tetrachloroethene	50.9300	5.0	1.6	50.0000		102	74 - 127			
Toluene	105.850	5.0	0.94	100.000		106	79 - 119			
trans-1,2-Dichloroethene	45.3000	5.0	0.59	50.0000		90.6	61 - 128			
trans-1,3-Dichloropropene	44.6100	5.0	2.1	50.0000		89.2	75 - 116			
Trichloroethene	50.1000	5.0	3.1	50.0000		100	76 - 123			
Trichlorofluoromethane	48.2800	5.0	1.4	50.0000		96.6	58 - 134			
Vinyl acetate	463.030	50	9.8	500.000		92.6	63 - 143			
Vinyl chloride	46.5700	5.0	1.7	50.0000		93.1	51 - 145			
Surrogate: 1,2-Dichloroethane-d4	*53.09*			*50.0000*		*106*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*49.88*			*50.0000*		*99.8*	*68 - 131*			
Surrogate: Dibromofluoromethan	*52.56*			*50.0000*		*105*	*49 - 134*			
Surrogate: Toluene-d8	*54.51*			*50.0000*		*109*	*75 - 132*			
Matrix Spike (B7I0537-MS1)			**Source: 1703379-01**			Prepared: 9/21/2017 Analyzed: 9/21/2017				
1,1,1,2-Tetrachloroethane	20.3300	5.0	0.96	50.0000	ND	40.7	27 - 130			
1,1,1-Trichloroethane	29.9900	5.0	1.1	50.0000	ND	60.0	32 - 135			
1,1,2,2-Tetrachloroethane	12.5300	5.0	0.62	50.0000	ND	25.1	17 - 135			
1,1,2-Trichloroethane	16.8000	5.0	1.6	50.0000	ND	33.6	31 - 129			
1,1-Dichloroethane	25.3200	5.0	0.81	50.0000	ND	50.6	37 - 130			
1,1-Dichloroethene	28.3200	5.0	2.6	50.0000	ND	56.6	41 - 125			
1,1-Dichloropropene	29.0000	5.0	2.3	50.0000	ND	58.0	33 - 138			
1,2,3-Trichloropropane	13.5100	5.0	0.54	50.0000	ND	27.0	20 - 137			
1,2,3-Trichlorobenzene	14.3800	5.0	1.2	50.0000	ND	28.8	0 - 147			
1,2,4-Trichlorobenzene	16.1900	5.0	1.1	50.0000	ND	32.4	0 - 156			
1,2,4-Trimethylbenzene	22.4300	5.0	1.5	50.0000	ND	44.9	10 - 139			
1,2-Dibromo-3-chloropropane	13.3000	10	1.6	50.0000	ND	26.6	17 - 145			
1,2-Dibromoethane	15.2400	5.0	3.2	50.0000	ND	30.5	25 - 136			
1,2-Dichlorobenzene	17.4500	5.0	1.1	50.0000	ND	34.9	8 - 134			
1,2-Dichloroethane	17.3500	5.0	1.2	50.0000	ND	34.7	31 - 123			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7I0537 - MSVOA_S (continued)										
Matrix Spike (B7I0537-MS1) - Continued			**Source: 1703379-01**		Prepared: 9/21/2017 Analyzed: 9/21/2017					
1,2-Dichloropropane	21.3400	5.0	1.8	50.0000	ND	42.7	38 - 123			
1,3,5-Trimethylbenzene	23.6800	5.0	1.7	50.0000	ND	47.4	10 - 139			
1,3-Dichlorobenzene	19.3700	5.0	1.3	50.0000	ND	38.7	8 - 134			
1,3-Dichloropropane	16.2000	5.0	1.1	50.0000	ND	32.4	34 - 130			M2
1,4-Dichlorobenzene	19.1800	5.0	1.2	50.0000	ND	38.4	10 - 134			
2,2-Dichloropropane	28.6500	5.0	1.2	50.0000	ND	57.3	36 - 133			
2-Chlorotoluene	22.3200	5.0	1.6	50.0000	ND	44.6	15 - 133			
4-Chlorotoluene	20.6800	5.0	1.5	50.0000	ND	41.4	13 - 135			
4-Isopropyltoluene	25.3600	5.0	2.3	50.0000	ND	50.7	2 - 146			
Benzene	49.4200	5.0	0.64	100.000	ND	49.4	40 - 123			
Bromobenzene	18.3100	5.0	1.1	50.0000	ND	36.6	18 - 132			
Bromochloromethane	17.7200	5.0	0.64	50.0000	ND	35.4	32 - 130			
Bromodichloromethane	19.6300	5.0	1.2	50.0000	ND	39.3	33 - 122			
Bromoform	14.2000	5.0	0.80	50.0000	ND	28.4	20 - 134			
Bromomethane	23.2400	5.0	2.5	50.0000	ND	46.5	35 - 140			
Carbon disulfide	29.9300	5.0	3.5	50.0000	ND	59.9	32 - 143			
Carbon tetrachloride	30.5100	5.0	1.2	50.0000	ND	61.0	23 - 144			
Chlorobenzene	21.5600	5.0	1.0	50.0000	ND	43.1	24 - 128			
Chloroethane	24.9700	5.0	1.1	50.0000	ND	49.9	35 - 135			
Chloroform	23.9700	5.0	0.82	50.0000	ND	47.9	36 - 126			
Chloromethane	24.4900	5.0	1.4	50.0000	ND	49.0	36 - 146			
cis-1,2-Dichloroethene	22.3900	5.0	0.67	50.0000	ND	44.8	31 - 136			
cis-1,3-Dichloropropene	17.9700	5.0	1.9	50.0000	ND	35.9	28 - 130			
Di-isopropyl ether	19.8900	5.0	0.55	50.0000	ND	39.8	32 - 133			
Dibromochloromethane	15.9200	5.0	1.0	50.0000	ND	31.8	30 - 129			
Dibromomethane	16.4400	5.0	1.6	50.0000	ND	32.9	28 - 126			
Dichlorodifluoromethane	30.2500	5.0	2.2	50.0000	ND	60.5	23 - 162			
Ethyl Acetate	94.3300	50	8.1	500.000	ND	18.9	0 - 156			
Ethyl Ether	167.650	50	6.1	500.000	ND	33.5	33 - 128			
Ethyl tert-butyl ether	20.1600	5.0	0.67	50.0000	ND	40.3	33 - 138			
Ethylbenzene	51.1800	5.0	0.91	100.000	ND	51.2	22 - 132			
Freon-113	33.0500	5.0	2.8	50.0000	ND	66.1	31 - 140			
Hexachlorobutadiene	21.5200	5.0	2.5	50.0000	ND	43.0	0 - 150			
Isopropylbenzene	25.6400	5.0	1.8	50.0000	ND	51.3	15 - 144			
m,p-Xylene	51.9300	10	1.5	100.000	ND	51.9	19 - 138			
Methylene chloride	15.0100	5.0	2.3	50.0000	ND	30.0	9 - 145			
MTBE	16.5900	5.0	0.63	50.0000	ND	33.2	31 - 136			
n-Butylbenzene	25.3300	5.0	2.4	50.0000	ND	50.7	0 - 153			
n-Propylbenzene	25.5400	5.0	2.2	50.0000	ND	51.1	12 - 141			
Naphthalene	12.8300	5.0	0.97	50.0000	ND	25.7	0 - 145			
o-Xylene	45.4900	5.0	0.87	100.000	ND	45.5	20 - 129			
sec-Butylbenzene	25.7100	5.0	2.3	50.0000	ND	51.4	4 - 143			

Stantec	Project Number : Olson Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/22/2017

Volatile Organic Compounds by EPA 8260B - 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 B7I0537 - MSVOA_S (continued)										
Matrix Spike (B7I0537-MS1) - Continued			**Source: 1703379-01**		Prepared: 9/21/2017 Analyzed: 9/21/2017					
Styrene	20.7600	5.0	1.5	50.0000	ND	41.5	19 - 136			
tert-Amyl methyl ether	16.4000	5.0	0.59	50.0000	ND	32.8	30 - 128			
tert-Butanol	191.610	100	19	250.000	ND	76.6	22 - 146			
tert-Butylbenzene	25.1300	5.0	2.0	50.0000	ND	50.3	9 - 140			
Tetrachloroethene	27.7100	5.0	1.6	50.0000	ND	55.4	18 - 143			
Toluene	52.8300	5.0	0.94	100.000	ND	52.8	30 - 132			
trans-1,2-Dichloroethene	25.5700	5.0	0.59	50.0000	ND	51.1	32 - 134			
trans-1,3-Dichloropropene	16.5400	5.0	2.1	50.0000	ND	33.1	23 - 127			
Trichloroethene	26.6500	5.0	3.1	50.0000	ND	53.3	17 - 158			
Trichlorofluoromethane	30.9900	5.0	1.4	50.0000	ND	62.0	36 - 135			
Vinyl acetate	78.2500	50	9.8	500.000	ND	15.6	0 - 154			
Vinyl chloride	29.2300	5.0	1.7	50.0000	ND	58.5	38 - 140			
Surrogate: 1,2-Dichloroethane-d4	*58.50*			*50.0000*		*117*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*51.29*			*50.0000*		*103*	*68 - 131*			
Surrogate: Dibromofluoromethan	*56.05*			*50.0000*		*112*	*49 - 134*			
Surrogate: Toluene-d8	*52.07*			*50.0000*		*104*	*75 - 132*			
Matrix Spike Dup (B7I0537-MSD1)			**Source: 1703379-01**		Prepared: 9/21/2017 Analyzed: 9/21/2017					
1,1,1,2-Tetrachloroethane	22.9200	5.0	0.96	50.0000	ND	45.8	27 - 130	12.0	20	
1,1,1-Trichloroethane	35.3000	5.0	1.1	50.0000	ND	70.6	32 - 135	16.3	20	
1,1,2,2-Tetrachloroethane	13.9300	5.0	0.62	50.0000	ND	27.9	17 - 135	10.6	20	
1,1,2-Trichloroethane	18.6900	5.0	1.6	50.0000	ND	37.4	31 - 129	10.7	20	
1,1-Dichloroethane	28.3800	5.0	0.81	50.0000	ND	56.8	37 - 130	11.4	20	
1,1-Dichloroethene	34.6100	5.0	2.6	50.0000	ND	69.2	41 - 125	20.0	20	
1,1-Dichloropropene	35.8200	5.0	2.3	50.0000	ND	71.6	33 - 138	21.0	20	R
1,2,3-Trichloropropane	15.7400	5.0	0.54	50.0000	ND	31.5	20 - 137	15.2	20	
1,2,3-Trichlorobenzene	15.6900	5.0	1.2	50.0000	ND	31.4	0 - 147	8.71	20	
1,2,4-Trichlorobenzene	17.1800	5.0	1.1	50.0000	ND	34.4	0 - 156	5.93	20	
1,2,4-Trimethylbenzene	26.1100	5.0	1.5	50.0000	ND	52.2	10 - 139	15.2	20	
1,2-Dibromo-3-chloropropane	16.6400	10	1.6	50.0000	ND	33.3	17 - 145	22.3	20	R
1,2-Dibromoethane	15.1600	5.0	3.2	50.0000	ND	30.3	25 - 136	0.526	20	
1,2-Dichlorobenzene	19.2600	5.0	1.1	50.0000	ND	38.5	8 - 134	9.86	20	
1,2-Dichloroethane	19.1000	5.0	1.2	50.0000	ND	38.2	31 - 123	9.60	20	
1,2-Dichloropropane	23.2800	5.0	1.8	50.0000	ND	46.6	38 - 123	8.70	20	
1,3,5-Trimethylbenzene	28.2800	5.0	1.7	50.0000	ND	56.6	10 - 139	17.7	20	
1,3-Dichlorobenzene	21.7300	5.0	1.3	50.0000	ND	43.5	8 - 134	11.5	20	
1,3-Dichloropropane	17.0600	5.0	1.1	50.0000	ND	34.1	34 - 130	5.17	20	
1,4-Dichlorobenzene	21.0700	5.0	1.2	50.0000	ND	42.1	10 - 134	9.39	20	
2,2-Dichloropropane	32.9100	5.0	1.2	50.0000	ND	65.8	36 - 133	13.8	20	
2-Chlorotoluene	25.2900	5.0	1.6	50.0000	ND	50.6	15 - 133	12.5	20	
4-Chlorotoluene	23.8300	5.0	1.5	50.0000	ND	47.7	13 - 135	14.2	20	

Certificate of Analysis

Stantec	Project Number : Olson Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/22/2017

Volatile Organic Compounds by EPA 8260B - 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 B7I0537 - MSVOA_S (continued)										
Matrix Spike Dup (B7I0537-MSD1) - Continued			**Source: 1703379-01**		Prepared: 9/21/2017 Analyzed: 9/21/2017					
4-Isopropyltoluene	32.0900	5.0	2.3	50.0000	ND	64.2	2 - 146	23.4	20	R
Benzene	56.6100	5.0	0.64	100.000	ND	56.6	40 - 123	13.6	20	
Bromobenzene	19.5700	5.0	1.1	50.0000	ND	39.1	18 - 132	6.65	20	
Bromochloromethane	18.9000	5.0	0.64	50.0000	ND	37.8	32 - 130	6.44	20	
Bromodichloromethane	21.8000	5.0	1.2	50.0000	ND	43.6	33 - 122	10.5	20	
Bromoform	15.8000	5.0	0.80	50.0000	ND	31.6	20 - 134	10.7	20	
Bromomethane	26.5900	5.0	2.5	50.0000	ND	53.2	35 - 140	13.4	20	
Carbon disulfide	34.7200	5.0	3.5	50.0000	ND	69.4	32 - 143	14.8	20	
Carbon tetrachloride	37.0300	5.0	1.2	50.0000	ND	74.1	23 - 144	19.3	20	
Chlorobenzene	24.3500	5.0	1.0	50.0000	ND	48.7	24 - 128	12.2	20	
Chloroethane	25.7000	5.0	1.1	50.0000	ND	51.4	35 - 135	2.88	20	
Chloroform	26.2800	5.0	0.82	50.0000	ND	52.6	36 - 126	9.19	20	
Chloromethane	28.2900	5.0	1.4	50.0000	ND	56.6	36 - 146	14.4	20	
cis-1,2-Dichloroethene	25.2400	5.0	0.67	50.0000	ND	50.5	31 - 136	12.0	20	
cis-1,3-Dichloropropene	20.8000	5.0	1.9	50.0000	ND	41.6	28 - 130	14.6	20	
Di-isopropyl ether	21.8200	5.0	0.55	50.0000	ND	43.6	32 - 133	9.25	20	
Dibromochloromethane	17.5500	5.0	1.0	50.0000	ND	35.1	30 - 129	9.74	20	
Dibromomethane	17.4700	5.0	1.6	50.0000	ND	34.9	28 - 126	6.07	20	
Dichlorodifluoromethane	35.9600	5.0	2.2	50.0000	ND	71.9	23 - 162	17.2	20	
Ethyl Acetate	63.4800	50	8.1	500.000	ND	12.7	0 - 156	39.1	20	R
Ethyl Ether	189.240	50	6.1	500.000	ND	37.8	33 - 128	12.1	20	
Ethyl tert-butyl ether	20.5900	5.0	0.67	50.0000	ND	41.2	33 - 138	2.11	20	
Ethylbenzene	60.7800	5.0	0.91	100.000	ND	60.8	22 - 132	17.1	20	
Freon-113	40.6700	5.0	2.8	50.0000	ND	81.3	31 - 140	20.7	20	R
Hexachlorobutadiene	31.5000	5.0	2.5	50.0000	ND	63.0	0 - 150	37.6	20	R
Isopropylbenzene	30.7000	5.0	1.8	50.0000	ND	61.4	15 - 144	18.0	20	
m,p-Xylene	61.3400	10	1.5	100.000	ND	61.3	19 - 138	16.6	20	
Methylene chloride	15.7900	5.0	2.3	50.0000	ND	31.6	9 - 145	5.06	20	
MTBE	17.1500	5.0	0.63	50.0000	ND	34.3	31 - 136	3.32	20	
n-Butylbenzene	33.5400	5.0	2.4	50.0000	ND	67.1	0 - 153	27.9	20	R
n-Propylbenzene	31.0300	5.0	2.2	50.0000	ND	62.1	12 - 141	19.4	20	
Naphthalene	14.1700	5.0	0.97	50.0000	ND	28.3	0 - 145	9.93	20	
o-Xylene	52.8200	5.0	0.87	100.000	ND	52.8	20 - 129	14.9	20	
sec-Butylbenzene	32.7700	5.0	2.3	50.0000	ND	65.5	4 - 143	24.1	20	R
Styrene	23.7400	5.0	1.5	50.0000	ND	47.5	19 - 136	13.4	20	
tert-Amyl methyl ether	16.3500	5.0	0.59	50.0000	ND	32.7	30 - 128	0.305	20	
tert-Butanol	289.290	100	19	250.000	ND	116	22 - 146	40.6	20	R
tert-Butylbenzene	31.5000	5.0	2.0	50.0000	ND	63.0	9 - 140	22.5	20	R
Tetrachloroethene	34.4900	5.0	1.6	50.0000	ND	69.0	18 - 143	21.8	20	R
Toluene	62.4700	5.0	0.94	100.000	ND	62.5	30 - 132	16.7	20	
trans-1,2-Dichloroethene	29.7300	5.0	0.59	50.0000	ND	59.5	32 - 134	15.0	20	
trans-1,3-Dichloropropene	18.0200	5.0	2.1	50.0000	ND	36.0	23 - 127	8.56	20	

Certificate of Analysis

Stantec	Project Number : Olson Placentia, 185803982
25864-F Business Center Drive	Report To : Dion Monge
Redlands , CA 92374	Reported : 09/22/2017

Volatile Organic Compounds by EPA 8260B - 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 B7I0537 - MSVOA_S (continued)										
Matrix Spike Dup (B7I0537-MSD1) - Continued			**Source: 1703379-01**		Prepared: 9/21/2017 Analyzed: 9/21/2017					
Trichloroethene	32.4900	5.0	3.1	50.0000	ND	65.0	17 - 158	19.7	20	
Trichlorofluoromethane	36.8100	5.0	1.4	50.0000	ND	73.6	36 - 135	17.2	20	
Vinyl acetate	ND	50	9.8	500.000	ND	NR	0 - 154	NR	20	
Vinyl chloride	34.4200	5.0	1.7	50.0000	ND	68.8	38 - 140	16.3	20	
Surrogate: 1,2-Dichloroethane-d4	*56.58*			*50.0000*		*113*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*51.98*			*50.0000*		*104*	*68 - 131*			
Surrogate: Dibromofluoromethan	*53.98*			*50.0000*		*108*	*49 - 134*			
Surrogate: Toluene-d8	*52.86*			*50.0000*		*106*	*75 - 132*			

Certificate of Analysis

Stantec		Project Number :	Olson Placentia, 185803982
25864-F Business Center Drive		Report To :	Dion Monge
Redlands , CA 92374		Reported :	09/22/2017

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
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.

Stantec

CHAIN OF CUSTODY

Laboratory Project Number: ~~D705329~~ 1703429

Page 1 of ___

Client Name/Address:	Project Manager:
Stantec Consulting Services 25864-F Business Center Drive Redlands, CA 92374	Dion Monge E-Mail Address: dion.monge@stantec.com Sampler Name: M. Bohn Stantec Project Number: 185803982 Project: Olson Placentia
Laboratory (circle): [redacted] ATL - 800-499-4388 [redacted] [redacted]	

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

Sample Temp °C: 4.7 ice + blue ice

	Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	VOCs - 8260B	TPH g/d/o - 8015B	Pb 6010	Special Instructions
-01	SB-48-1	Soil	1	1	9/21/17	0915		X	X		
-02	SB-48-3	↓	↓	↓	↓	0930				X	
-03	SB-48-4					0950				X	
-04	SB-45-1					1352		X	X		
-05	SB-45-3					1356				X	
-06	SB-45-5					1401				X	
-07	SB-46-1					1415		X	X		
-08	SB-46-3					1419				X	
-09	SB-46-5					1424				X	
-10	SB-47-1					1428		X	X		
-11	SB-47-3					1432				X	
-12	SB-47-5	Soil	1	1	9/21/17	1438				X	

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
[signature]	9/21/17	1538	ATL	9/21/17	1535
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time
[signature]	9/21/17	1638	ATL INDR	9/21/17	1638
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

APPENDIX B
BORING LOGS

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

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

Stantec

DRILLING: STARTED **8/11/17** COMPLETED: **8/11/17**
INSTALLATION: STARTED **8/11/17** COMPLETED: **8/11/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Geoprobe 420m**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Acetate Sleeve**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **15.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **15.0**
WELL CASING DIAMETER (in): **0.25** BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **JS** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SM	**SILTY SAND** ; SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; some fines		SB-1-0.5	0.5				X2 0.25" Nylaflow Tube in Hydrated Bentonite
					SB-1-1.0	0.5				
					SB-1-1.5	0.5				Dry Granular Bentonite
5			**SAME AS ABOVE**		0740 SB-1-5	0.5		0.0	5	6" PennPlex Vapor Probe in #2/12 Sand Filter Pack
		SW-SM	**WELL GRADED SAND WITH SILT** ; SW-SM; 10YR 6/3 pale brown; fine to medium-grained; dry; no odor; no staining; little fines							Dry Granular Bentonite
10			**SAME AS ABOVE**		0755 SB-1-10	0.5		0.0	10	0.25" Nylaflow Tube in Hydrated Bentonite
15			Hole terminated at 15 feet.		0805 SB-1-15	0.5		0.0	15	Dry Granular Bentonite
										6" PennPlex Vapor Probe in #2/12 Sand Filter Pack

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

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

Stantec

DRILLING: STARTED **8/11/17** COMPLETED: **8/11/17**
INSTALLATION: STARTED **8/11/17** COMPLETED: **8/11/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Geoprobe 420m**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Acetate Sleeve**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **5.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **5.0**
WELL CASING DIAMETER (in): **0.25**
BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SM	**SILTY SAND** ; SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; some fines							0.25" Nylaflow Tube in Hydrated Bentonite
										Dry Granular Bentonite
										6" PennPlex Vapor Probe in #2/12 Sand Filter Pack
					1412 SB-10-5	0.5		0.0		
5			Hole terminated at 5 feet.						5	

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

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

Stantec

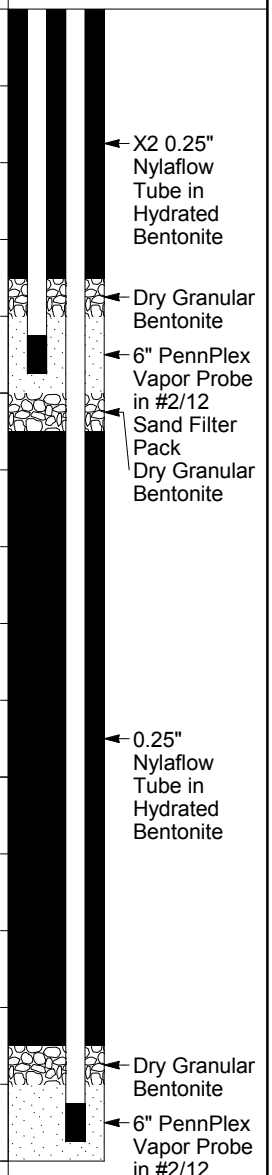
DRILLING: STARTED **8/11/17** COMPLETED: **8/11/17**
INSTALLATION: STARTED **8/11/17** COMPLETED: **8/11/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Geoprobe 420m**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Acetate Sleeve**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **15.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **15.0**
WELL CASING DIAMETER (in): **0.25** BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **JS** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)
		SW-SM	**WELL GRADED SAND WITH SILT** ; SW-SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; little fines					
5			**SAME AS ABOVE**		1330 SB-15-5	0.5		0.0
10			**SAME AS ABOVE**		1335 SB-15-10	0.5		0.0
			SAME AS ABOVE ; some fine gravel					
15			Hole terminated at 15 feet.		1345 SB-15-15	0.5		0.0

Depth (feet)

Well Construction



GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

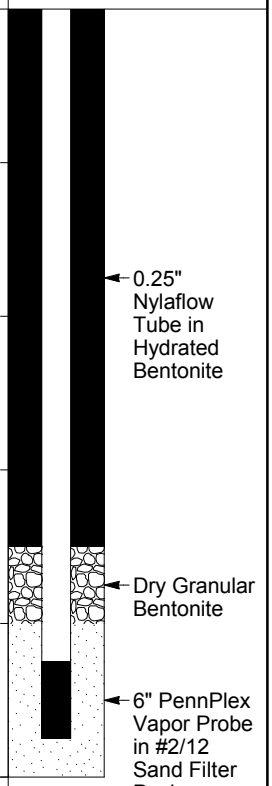
WELL / PROBEHOLE / BOREHOLE NO: **SB-16** PAGE 1 OF 1

Stantec

DRILLING: STARTED **8/11/17** COMPLETED: **8/11/17**
INSTALLATION: STARTED **8/11/17** COMPLETED: **8/11/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Geoprobe 420m**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Acetate Sleeve**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **5.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **5.0**
WELL CASING DIAMETER (in): **0.25**
BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SM	**SILTY SAND** ; SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; some fines		1036 SB-16-0.5	0.5		0.0		
					1037 SB-16-1.0	0.5		0.0		
					1038 SB-16-1.5	0.5		0.0		
					1043 SB-16-5	0.5		0.0		
5			Hole terminated at 5 feet.						5	



GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-28** PAGE 1 OF 1

Stantec

DRILLING: STARTED **8/11/17** COMPLETED: **8/11/17**
INSTALLATION: STARTED **8/11/17** COMPLETED: **8/11/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Geoprobe 420m**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Acetate Sleeve**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **15.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **15.0**
WELL CASING DIAMETER (in): **0.25** BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **JS** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SW-SM	**WELL GRADED SAND WITH SILT** ; SW-SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; little fines							X2 0.25" Nylaflow Tube in Hydrated Bentonite
		SW-SM	**SAME AS ABOVE** ; oil staining from 3.75' to 4.0' bgs							Dry Granular Bentonite
5		SW-SM	**WELL GRADED SAND WITH SILT** ; SW-SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; little fines		1210 SB-28-5	0.5		10.3	5	6" PennPlex Vapor Probe in #2/12 Sand Filter Pack
										Dry Granular Bentonite
10			**SAME AS ABOVE**		1215 SB-28-10	0.5		0.0	10	0.25" Nylaflow Tube in Hydrated Bentonite
		SM	**SILTY SAND** ; SM; 2.5Y 4/2 dark grayish brown; fine-grained; moist; no odor; no staining; some fines		1227 SB-28-15	0.5		0.0	15	Dry Granular Bentonite
15			Hole terminated at 15 feet.							6" PennPlex Vapor Probe in #2/12 Sand Filter Pack

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-30** PAGE 1 OF 1

Stantec

DRILLING: STARTED **8/11/17** COMPLETED: **8/11/17**
INSTALLATION: STARTED **8/11/17** COMPLETED: **8/11/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Geoprobe 420m**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Acetate Sleeve**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **5.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **5.0**
WELL CASING DIAMETER (in): **0.25**
BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SM	**SILTY SAND** ; SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; some fines		SB-30-0.5	0.5		0.0		
					SB-30-1.0	0.5		0.0		
					SB-30-1.5	0.5		0.0		
5			Hole terminated at 5 feet.		1130 SB-30-5	0.5		0.0	5	0.25" Nylaflow Tube in Hydrated Bentonite; Dry Granular Bentonite; 6" PennPlex Vapor Probe in #2/12 Sand Filter Pack

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

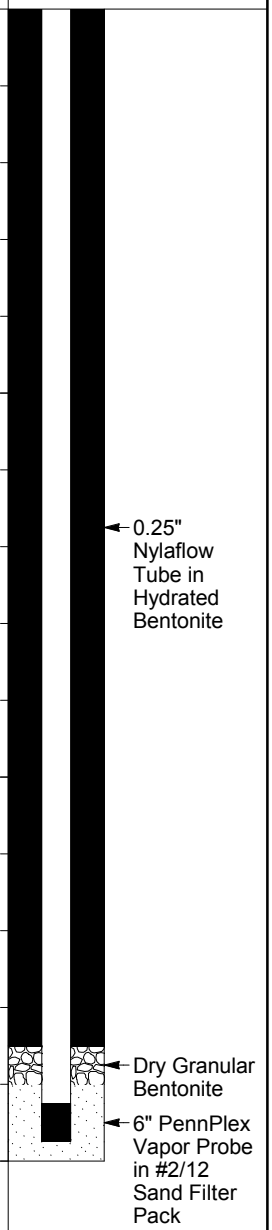
WELL / PROBEHOLE / BOREHOLE NO: **SB-33** PAGE 1 OF 1

Stantec

DRILLING: STARTED **8/11/17** COMPLETED: **8/11/17**
INSTALLATION: STARTED **8/11/17** COMPLETED: **8/11/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Geoprobe 420m**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Acetate Sleeve**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **15.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **15.0**
WELL CASING DIAMETER (in): **0.25**
BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)
		SW-SM	**WELL GRADED SAND WITH SILT** ; SW-SM; 10YR 6/3 pale brown; fine to coarse-grained; dry; no odor; no staining; little fines					
5			**SAME AS ABOVE**		0926 SB-33-5	0.5		0.0
10			**SAME AS ABOVE**		0940 SB-33-10	0.5		0.0
15			**SAME AS ABOVE**		0950 SB-33-15	0.5		0.0
			Hole terminated at 15 feet.					



GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-35** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/6/17** COMPLETED: **9/6/17**
INSTALLATION: STARTED **9/6/17** COMPLETED: **9/6/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Manual/4220**
DRILLING METHOD: **HA/DPT**
SAMPLING EQUIPMENT: **Grab/Sleeve**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **10.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **5.0**
WELL CASING DIAMETER (in): **0.25**
BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **MFB**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)
			4" Concrete					
		SP	**POORLY GRADED SAND WITH SILT** ; SP; 10YR 4/3 brown; fine-grained; slightly moist; no odor; no staining; few medium sand; little to some silt; trace gravel		1220 SB-35-1	0.5		0.0
		SP	**POORLY GRADED SAND** ; SP; 10YR 3/6 yellowish brown; fine to medium-grained; slightly moist; no odor; no staining; few fines; trace coarse sand; trace gravel		1224 SB-35-3	0.5		0.0
5			**SAME AS ABOVE**		1230 SB-35-5	0.5		0.0
		SC	**SANDY CLAY** ; SC; 7.5YR 4/2 brown; fine-grained; slightly moist; no odor; no staining; few medium sand; trace fines		1240 SB-35-10	0.5		0.0
10			Hole terminated at 10 feet.					

Depth (feet)	Well Construction
	1/4" Nylaflow in Hydrated Granular Bentonite
	Dry Granular Bentonite
5	10" Penn Plex Filter in #2/12 Sand Filter Pack
	Dry Granular Bentonite
	Hydrated Granular Bentonite
10	

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-36** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/6/17** COMPLETED: **9/6/17**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Manual/4220**
DRILLING METHOD: **HA/DPT**
SAMPLING EQUIPMENT: **Grab/Sleeve**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **10.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **MFB** 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
			4" Concrete							Concrete cap
		SP	**POORLY GRADED SAND WITH SILT** ; SP; 10YR 4/3 brown; fine-grained; slightly moist; no odor; no staining; few medium sand; little to some silt; trace gravel		1145 SB-36-1	0.5		50.7		
		SP	**POORLY GRADED SAND** ; SP; 10YR 3/6 yellowish brown; fine to medium-grained; slightly moist; no odor; no staining; few fines; trace coarse sand; trace gravel		1155 SB-36-3	0.5		0.0		
5			**SAME AS ABOVE** ; fine to coarse-grained; trace to few fines		1158 SB-36-5	0.5		0.0	5	Cuttings
		SP	**POORLY GRADED SAND** ; SP; 10YR 6/3 pale brown; fine-grained; slightly moist; no odor; no staining; few medium sand; trace fines		1207 SB-36-10	0.5		0.0		
10			Hole terminated at 10 feet.						10	

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-37** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/6/17** COMPLETED: **9/6/17**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Manual**
DRILLING METHOD: **Hand Auger**
SAMPLING EQUIPMENT: **Grab**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **3.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **3**
LOGGED BY: **MFB** 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 4/3 brown; fine to medium-grained; dry; no odor; no staining; few coarse sand; few to little fines		1330 SB-37-1	0.5		0.0		Cuttings
		SP	**POORLY GRADED SAND** ; SP; 10YR 5/4 yellowish brown; fine to medium-grained; dry; no odor; no staining; few coarse sand; trace fines		1342 SB-37-3	0.5		0.0		
			Soil collapsing - boring abandoned @ 3' Hole terminated at 3 feet.							

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-38** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/6/17** COMPLETED: **9/6/17**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Manual/4220**
DRILLING METHOD: **HA/DPT**
SAMPLING EQUIPMENT: **Grab/Sleeve**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **5.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **MFB** 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
			4" Concrete							Concrete Cap
		SP-SM	**POORLY GRADED SAND - SILTY SAND** ; SP-SM; 10YR 3/4 yellowish brown; fine to coarse-grained; moist; no odor; no staining; little to some silt; trace gravel		1307 SB-38-1	0.5		0.0		
					1311 SB-38-3	0.5		0.0		Cuttings
		SP	**POORLY GRADED SAND** ; SP; 10YR 3/4 yellowish brown; fine to coarse-grained; moist; no odor; no staining; trace silt		1315 SB-38-5	0.5		0.0		
5			Hole terminated at 5 feet.						5	

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-39** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/6/17** COMPLETED: **9/6/17**
INSTALLATION: STARTED **9/6/17** COMPLETED: **9/6/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Manual/4220**
DRILLING METHOD: **HA/DPT**
SAMPLING EQUIPMENT: **Grab/Sleeve**

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): **5.0**
WELL CASING DIAMETER (in): **0.25** BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **MFB** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
			4" Concrete							
		SP	**POORLY GRADED SAND** ; SP; 10YR 4/4 dark yellowish brown; fine to medium-grained; slightly moist; no odor; no staining; few coarse sand; few fines		1345 SB-39-1	0.5		0.0		1/4" Nylaflow in Hydrated Granular Bentonite
			SAME AS ABOVE		1348 SB-39-3	0.5		0.0		
5		SP	**POORLY GRADED SAND** ; SP; 10YR 5/4 yellowish brown; fine to medium-grained; slightly moist; no odor; no staining; few coarse sand; trace fines		1356 SB-39-5	0.5		0.0	5	Dry Granular Bentonite 10" Penn Plex Filter in #2/12 Sand Filter Pack
			Hole terminated at 5.5 feet.							

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-40** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/6/17** COMPLETED: **9/6/17**
INSTALLATION: STARTED **9/6/17** COMPLETED: **9/6/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Manual/4220**
DRILLING METHOD: **HA/DPT**
SAMPLING EQUIPMENT: **Grab/Sleeve**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **10.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **5.0**
WELL CASING DIAMETER (in): **0.25**
BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **MFB**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)
			3" Asphalt					
		SM	**SILTY SAND** ; SM; 10YR 4/3 brown; fine-grained; moist; no odor; no staining; few medium sand; some silt		1440 SB-40-1	0.5		0.0
			SAME AS ABOVE		1444 SB-40-3	0.5		0.0
5		SP-SM	**POORLY GRADED SAND - SILTY SAND** ; SP-SM; 10YR 5/2 grayish brown; fine-grained; slightly moist; no odor; no staining; little to some silt; trace medium sand		1452 SB-40-5	0.5		0.0
10		SP	**POORLY GRADED SAND** ; SP; 10YR 4/3 brown; fine to medium-grained; slightly moist; no odor; no staining; little silt		1500 SB-40-10	0.5		0.0
			Hole terminated at 10 feet.					

Depth (feet)	Well Construction
	1/4" Nylaflow in Hydrated Granular Bentonite
	Dry Granular Bentonite
5	10" Penn Plex Filter in #2/12 Sand Filter Pack
	Dry Granular Bentonite
	Hydrated Granular Bentonite
10	

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-41** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/6/17** COMPLETED: **9/6/17**
INSTALLATION: STARTED **9/6/17** COMPLETED: **9/6/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Manual**
DRILLING METHOD: **Hand Auger**
SAMPLING EQUIPMENT: **Grab**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **4.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **4.0**
WELL CASING DIAMETER (in): **0.25** BOREHOLE DIAMETER (in): **3**
LOGGED BY: **MFB** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SM	**SILTY SAND** ; SM; 10YR 5/2 grayish brown; fine to medium-grained; dry; no odor; no staining; some silt; trace gravel		1030 SB-41-1	0.5		0.0		1/4" Nylaflow in Hydrated Granular Bentonite
		SP	**POORLY GRADED SAND WITH SILT** ; SP; 10YR 5/3 brown; fine to medium-grained; dry; no odor; no staining; little to some silt; trace gravel		1035 SB-41-3	0.5		0.0		Dry Granular Bentonite
		SP	**POORLY GRADED SAND** ; SP; 10YR 4/4 dark yellowish brown; fine to coarse-grained; dry; no odor; no staining; trace fines; trace gravel @ 4.5' - soils too dry to advance hand auger without collapsing - vapor probe set at 4' Hole terminated at 4.5 feet.		1050 SB-41-4.5	0.5		0.4		10" Penn Plex Filter in #2/12 Sand Filter Pack
5									5	

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-42** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/6/17** COMPLETED: **9/6/17**
INSTALLATION: STARTED **9/6/17** COMPLETED: **9/6/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Manual/4220**
DRILLING METHOD: **HA/DPT**
SAMPLING EQUIPMENT: **Grab/Sleeve**

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): **5.0**
WELL CASING DIAMETER (in): **0.25**
BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **MFB**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SM	**SILTY SAND** ; SM; 10YR 5/2 grayish brown; fine-grained; slightly moist; no odor; no staining; some silt; trace gravel		0950 SB-42-1	0.5		1.0		
			SAME AS ABOVE		0952 SB-42-3	0.5		0.7		1/4" Nylaflow in Hydrated Granular Bentonite
5		SP	**POORLY GRADED SAND WITH SILT** ; SP; 10YR 4/3 brown; fine to medium-grained; slightly moist; no odor; no staining; little to some silt; few coarse sand		1000 SB-42-5	0.5		0.0	5	Dry Granular Bentonite 10" Penn Plex Filter in #2/12 Sand Filter Pack
			Hole terminated at 5.5 feet.							

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-43** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/6/17** COMPLETED: **9/6/17**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Manual**
DRILLING METHOD: **Hand Auger**
SAMPLING EQUIPMENT: **Grab**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **7.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **3**
LOGGED BY: **MFB** 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 WITH GRAVEL** ; SP; 10YR 5/3 brown; fine to coarse-grained; dry; no odor; no staining; few fines; little gravel							
5		SP	**POORLY GRADED SAND** ; SP; 10YR 6/2 light brownish gray; medium to coarse-grained; dry; no odor; no staining; trace to few fines		0915 SB-43-5	0.5		0.0	5	Cuttings
			SAME AS ABOVE ; fine to coarse-grained; few gravel		0930 SB-43-7	0.5		0.0		
			Refusal @ 7' Hole terminated at 7 feet.							

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

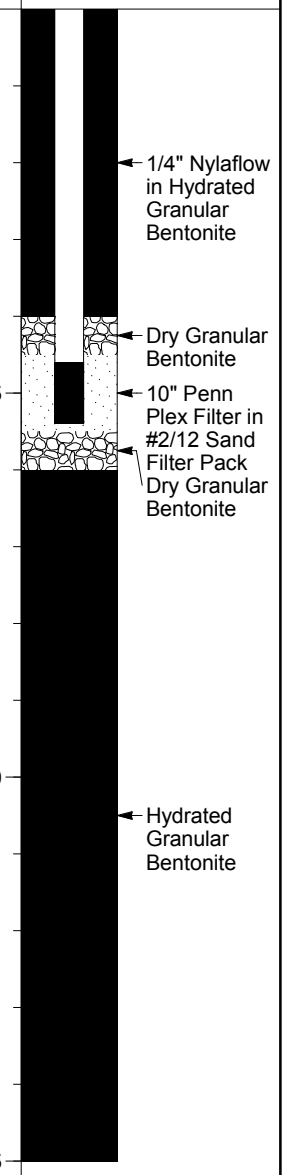
WELL / PROBEHOLE / BOREHOLE NO: **SB-44** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/6/17** COMPLETED: **9/6/17**
INSTALLATION: STARTED **9/6/17** COMPLETED: **9/6/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Manual/4220**
DRILLING METHOD: **HA/DPT**
SAMPLING EQUIPMENT: **Grab/Sleeve**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **15.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **5.0**
WELL CASING DIAMETER (in): **0.25**
BOREHOLE DIAMETER (in): **1.5**
LOGGED BY: **MFB**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)
		SP	**POORLY GRADED SAND WITH GRAVEL** ; SP; 10YR 5/3 brown; fine to coarse-grained; dry; no odor; no staining; few fines; little gravel					
5		SP	**POORLY GRADED SAND** ; SP; 10YR 6/2 light brownish gray; medium to coarse-grained; dry; no odor; no staining; trace to few fines		0805 SB-44-5	0.5		0.0
10		SP	**POORLY GRADED SAND** ; SP; 10YR 5/2 grayish brown; fine to medium-grained; slightly moist; no odor; no staining; few to little fines		0830 SB-44-10	0.5		0.0
15		SM	**SILTY SAND** ; SM; 10YR 4/5 brown; fine-grained; moist; no odor; no staining		0845 SB-44-15	0.5		0.0
			Hole terminated at 15 feet.					



GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

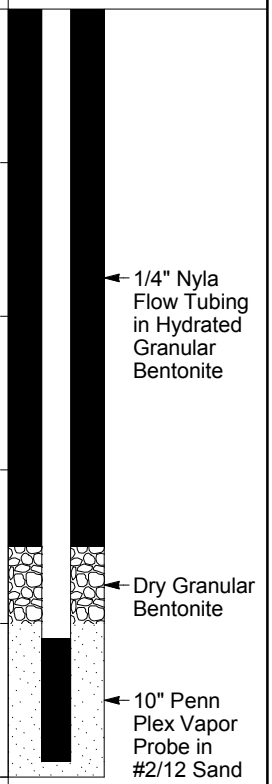
WELL / PROBEHOLE / BOREHOLE NO: **SB-45** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/21/17** COMPLETED: **9/21/17**
INSTALLATION: STARTED **9/21/17** COMPLETED: **9/21/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Manual**
DRILLING METHOD: **HA**
SAMPLING EQUIPMENT: **Grab/Sleeve**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **4.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **4.0**
WELL CASING DIAMETER (in): **0.25** BOREHOLE DIAMETER (in): **2**
LOGGED BY: **MFB** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
			3" Concrete							
		SM	**SILTY SAND** ; SM; 7.5YR 4/3 brown; fine-grained; loose; dry; no odor; no staining; few medium sand; some silt		1352 SB-45-1	0.5		0.0		
		SP	**POORLY GRADED SAND** ; SP; 7.5YR 4/2 brown; fine-grained; loose; slightly moist; no odor; no staining; trace to few silt		1356 SB-45-3	0.5		0.0		
			SAME AS ABOVE		1401 SB-45-5	0.5		0.0		
5			Hole terminated at 5 feet.						5	



GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-46** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/21/17** COMPLETED: **9/21/17**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Manual**
DRILLING METHOD: **HA**
SAMPLING EQUIPMENT: **Grab/Sleeve**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **5.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2**
LOGGED BY: **MFB** 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
			6" Concrete							Concrete Cap
		SM	**SILTY SAND** ; SM; 7.5YR 4/3 brown; fine-grained; loose; dry; no odor; no staining; few medium sand; some silt; roots		1415 SB-46-1	0.5		0.0		
		SP	**POORLY GRADED SAND** ; SP; 7.5YR 4/3 brown; fine-grained; very loose; dry; no odor; no staining; few medium sand; trace coarse sand/silt; roots		1419 SB-46-3	0.5		0.0		Backfilled with Cuttings
			@ 3.5' - Water added to boring to stabilize loose soil.							
			SAME AS ABOVE ; minor roots		1424 SB-46-5	0.5		0.0		
5			@ 3.5' bgs - collapsing soils encountered - stabilized with water Hole terminated at 5 feet.						5	

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-47** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/21/17** COMPLETED: **9/21/17**
INSTALLATION: STARTED COMPLETED:
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Manual**
DRILLING METHOD: **HA**
SAMPLING EQUIPMENT: **Grab/Sleeve**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **5.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2**
LOGGED BY: **MFB** 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
			6" Concrete							Concrete Cap
		SM	**SILTY SAND** ; SM; 7.5YR 4/3 brown; fine-grained; loose; dry; no odor; no staining; few medium sand; some silt		1428 SB-47-1	0.5		0.0		
		SM	**SILTY SAND** ; SM; 7.5YR 4/3 brown; fine to medium-grained; very loose; dry; no odor; no staining; trace coarse sand		1432 SB-47-3	0.5		0.0		Backfilled with Cuttings
			@ 3.5' - Water added to boring to stabilize loose soil.							
		SP	**POORLY GRADED SAND** ; SP; 7.5YR 4/3 brown; fine-grained; very loose; dry; no odor; no staining; few medium sand; trace coarse sand/silt		1438 SB-47-5	0.5		0.0		
5			@ 3.5' bgs - collapsing soils encountered - stabilized with water Hole terminated at 5 feet.						5	

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PROJECT: **Olson - Placentia**
LOCATION: **443 S. Van Buren Street, Placentia CA**
PROJECT NUMBER: **185803982**

WELL / PROBEHOLE / BOREHOLE NO: **SB-48** PAGE 1 OF 1

Stantec

DRILLING: STARTED **9/21/17** COMPLETED: **9/21/17**
INSTALLATION: STARTED **9/21/17** COMPLETED: **9/21/17**
DRILLING COMPANY: **Core Probe**
DRILLING EQUIPMENT: **Manual**
DRILLING METHOD: **HA**
SAMPLING EQUIPMENT: **Grab/Sleeve**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **4.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **5.0**
WELL CASING DIAMETER (in): **0.25** BOREHOLE DIAMETER (in): **2**
LOGGED BY: **MFB** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
			6" Concrete							
		SM	**SILTY SAND** ; SM; 7.5YR 4/3 brown; fine-grained; loose; dry; no odor; no staining; few medium sand; some silt		0915 SB-48-1	0.5		0.0		1/4" Nyla Flow Tubing in Hydrated Granular Bentonite
		SP	**POORLY GRADED SAND** ; SP; 7.5YR 4/3 brown; fine-grained; very loose; dry; no odor; no staining; few medium sand; trace coarse sand/silt		0930 SB-48-3	0.5		0.0		Dry Granular Bentonite
			@ 4' bgs - Water added to boring to stabilize loose soil.							10" Penn Plex Vapor Probe in #2/12 Sand Filter Pack
			SAME AS ABOVE ; 7.5YR 4/6 strong brown; fine to medium-grained		0950 SB-48-4	0.5		0.0		
5			Collapsing soils beginning @ 4'-4.5' bgs. Hole terminated at 4.5 feet.						5	

GEO FORM 304 LOGS.GPJ STANTEC001.GDT 9/22/17

PHASE II ENVIRONMENTAL SITE ASSESSMENT – LEAD INVESTIGATION

443, 449, 455 and 461
South Van Buren Street,
Placentia, California
Stantec Project No: 185804417

Prepared for:
DeNova Homes
3 Hughes
Irvine, California 92618

Prepared by:
Stantec Consulting Services Inc.
735 E. Carnegie Drive, Suite 280
San Bernardino, California

April 30, 2019

Sign-off Sheet

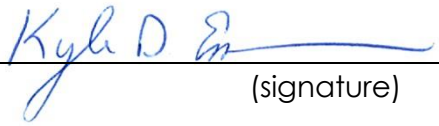
This PHASE II ENVIRONMENTAL SITE ASSESSMENT – LEAD INVESTIGATION was prepared by Stantec Consulting Services Inc. for DeNova Homes, and its/their subsidiaries and affiliates. The material in it reflects Stantec's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec Consulting Services Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Prepared by  (signature)

Dion Monge, Senior Scientist

Reviewed by  (signature)

Joshua Sargent, Geologic Project Specialist

Approved by  (signature)

Kyle Emerson, Managing Principal Geologist, C.E.G. 1271

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EXECUTIVE SUMMARY

The Property consists of approximately 5.92 acres of land formerly used as an automotive wrecking and storage yard. According to the Department of Oil, Gas, and Geothermal Resources (DOGGR) well finder map, the Property is located within the Richfield oil and gas field. Two oil and gas wells have been located on the Property. An idle well designated as Greka Oil & Gas Inc. well number "Z19" is located in the northeastern portion of the Property, and a well designated as "Mondette 2", listed as "plugged", is plotted in the central portion of the Site. Due to the current status of the Mondetta 2 oil well as inactive, no physical features related to this well are currently visible. Additionally, no records are available for review on the DOGGR well finder map for the Mondetta 2 well. An abandoned oil well casing was located through geophysical survey methods and excavation activities on August 1, 2017. Based on the well casing's true location relative to DOGGR maps (40-50 to the west of where DOGGR plots it) and because the casing size matches the one listed in DOGGR records, the well casing is believed to be the Mondotte 2 oil well.

An active railroad line is located along the northern Property boundary, and a drainage channel is located along the southern boundary. Multiple residences are located along the eastern Property boundary along South Van Buren Street. The Property is zoned manufacturing with oil production (M [O]). Surrounding properties are a mix of commercial and residential properties interspersed with actively pumping oil wells.

Additionally, historic aerial photographs depict multiple former aboveground storage tanks (ASTs) were present in the west/southwestern portion of the Property, and two potential undocumented oil wells are located off of the Property and near the northern Property boundary.

Since the 1970s, the Property has been operated by several automobile wrecking/dismantling businesses. According to Orange County Health Care Agency (OCHCA) records, hazardous materials used or stored as part of operations included used/waste oil, anti-freeze/coolant, and limited quantities of Stoddard solvent and chlorinated solvents for degreasing. Historically, OCHCA records indicate that a 466-gallon concrete used oil UST was historically present at the 461 S. Van Buren Street address. The UST was removed in 1992 and issued closure in 1993.

Multiple rounds of investigation have been performed on the Property by Stantec and others. These investigations have identified elevated metal concentrations, specifically lead, in shallow soils across the Property; petroleum impact to soils in the area of the Mondotte 2 oil well and the former car crusher; and volatile organic compound (VOC) impact to soil vapor that is localized to a small area in the southeast corner. Specific data related to those investigations can be found in prior reports prepared by Stantec in 2017.

Based on discussions with the Santa Ana Regional Water Quality Control Board (SARWQCB), which currently has an open cleanup case for the Property, additional lead sampling and groundwater sampling would be required at the Property in order to move the project forward to the remediation phase and eventual no further action (NFA) status once the Property is remediated. Through discussions with DeNova Homes, it was their desire to characterize the lead impacts and to sample groundwater conditions beneath the Property as part of due diligence. Groundwater well installation and sampling has been performed at the Property but is discussed in a separate report. This report documents the results of shallow soil sampling for lead on 50-foot grid spacing across the Property where lead was historically detected above 80 mg/kg in order to obtain a more accurate estimate of the volume of lead-impacted soil that will require excavation and offsite disposal.

Phase II Lead Investigation

In April of 2019 Stantec personnel performed shallow soil sampling at seventy-four (74) borings spaced on a 50-foot grid across the majority of the Property. The intent of the investigation was to estimate the volume of lead-impacted soil that will require excavation and offsite disposal. Samples were analyzed for total lead by EPA Method 6010 and select samples (where odors and/or staining were observed) were analyzed for TPH and VOCs by EPA Methods 8015 and 8260B.

Soils encountered during the investigation consisted predominately of brown, poorly graded fine to medium grained silty sand with a minor amount of coarse gravel (potentially imported fill) to a depth of approximately 2 to 2.5 feet bgs. At the 2-foot interval, the soil transitioned to a yellowish brown well graded sand with silt. The final laboratory reports are attached in Appendix A and summarized in Tables 1 and 2.

Results

Based on the results of lead sampling conducted during this investigation, and the prior investigations by Stantec in 2017, the results have cumulatively revealed the following with regard to the environmental condition of the Property:

- **Lead-impacted soil.** Lead was detected above the residential threshold of 80 mg/kg to depths ranging from approximately 1 to 2 feet bgs, as shown on Figures 2 and 3 and on Table 2. The detected lead concentrations in shallow soil during this investigation are generally consistent with where lead was detected above 80 mg/kg during the 2017 investigation. However, the additional boring coverage provided by this assessment shows fairly uniform detections of lead above the residential threshold in the southern portion of the Property and more heterogeneous occurrences over the remainder of the Property.

Based on the results of this investigation, supplemented with the prior investigation data from 2017, it is estimated that the quantity of lead impacted soil that will require excavation and offsite disposal is approximately 4,500 to 5,000 cubic yards (6,750 to 7,500 tons). Sampling results from 2017 indicate that, based on the solubility of the lead, a waste classification of non-RCRA California hazardous should be anticipated unless the soil is treated under appropriate permitting prior to disposal to reduce its solubility to below 5 mg/L.

The lead impacted soil at the Property that is above residential thresholds is a REC. Stantec recommends that the lead impacted soil above the residential threshold be remediated (excavation and disposal) of under agency oversight. Remedial action under agency oversight would be necessary as a condition to obtaining a no further action letter (*i.e.*, "NFA Letter").

- **TPH Impacted Soil.** TPH impacted soil at the location of G49 and G52 exceed residential RSLs but appear to be localized to within those grid locations. The TPH impacted soil at G52 would be addressed through the excavation of the lead-impacted soil at this location. TPH impacted soil at G49 appears to extend to approximately 4 feet bgs. Additionally, the 2017 investigation indicated that soil adjacent to the Mondotte 2 oil well, former car crusher, and in the southwest corner of the Property contains petroleum hydrocarbon concentrations that exceed residential RSLs. The TPH-impacted soil represents a REC. It is estimated that the quantity of TPH impacted soil that will require excavation and offsite disposal amounts to approximately 670 cubic yards (1,000 tons). Stantec recommends that the TPH-impacted soil above the residential threshold be remediated (excavation and disposal) under agency oversight. Remedial action under agency oversight would be necessary as a condition to obtaining an NFA Letter.

Based on prior Phase I and Phase II ESAs performed by Stantec, the following items should be considered with regard to redevelopment of the Property:

- **Unknown Structures and/or Contamination.** The Property has a long history of oil drilling/production and automobile salvage activities. As a result, Stantec anticipates that unknown/undocumented issues or features (including soil contamination, sumps, oil pipelines, or unregistered storage tanks) will be encountered during grading that will result in additional time and costs for assessing and remediating. In preparation for such occurrences, Stantec recommends that a Soil Management Plan (SMP) be prepared for the Property that can be followed should unknown materials or contamination be encountered during redevelopment. Additional costs should be allocated to

address such unknown issues under the SMP should they arise. However, based on the data collected to date, it does not appear that any large-scale releases have occurred on the Property other than the lead impacts discussed above.

Stantec also advises that, if feasible, a comprehensive site-wide geophysical survey of the Property be performed after removal of all vehicles and site structures to identify if abandoned and/or active infrastructure is in-place on the Property that could be avoided in connection with redevelopment activities.

- **Onsite Oil Wells.** There are two oil wells that are known to be onsite and are identified on DOGGR records as Mondotte 2 and Z19. The Z19 oil well is listed by DOGGR as an idle oil well operated by HVI Cat Canyon, Inc. If the Z19 well is acquired from the existing operator so that the well location can become useable space in the proposed development (i.e. driveway or park), the well would need to be abandoned under appropriate permitting in accordance with the current standard set forth by DOGGR. Given that the Mondotte 2 oil well in the central portion of the Property was originally abandoned in 1959, DOGGR will require that the Mondotte 2 well be re-abandoned to DOGGR's current standard. Stantec recommends that the DOGGR recommended set back of 10 feet from well to building be incorporated into the development layout. Additional information on methane mitigation requirements imposed by OCFA are provided below under the "Methane" recommendations.

- **Potential offsite well features.** An ALTA survey indicated that two potential offsite well features are near the northern property boundary. These features contain steel casings surrounded by a concrete slab. There are no oil wells illustrated in these locations on DOGGR maps and therefore the former use/function of these features is unclear. Additionally, no further investigation of these casings can be performed since they are located offsite on railroad property. Because these features cannot be ruled out as oil wells, Stantec recommends taking precautionary measures to address potential concerns that could affect the development if these features are found to be undocumented oil wells at a later date. Accordingly, Stantec recommends that the DOGGR recommended set back of 10 feet from well to building be incorporated into the development layout. Additionally, Stantec recommends that the Orange County Fire Authority (OCFA) Methane Mitigation Standards also be followed for any proposed building at the Property that are within 25 feet of these potential well locations.

- **Methane.** No methane or hydrogen sulfide gases have been detected during prior Phase II investigation. However, prior to redevelopment, a Site-wide methane survey will need to be conducted under oversight of the Orange County

Fire Authority (OCFA) in accordance with its "Combustible Soil Gas Hazardous Mitigation Guideline C-03".

Although no methane was detected during the previous Phase II investigations, at a minimum the following "Mandatory Procedures for Mitigation" will be imposed by OCFA due to the presence of oil wells on the Property and potential offsite wells near the northern Property boundary:

- All abandoned onsite oil wells within 25 feet of any structure or within 25 feet from a continuous hardscape that covers an abandoned well will need to be vented;
- Subslab passive venting systems will need to be installed below all proposed buildings within 25 feet of well or within 25 feet from a continuous hardscape that covers a well.

It has been a pleasure to provide environmental consulting services for you on this project and we look forward to working with you in the future. Should there be any questions regarding the information provided within the accompanying report, please do not hesitate to contact the undersigned at (909) 335-6116.

Respectfully submitted,
STANTEC CONSULTING SERVICES INC.

Dion Monge
Senior Scientist

Kyle D. Emerson, CEG 1271
Managing Principal Geologist

1.0 INTRODUCTION

This report documents the methodology and results of the Phase II Environmental Site Assessment (ESA) investigation completed by Stantec Consulting Services Inc. (Stantec) for the property addressed 443, 449, 455 and 461 South Van Buren Street, within the City of Placentia, County of Orange, California (Figure 1; the "Property").

The work was conducted in accordance with the Master Services Agreement between Stantec and DeNova Homes, Inc (the "MSA"), based on the scope of work set forth in the Proposal for Additional Phase II ESA, Characterization of Lead Impacts to Shallow Soil approved by DeNova Homes, Inc on March 26, 2019.

The scope of work and the results of the investigation are described in subsequent sections. The following subsections provide the site description and a summary of past operations.

1.1 PROPERTY DESCRIPTION AND OPERATIONS

The Property consists of approximately 5.92 acres of land currently used as an automotive wrecking and storage yard with an idle oil well located in the northeastern portion of the Property. The Property is presently divided into four lots operated by separate businesses addressed as 443, 449, 455, and 461 South Van Buren Street. An active railroad line is located along the northern Property boundary, and a drainage channel is located along the southern boundary. Multiple residences are located along the eastern Property boundary along South Van Buren Street.

1.2 PROPERTY GEOLOGY AND HYDROGEOLOGY

The Property is located in the southern portion of the Peninsular Ranges Geomorphic Province characterized by northwest-southeast trending mountains and faults. The regional surficial geology is underlain by recent alluvium described as unconsolidated stream, river channel, and alluvial fan deposits (California Department of Mining and Geology [CDMG], 1966). Shallow soils encountered during recent assessment activities have consisted of silty sand, and well- to poorly-graded sand. Deeper soils encountered during this assessment consisted predominately well- to poorly-graded sands with interbedded silts and silty sand lenses to a maximum explored depth of 80 feet below ground surface (bgs).

The Property is located within the Coastal Plain of Orange County Groundwater Basin (Basin Number 8-1) which underlies a coastal alluvial plain in the northwestern portion of Orange County. The vicinity of the Property is underlain with Quaternary-aged alluvium deposited by the Santa

Ana River from the upper Santa Ana Unit, by Carbon Creek from the Puente Hills, and by minor streams from hills bounding the area.

The Property is located within the Coastal Plain of Orange County Groundwater Basin which is bounded by consolidated rocks exposed on the north in the Puente and Chino Hills; on the east in the Santa Ana Mountains; the south in the San Joaquin Hills; the Pacific Ocean on the southwest; and by a low topographic divide approximated by the Orange County – Los Angeles County line on the northwest. The basin underlies the lower Santa Ana River watershed (DWR, Bulletin 118, February 27, 2004).

According to data on the State Water Resources Control Board online database Geotracker (www.geotracker.waterboards.ca.gov), groundwater in the vicinity of the Property is approximately 68 feet below ground surface with a southerly flow direction. First groundwater was encountered at approximately 60 to 65 feet bgs during installation of the groundwater monitoring wells which was conducted the week of April 15, 2019.

2.0 BACKGROUND INFORMATION

The Property consists of approximately 5.92 acres of land formerly used as an automotive wrecking and storage yard. According to the Department of Oil, Gas, and Geothermal Resources (DOGGR) well finder map, the Property is located within the Richfield oil and gas field. Two oil and gas wells have been located on the Property. An idle well designated as Greka Oil & Gas Inc. well number "Z19" is located in the northeastern portion of the Property, and a well designated as "Mondette 2", listed as "plugged", is plotted in the central portion of the Site. Due to the current status of the Mondetta 2 oil well as inactive, no physical features related to this well are currently visible. Additionally, no records are available for review on the DOGGR well finder map for the Mondetta 2 well. An abandoned oil well casing was located through geophysical survey methods and excavation activities on August 1, 2017. Based on the well casing's true location relative to DOGGR maps (40-50 to the west of where DOGGR plots it) and because the casing size matches the one listed in DOGGR records, the well casing is believed to be the Mondotte 2 oil well.

An active railroad line is located along the northern Property boundary, and a drainage channel is located along the southern boundary. Multiple residences are located along the eastern Property boundary along South Van Buren Street. The Property is zoned manufacturing with oil production (M [O]). Surrounding properties are a mix of commercial and residential properties interspersed with actively pumping oil wells.

Additionally, historic aerial photographs depict multiple former aboveground storage tanks (ASTs) were present in the west/southwestern portion of the Property, and two potential undocumented oil wells are located off of the Property and near the northern Property boundary.

Since the 1970s, the Property has been operated by several automobile wrecking/dismantling businesses. According to Orange County Health Care Agency (OCHCA) records, hazardous materials used or stored as part of operations included used/waste oil, anti-freeze/coolant, and limited quantities of Stoddard solvent and chlorinated solvents for degreasing. Historically, OCHCA records indicate that a 466-gallon concrete used oil UST was historically present at the 461 S. Van Buren Street address. The UST was removed in 1992 and issued closure in 1993.

Multiple rounds of investigation have been performed on the Property by Stantec and others. These investigations have identified elevated metal concentrations, specifically lead, in shallow soils across the Property; petroleum impact to soils in the area of the Mondetta 2 oil well and the former car crusher; and volatile organic compound (VOC) impact to soil vapor that is localized to a small area in the southeast corner. Specific data related to those investigations can be found in prior reports prepared by Stantec in 2017.

Based on discussions with the Santa Ana Regional Water Quality Control Board (SARWQCB), which currently has an open cleanup case for the Property, additional lead sampling and groundwater sampling would be required at the Property in order to move the project forward to Remedial Action Plan (RAP) preparation and approval to ultimately achieve no further action (NFA) status once the Property is remediated. Through discussions with DeNova Homes, it was their desire to characterize the lead impacts and to sample groundwater conditions beneath the Property as part of due diligence. Groundwater well installation and sampling has been performed at the Property but is discussed in a separate report. This report documents the results of shallow soil sampling for lead on 50-foot grid spacing across the majority of the Property in order to obtain a more accurate estimate of the volume of lead-impacted soil that will require excavation and offsite disposal.

The scope of work and results of the investigation to assess the distribution of lead in shallow soil at the Property is discussed in subsequent sections of this report.

3.0 FIELD INVESTIGATION PROGRAM

3.1 SCOPE OF WORK

The scope of work consisted of the following general elements:

Task 1: Pre-Drilling Activities

Prior to the commencement of fieldwork activities Stantec made the following preparations:

- As required by law, Stantec updated the existing Underground Service Alert (USA) ticket number prior to commencement of Property drilling activities.
- In accordance with federal OSHA regulations (29 CFR, Section 1910.120), Stantec updated the existing site specific Health and Safety Plan (HASP) for the Property. All Stantec personnel and subcontractors associated with the project were required to be familiar with, and comply with, all provisions of the HASP.

Task 2: Field Investigation

Stantec provided a field geologist/engineer to supervise and direct all onsite investigation activities. All work was conducted under the supervision of a State of California registered professional and included the activities described below:

Soil Sampling

Soil samples were collected from seventy-four (74) soil borings (G1 through G27, G29 through G41, G43 through G53, G55 through G63, G65 through G70, and G72 through G79) at various depths from 0.0 to 0.5 feet and 1.0 to 1.5 feet bgs. Samples were also collected from 2.0 to 2.5 feet bgs at G3, G15, G24, G59, G63, G74. The soil samples were collected at each location and analyzed for total lead by EPA Method 6010.

Soil samples were also collected between surface and 2 feet bgs at G26, G49, and G52 and analyzed for VOCs and/or TPH by EPA Method 8260b and 8015, respectively. The samples were collected and analyzed for TPH and VOCs due to staining and/or odors at these locations.

The staining observed at grid G49 only extended to approximately 6 inches bgs and was unstained in the 1.5-foot bgs sample. However, the 1.5-foot sample exhibited a noticeable petroleum hydrocarbon odor and the boring was advanced further and additional samples collected to 5 feet bgs (the maximum depth of the hand auger). Petroleum hydrocarbons odors were still observed at 5 feet bgs.

3.2 SAMPLING PROCEDURES

Soil Sampling

Soil boring locations were hand augered for utility clearance. Soil samples were collected with the aid of a hand auger. Upon advancement of the hand auger to the desired sampling depth interval, the hand auger bucket was extracted from the boring and the soil discharged into clean zip lock bags. The soil in the zip lock bag was manually homogenized and then packed into laboratory provided 8-ounce glass jars. For samples collected for TPH and VOC analysis, the soil samples were taken directly from the hand auger bucket and packed into jars.

Labeling of the samples included pertinent identification (boring number, sample depth, sample collection date, and sample collection time). The samples were then logged on a chain-of-custody (COC) form and placed in an ice-filled cooler for transport to the laboratory. Copies of the COC forms are included as Appendix A.

3.3 BORING ABANDONMENT PROCEDURES

Following the completion of drilling and soil sampling, borings were abandoned by removing the sampling equipment from the borehole and subsequently backfilling with the soil cuttings collected from that depth interval.

4.0 LABORATORY TESTING PROGRAM

A total of one hundred and fifty-five (155) soil samples collected during this investigation were delivered under COC (Appendix A) to Advanced Technology Laboratories (ATL) based out of Signal Hill, California. ATL is certified to perform hazardous waste testing by the State of California Department of Health Services, Environmental Laboratory Accreditation Program. All of the soil samples collected at 0.5, 1.5, and 2.5 feet bgs (152 samples) from the 50-foot grid were analyzed for total lead by EPA Method 6010. Six (6) soil samples were selected for analysis of TPH (EPA Method 8015) and/or VOCs (EPA Method 8260B) based on field screening using a photo-ionization detector (PID). Where the PID reported no detectable volatiles, samples were selected for analysis based on discoloration (dark brown to black). The remainder of the soil samples were placed on hold pending the results of the analyzed samples.

5.0 INVESTIGATION RESULTS

5.1 FIELD OBSERVATIONS

Stantec personnel oversaw the boring advancement and sampling of seventy-four (74) borings at the Property in April of 2019. Soils encountered during the investigation consisted predominately of brown, poorly graded fine to medium grained silty sand with a minor amount of coarse gravel to a depth of approximately 2 to 2.5 feet bgs. At the 2 foot interval, the soil transitioned to a yellowish brown well graded sand with silt.

Staining and petroleum hydrocarbon odors were observed in borings G-26, G-49, and G-52. The staining and odors were limited to the upper 1.5 feet in borings G-26 and G-52. Staining was limited to the upper foot in G-52 but petroleum hydrocarbon odors were observed to 5 feet bgs, the maximum depth of the hand auger equipment.

5.2 ANALYTICAL RESULTS

The laboratory test results are discussed below and summarized in the attached tables. The laboratory reports are attached as Appendix A.

Soil Samples – TPH & VOCs

No gasoline range petroleum hydrocarbons (TPHg) were reported above laboratory reporting limits in any of the samples collected and analyzed.

Soil sample G26-2.0 reported diesel range petroleum hydrocarbons ("TPHd") at 73 mg/kg and oil range petroleum hydrocarbons ("TPHo") at 94 mg/kg. The 0.5-foot bgs sample at G49 reported TPHd at 6,600 mg/kg and TPHo at 13,000 mg/kg. TPH was not detected above the laboratory reporting limit in the 5-foot bgs sample at G49. The 0.5-foot bgs sample at G52 reported TPHd at 1,500 mg/kg and TPHo at 1,900 mg/kg. No staining or odors were noted beyond 1-foot bgs at boring G52. The TPH concentrations detected at G49 and G52 exceed the United States Environmental Protection Agency Regional Screening Levels ("residential RSLs").

VOCs were non-detect in all samples analyzed from G26, G49, and G52.

Soil Samples – Lead

Lead concentrations in the 0.5-foot bgs sampling interval ranged from 1.9 mg/kg at G76 to 3,200 mg/kg at G74 and exceeded the residential threshold of 80 mg/kg at 33 grid locations.

Lead concentrations in the 1.5-foot bgs sampling interval ranged from <1.0 mg/kg (below the laboratory reporting limit) at G76 to 1,500 mg/kg at G74 and exceeded the residential threshold of 80 mg/kg at 10 of the 33 grid locations where lead was above 80 mg/kg at 0.5-feet bgs. Lead was also detected above 80 mg/kg at one location (G63) where it did not exceed the threshold in the shallower 0.5 foot bgs sample.

Deeper soil samples were collected at 2.5 feet bgs from six of the locations (G3, G15, G24, G59, G63, and G74) where lead exceeded 80 mg/kg at 1.5 feet bgs. Lead in these 2.5-foot bgs samples ranged from <1.0 mg/kg (below the laboratory reporting limit) to 9.1 mg/kg – none of them exceeded 80 mg/kg.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of lead sampling conducted during this investigation, and the prior investigations by Stantec in 2017, the results have cumulatively revealed the following with regard to the environmental condition of the Property:

- **Lead-impacted soil.** Lead was detected above the residential threshold of 80 mg/kg to depths ranging from approximately 1 to 2 feet bgs, as shown on Figures 2 and 3 and on Table 2. The detected lead concentrations in shallow soil during this investigation are generally consistent with where lead was detected above 80 mg/kg during the 2017 investigation. However, the additional boring coverage provided by this assessment shows fairly uniform detections of lead above the residential threshold in the southern portion of the Property and more heterogeneous occurrences over the remainder of the Property.

  Based on the results of this investigation, supplemented with the prior investigation data from 2017, it is estimated that the quantity of lead impacted soil that will require excavation and offsite disposal is approximately 4,500 to 5,000 cubic yards (6,750 to 7,500 tons). Sampling results from 2017 indicate that, based on the solubility of the lead, a waste classification of non-RCRA California hazardous should be anticipated unless the soil is treated under appropriate permitting prior to disposal to reduce its solubility to below 5 mg/L.

  The lead impacted soil at the Property that is above residential thresholds is a REC. Stantec recommends that the lead impacted soil above the residential threshold be remediated (excavation and disposal) of under agency oversight. Remedial action under agency oversight would be necessary as a condition to obtaining a no further action letter (*i.e.*, "NFA Letter").

- **TPH Impacted Soil.** TPH impacted soil at the location of G49 and G52 exceed residential RSLs but appear to be localized to within those grid locations. The TPH impacted soil at G52 would be addressed through the excavation of the lead-impacted soil at this location. TPH impacted soil at G49 appears to extend to approximately 4 feet bgs. Additionally, the 2017 investigation indicated that soil adjacent to the Mondotte 2 oil well, former car crusher, and in the southwest corner of the Property contains petroleum hydrocarbon concentrations that exceed residential RSLs. The TPH-impacted soil represents a REC. It is estimated that the quantity of TPH impacted soil that will require excavation and offsite disposal amounts to approximately 670 cubic yards (1,000 tons). Stantec recommends that the TPH-impacted soil above the residential threshold be remediated (excavation and disposal) under agency oversight. Remedial action

under agency oversight would be necessary as a condition to obtaining an NFA Letter.

Based on prior Phase I and Phase II ESAs performed by Stantec, the following items should be considered with regard to redevelopment of the Property:

- **Unknown Structures and/or Contamination.** The Property has a long history of oil drilling/production and automobile salvage activities. As a result, Stantec anticipates that unknown/undocumented issues or features (including soil contamination, sumps, oil pipelines, or unregistered storage tanks) will be encountered during grading that will result in additional time and costs for assessing and remediating. In preparation for such occurrences, Stantec recommends that a Soil Management Plan (SMP) be prepared for the Property that can be followed should unknown materials or contamination be encountered during redevelopment. Additional costs should be allocated to address such unknown issues under the SMP should they arise. However, based on the data collected to date, it does not appear that any large-scale releases have occurred on the Property other than the lead impacts discussed above.

  Stantec also advises that, if feasible, a comprehensive site-wide geophysical survey of the Property be performed after removal of all vehicles and site structures to identify if abandoned and/or active infrastructure is in-place on the Property that could be avoided in connection with redevelopment activities.

- **Onsite Oil Wells.** There are two oil wells that are known to be onsite and are identified on DOGGR records as Mondotte 2 and Z19. The Z19 oil well is listed by DOGGR as an idle oil well operated by HVI Cat Canyon, Inc. If the Z19 well is acquired from the existing operator so that the well location can become useable space in the proposed development (i.e. driveway or park), the well would need to be abandoned under appropriate permitting in accordance with the current standard set forth by DOGGR. Given that the Mondotte 2 oil well in the central portion of the Property was originally abandoned in 1959, DOGGR will require that the Mondotte 2 well be re-abandoned to DOGGR's current standard. Stantec recommends that the DOGGR recommended set back of 10 feet from well to building be incorporated into the development layout. Additional information on methane mitigation requirements imposed by OCFA are provided below under the "Methane" recommendations.

- **Potential offsite well features.** An ALTA survey indicated that two potential offsite well features are near the northern property boundary. These features contain steel casings surrounded by a concrete slab. There are no oil wells illustrated in

these locations on DOGGR maps and therefore the former use/function of these features is unclear. Additionally, no further investigation of these casings can be performed since they are located offsite on railroad property. Because these features cannot be ruled out as oil wells, Stantec recommends taking precautionary measures to address potential concerns that could affect the development if these features are found to be undocumented oil wells at a later date. Accordingly, Stantec recommends that the DOGGR recommended set back of 10 feet from well to building be incorporated into the development layout. Additionally, Stantec recommends that the Orange County Fire Authority (OCFA) Methane Mitigation Standards also be followed for any proposed building at the Property that are within 25 feet of these potential well locations.

- **Methane.** No methane or hydrogen sulfide gases have been detected during prior Phase II investigation. However, prior to redevelopment, a Site-wide methane survey will need to be conducted under oversight of the Orange County Fire Authority (OCFA) in accordance with its "Combustible Soil Gas Hazardous Mitigation Guideline C-03".

  Although no methane was detected during the previous Phase II investigations, at a minimum the following "Mandatory Procedures for Mitigation" will be imposed by OCFA due to the presence of oil wells on the Property and potential offsite wells near the northern Property boundary:

  - All abandoned onsite oil wells within 25 feet of any structure or within 25 feet from a continuous hardscape that covers an abandoned well will need to be vented;
  - Subslab passive venting systems will need to be installed below all proposed buildings within 25 feet of well or within 25 feet from a continuous hardscape that covers a well.

7.0 LIMITATIONS

The conclusions presented in this report are professional opinions based on data described in this report. The opinions of this report have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location, and are subject to the following inherent limitations. 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 County and State regulations.

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

In the event of any conflict between the terms and conditions of this report and the terms and conditions of the MSA, the MSA shall control.

8.0 REFERENCES

California Division of Mines and Geology (CDMG), Photo Revised 1978, Geologic Map of California, Santa Ana Sheet, Scale 1:250,000

California Geological Survey (CGS), 2002, California Geomorphic Provinces, Note 36.

Department of Toxic Substances Control, 2017, Human and Ecological Risk Office, Human Health Risk Assessment Note 3, June.

Stantec Consulting Services, Inc, 2017, Phase I Environmental Site Assessment, 443, 449, 455 and 461 South Van Buren Street, Placentia, California, dated August 15, 2017.

Stantec Consulting Services, Inc, 2017, Phase II Environmental Site Assessment, 443, 449, 455 and 461 South Van Buren Street, Placentia, California, dated August 30, 2017.

Stantec Consulting Services, Inc, 2017, Additional Phase II Environmental Site Assessment, 443, 449, 455 and 461 South Van Buren Street, Placentia, California, dated September 29, 2017.

TABLES

Table 1
Summary of Soil Analytical Results - TPH and VOCs
443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185804417

Sample ID [1]	Sampling Date	Sampling Depth [2]	Petroleum Hydrocarbons [3]			VOCs [3]						
			EPA 8015B			EPA 8260B						
			Gasoline Range Organics	Diesel Range Organics	Oil Range Organics	Benzene	Ethylbenzene	PCE	Toluene	TCE	Total Xylenes	Other VOCs
DTSC HERO Note 3 or USEPA RSL for			NA	NA	NA	0.33	5.8	0.60	1,100	0.94	580	varies
US EPA Residential RSLs			82	96	2,500	0.011	0.7	NE	0	NE	1.75	varies
Samples												
G26-2.0	4/2/2019	2.0	<1.0	**73**	**94**	--	--	--	--	--	--	--
G49-0.5	4/2/2019	0.5	<1.0	**6600**	**13,000**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<varies
G49-1.5	4/2/2019	1.5	<1.0	**770**	**1500**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<varies
G49-2.0	4/2/2019	2.0	<1.0	**850**	**1700**	--	--	--	--	--	--	--
G49-4	4/26/2019	4.0	--	**22**	**29**	--	--	--	--	--	--	--
G49-5	4/26/2019	5.0	<1.0	<10	<10	--	--	--	--	--	--	--
G52-0.5	4/2/2019	0.5	<1.0	**1500**	**1900**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<varies

NOTES:
(1) Refer to Figure 2 for sampling locations
(2) Sampling depth is reported as feet below ground surface
(3) Concentrations reported in milligrams per kilogram (mg/kg)
(4) More conservative value between USEPA RSL and DTSC HERO Note 3 for residential land use used as screening level
< - Indicates the concentration was not detected above the laboratory
BOLD indicates analyte is present above the laboratory
Indicates reported concentrations is above the most conservative screening level for residential land use
-- indicates that sample was not analyzed

Abbreviations:
DTSC HERO - Department of Toxic Substances Control, Human and Ecological Risk Office
NA - Not applicable
NE - Not established
PCE - Tetrachloroethene
TCE - Trichloroethene
TPH - Total petroleum hydrocarbons
TPHg - TPH as Gasoline
TPHd - TPH as Diesel
TPHo - TPH as Motor Oil
VOC - Volatile Organic Compounds
USEPA RSL - United States Environmental Protection Agency Regional Screening Levels

Table 2
Summary of Soil Analytical Results - Total Lead

443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185804417

Sample ID [1]	Sampling Date	Sampling Depth [2]	Metals 6010B Lead
USEPA RSLs, residential use			*400*
DTSC HERO Note 3, residential use			*80*
California Background Levels Range			*12.4-97.1*
Samples			
G1-0.5	4/1/2019	0.5	**740**
G1-1.5	4/1/2019	1.5	**280**
G2-0.5	4/1/2019	0.5	**210**
G2-1.5	4/1/2019	1.5	**180**
G3-0.5	4/1/2019	0.5	**210**
G3-1.5	4/1/2019	1.5	**440**
G3-2.5	4/22/2019	2.5	**1.6**
G4-0.5	4/1/2019	0.5	**500**
G4-1.5	4/1/2019	1.5	**38**
G5-0.5	4/1/2019	0.5	**380**
G5-1.5	4/1/2019	1.5	**36**
G6-0.5	4/1/2019	0.5	**360**
G6-1.5	4/1/2019	1.5	**25**
G7-0.5	4/1/2019	0.5	**230**
G7-1.5	4/1/2019	1.5	**17**
G8-0.5	4/1/2019	0.5	**470**
G8-1.5	4/1/2019	1.5	**33**
G9-0.5	4/1/2019	0.5	**370**
G9-1.5	4/1/2019	1.5	**38**
G10-0.5	4/1/2019	0.5	**410**
G10-1.5	4/1/2019	1.5	**25**
G11-0.5	4/1/2019	0.5	**270**
G11-1.5	4/1/2019	1.5	**170**
G12-0.5	4/1/2019	0.5	**130**
G12-1.5	4/1/2019	1.5	**43**

See final page for notes and abbreviations

Table 2
Summary of Soil Analytical Results - Total Lead

443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185804417

Sample ID [1]	Sampling Date	Sampling Depth [2]	Metals 6010B Lead
USEPA RSLs, residential use			*400*
DTSC HERO Note 3, residential use			*80*
California Background Levels Range			*12.4-97.1*
Samples			
G13-0.5	4/1/2019	0.5	**56**
G13-1.5	4/1/2019	1.5	**32**
G14-0.5	4/1/2019	0.5	**160**
G14-1.5	4/1/2019	1.5	**62**
G15-0.5	4/1/2019	0.5	**380**
G15-1.5	4/1/2019	1.5	**310**
G15-2.5	4/22/2019	2.5	**9.1**
G16-0.5	4/1/2019	0.5	**93**
G16-1.5	4/1/2019	1.5	**140**
G17-0.5	4/1/2019	0.5	**110**
G17-1.5	4/1/2019	1.5	**22**
G18-0.5	4/1/2019	0.5	**280**
G18-1.5	4/1/2019	1.5	**22**
G19-0.5	4/1/2019	0.5	**490**
G19-1.5	4/1/2019	1.5	**20**
G20-0.5	4/1/2019	0.5	**220**
G20-1.5	4/1/2019	1.5	**61**
G21-0.5	4/1/2019	0.5	**210**
G21-1.5	4/1/2019	1.5	**21**
G22-0.5	4/1/2019	0.5	**110**
G22-1.5	4/1/2019	1.5	**30**
G23-0.5	4/1/2019	0.5	**280**
G23-1.5	4/1/2019	1.5	**58**
G24-0.5	4/1/2019	0.5	**140**
G24-1.5	4/1/2019	1.5	**200**
G24-2.5	4/22/2019	2.5	<1.0

See final page for notes and abbreviations

Table 2
Summary of Soil Analytical Results - Total Lead

443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185804417

Sample ID [1]	Sampling Date	Sampling Depth [2]	Metals 6010B Lead
USEPA RSLs, residential use			*400*
DTSC HERO Note 3, residential use			*80*
California Background Levels Range			*12.4-97.1*
Samples			
G25-0.5	4/1/2019	0.5	**11**
G25-1.5	4/1/2019	1.5	**3.0**
G26-0.5	4/1/2019	0.5	**600**
G26-1.5	4/1/2019	1.5	**49**
G26-2	4/2/2019	2.0	**8.5**
G27-0.5	4/1/2019	0.5	**3.2**
G27-1.5	4/1/2019	1.5	**1.3**
G29-0.5	4/1/2019	0.5	**240**
G29-1.5	4/1/2019	1.5	**5.0**
G30-0.5	4/1/2019	0.5	**7.8**
G30-1.5	4/1/2019	1.5	**5.9**
G31-0.5	4/1/2019	0.5	**23**
G31-1.5	4/1/2019	1.5	**3.8**
G32-0.5	4/1/2019	0.5	**6.3**
G32-1.5	4/1/2019	1.5	**3.2**
G33-0.5	4/1/2019	0.5	**6.0**
G33-1.5	4/1/2019	1.5	**5.3**
G34-0.5	4/1/2019	0.5	**6.7**
G34-1.5	4/1/2019	1.5	**5.0**
G35-0.5	4/2/2019	0.5	**19**
G35-1.5	4/2/2019	1.5	**2.2**
G36-0.5	4/2/2019	0.5	**14**
G36-1.5	4/2/2019	1.5	**2.3**

See final page for notes and abbreviations

Table 2
Summary of Soil Analytical Results - Total Lead

443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185804417

Sample ID [1]	Sampling Date	Sampling Depth [2]	Metals 6010B Lead
USEPA RSLs, residential use			*400*
DTSC HERO Note 3, residential use			*80*
California Background Levels Range			*12.4-97.1*
Samples			
G37-0.5	4/2/2019	0.5	**22**
G37-1.5	4/2/2019	1.5	**11**
G38-0.5	4/2/2019	0.5	**21**
G38-1.5	4/2/2019	1.5	**11**
G39-0.5	4/2/2019	0.5	**14**
G39-1.5	4/2/2019	1.5	**3.8**
G40-0.5	4/2/2019	0.5	**2.8**
G40-1.5	4/2/2019	1.5	**1.9**
G41-0.5	4/2/2019	0.5	**29**
G41-1.5	4/2/2019	1.5	**16**
G43-0.5	4/2/2019	0.5	**97**
G43-1.5	4/2/2019	1.5	**19**
G44-0.5	4/2/2019	0.5	**79**
G44-1.5	4/2/2019	1.5	**4.6**
G45-0.5	4/2/2019	0.5	**190**
G45-1.5	4/2/2019	1.5	**15**
G46-0.5	4/2/2019	0.5	**41**
G46-1.5	4/2/2019	1.5	**5.4**
G47-0.5	4/2/2019	0.5	**15**
G47-1.5	4/2/2019	1.5	**2.9**
G48-0.5	4/2/2019	0.5	**41**
G48-1.5	4/2/2019	1.5	**8.6**
G49-0.5	4/2/2019	0.5	**70**
G49-1.5	4/2/2019	1.5	**9.4**

See final page for notes and abbreviations

Table 2
Summary of Soil Analytical Results - Total Lead

443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185804417

Sample ID [1]	Sampling Date	Sampling Depth [2]	Metals 6010B Lead
USEPA RSLs, residential use			*400*
DTSC HERO Note 3, residential use			*80*
California Background Levels Range			*12.4-97.1*
Samples			
G50-0.5	4/2/2019	0.5	**11**
G50-1.5	4/2/2019	1.5	**9.0**
G51-0.5	4/2/2019	0.5	**69**
G51-1.5	4/2/2019	1.5	**4.6**
G52-0.5	4/2/2019	0.5	**160**
G52-1.0	4/2/2019	1.0	**190**
G53-0.5	4/2/2019	0.5	**11**
G53-1.5	4/2/2019	1.5	**4.2**
G55-0.5	4/2/2019	0.5	**6.8**
G55-1.5	4/2/2019	1.5	**15**
G56-0.5	4/2/2019	0.5	**6.4**
G56-1.5	4/2/2019	1.5	**7.9**
G57-0.5	4/2/2019	0.5	**7.9**
G57-1.5	4/2/2019	1.5	**7.5**
G58-0.5	4/2/2019	0.5	**7.2**
G58-1.5	4/2/2019	1.5	**8.2**
G59-0.5	4/2/2019	0.5	**270**
G59-1.0	4/2/2019	1.0	**160**
G59-2.5	4/22/2019	2.5	**2.5**
G60-0.5	4/2/2019	0.5	**340**
G60-1.5	4/2/2019	1.5	**12**
G61-0.5	4/2/2019	0.5	**13**
G61-1.5	4/2/2019	1.5	**20**

See final page for notes and abbreviations

Table 2
Summary of Soil Analytical Results - Total Lead

443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185804417

Sample ID [1]	Sampling Date	Sampling Depth [2]	Metals 6010B Lead
USEPA RSLs, residential use			*400*
DTSC HERO Note 3, residential use			*80*
California Background Levels Range			*12.4-97.1*
Samples			
G62-0.5	4/2/2019	0.5	**10**
G62-1.5	4/2/2019	1.5	**20**
G63-0.5	4/2/2019	0.5	**19**
G63-1.5	4/2/2019	1.5	**160**
G63-2.5	4/22/2019	2.5	**5.5**
G65-0.5	4/2/2019	0.5	**210**
G65-1.5	4/2/2019	1.5	**13**
G66-0.5	4/2/2019	0.5	**64**
G66-1.5	4/2/2019	1.5	**18**
G67-0.5	4/2/2019	0.5	**51**
G67-1.5	4/2/2019	1.5	**8.3**
G68-0.5	4/2/2019	0.5	**340**
G68-1.5	4/2/2019	1.5	**9.2**
G69-0.5	4/2/2019	0.5	**61**
G69-1.5	4/2/2019	1.5	**4.9**
G70-0.5	4/2/2019	0.5	**14**
G70-1.5	4/2/2019	1.5	**32**
G72-0.5	4/2/2019	0.5	**30**
G72-1.5	4/2/2019	1.5	**10**
G73-0.5	4/2/2019	0.5	**170**
G73-1.5	4/2/2019	1.5	**12**

See final page for notes and abbreviations

Table 2
Summary of Soil Analytical Results - Total Lead

443, 449, 455 and 461 South Van Buren Street
Placentia, California
Stantec Project No.: 185804417

Sample ID [1]	Sampling Date	Sampling Depth [2]	Metals 6010B Lead
USEPA RSLs, residential use			*400*
DTSC HERO Note 3, residential use			*80*
California Background Levels Range			*12.4-97.1*
Samples			
G74-0.5	4/2/2019	0.5	**3200**
G74-1.5	4/2/2019	1.5	**1500**
G74-2.5	4/22/2019	2.5	**3.4**
G75-0.5	4/22/2019	0.5	**12**
G75-1.5	4/22/2019	1.5	**3.6**
G76-0.5	4/22/2019	0.5	**1.9**
G76-1.5	4/22/2019	1.5	<1.0
G77-0.5	4/22/2019	0.5	**45**
G78-0.5	4/22/2019	0.5	**53**
G79-0.5	4/22/2019	0.5	**64**

NOTES:

(1) Refer to Figures 2 and 3 for sampling locations

(2) Sampling depth is reported as feet below ground surface

(3) Concentrations reported in milligrams per kilogram (mg/kg)

< - Indicates the concentration was not detected above the laboratory method reporting limit.
BOLD indicates analyte was detected above the laboratory method reporting limit.

Indicates reported concentrations is above the most conservative screening level for residential land use

ABBREVIATIONS:

DTSC HERO - Department of Toxic Substances Control, Human and Ecologic Risk Office

FIGURES



N

CALIFORNIA

1 1/2 0 1

SCALE IN MILE

1000 0 1000 2000 3000 4000 5000 6000 7000

SCALE IN FEET

REFERENCE: USGS 7.5 X 7.5 MINUTE □UADRANGLE□ORANGE, 1980.

Stantec

0 735 E. CARNEGIE DRIVE
SAN BERNARDINO, CALIFORNIA
PH (909) 335-6116 FAX (909) 335-6120

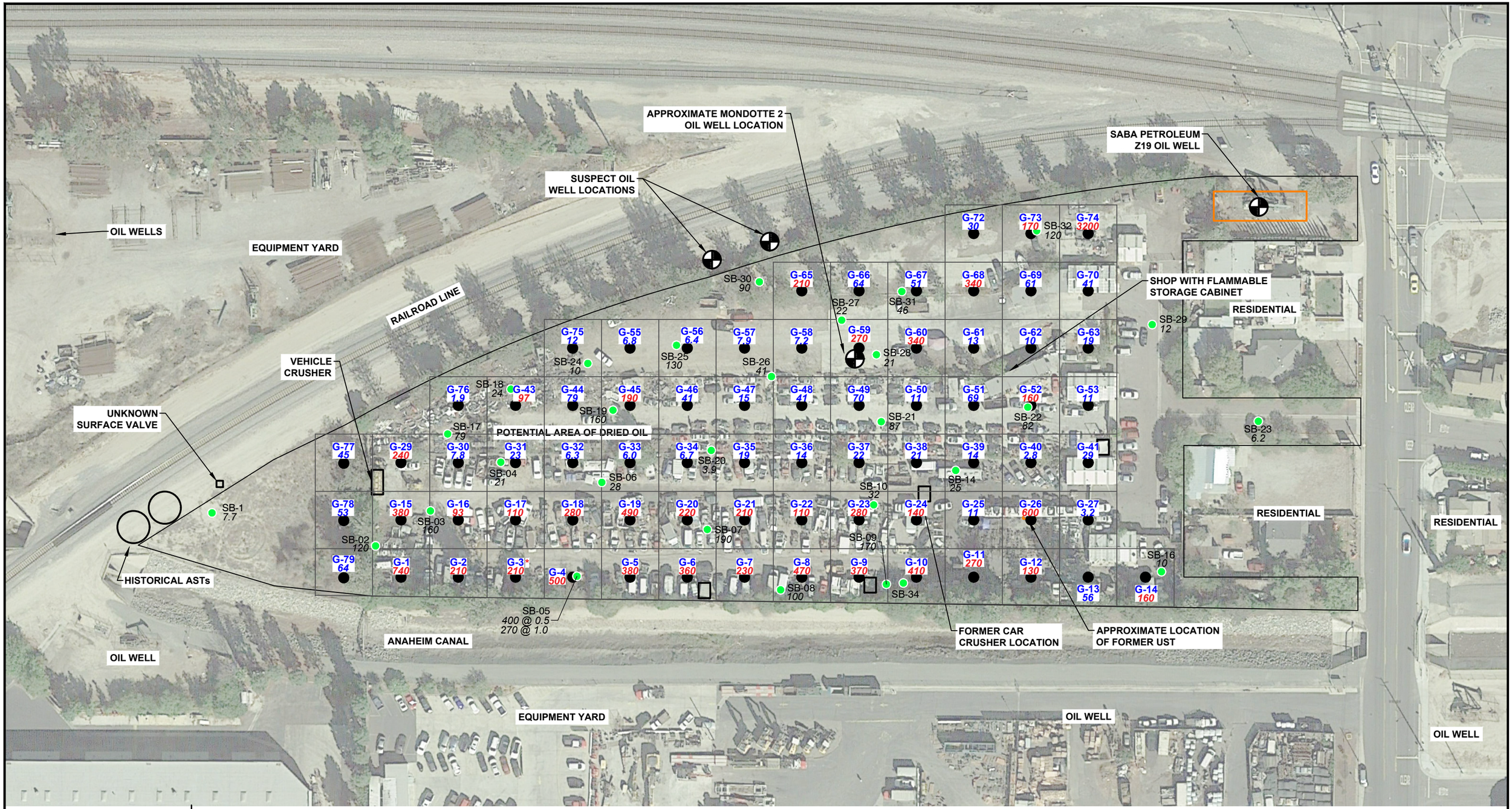
FOR:
DeNOVA HOMES

443 SOUTH VAN BUREN STREET,
PLACENTIA, CALIFRNIA

SITE LOCATION MAP

FIGURE:
1

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185804417	JS	DM	KE	04/30/19



LEGEND:

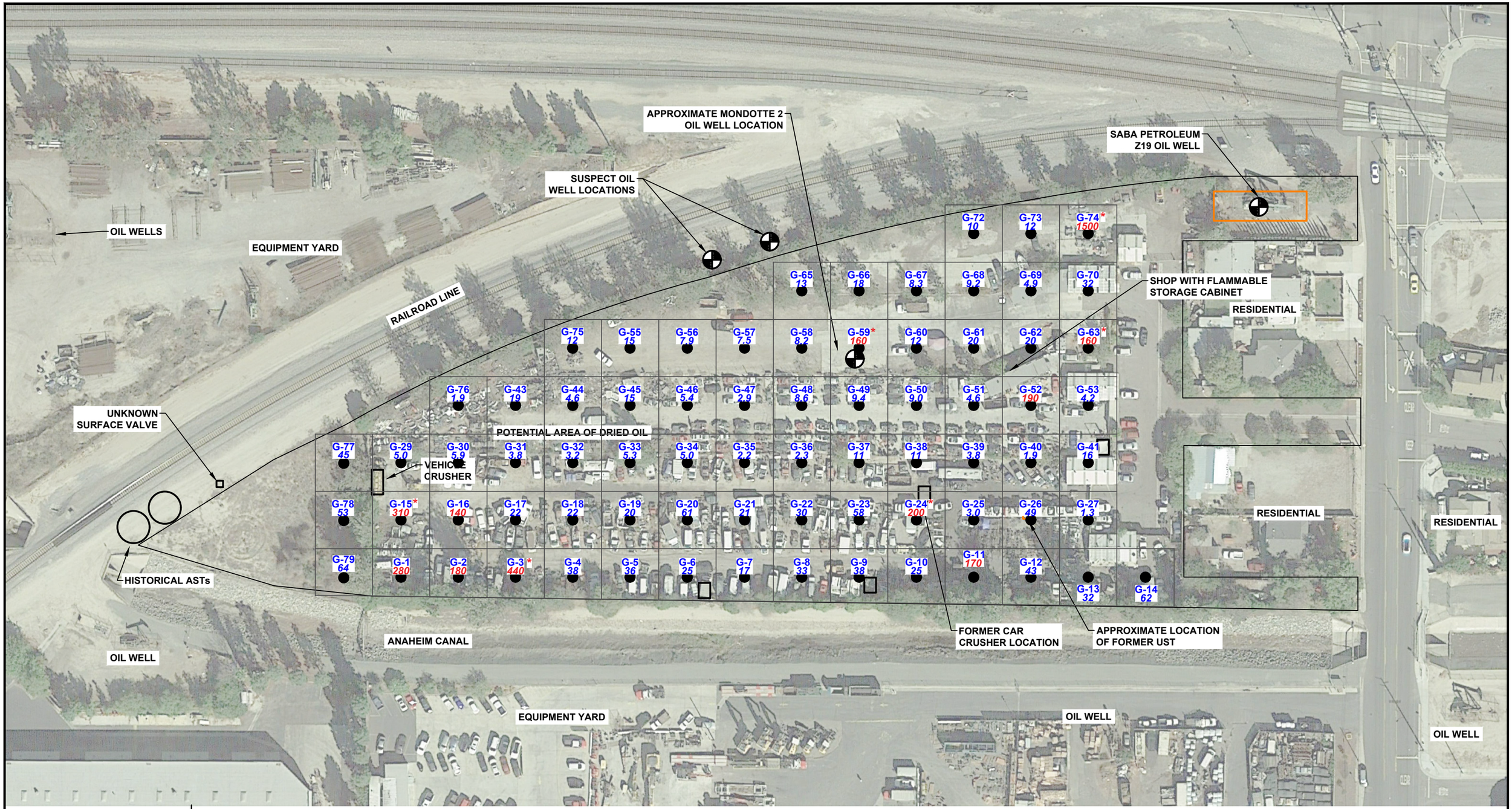
- PROPERTY BOUNDARY
- SUSPECT OIL WELL LOCATION
- *740* LEAD IN SOIL ABOVE 80 □□/□□ (MILLIGRAMS PER KILOGRAM)
- SHALLOW SOIL SAMPLE (STANTEC, 2017)

Stantec
735 E. CARNEGIE DRIVE, SUITE 280
SAN BERNARDINO, CA. 92408
PHONE:(909) 335-6116 FAX:(909) 335-6120

FOR:		FIGURE:
DeNOVA HOMES 443 SOUTH VAN BUREN STREET, PLACENTIA, CALIFORNIA	**LEAD SAMPLE AT 0.5 FEET**	**2**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185804417	JS/STA	DM	KE	04/22/19

FILEPATH:C:\Users\saguinaldo\Desktop_Working Files\SB_2019\DeNovaHomes\FIG 2_DeNOVA HOMES_LEAD SAMPLES @ HALF FT.dwg modified by saguinaldo on Apr 29, 2019 at 18:10



N

0 80 160

APPROXIMATE SCALE IN FEET

LEGEND:

PROPERTY BOUNDARY

SUSPECT OIL WELL LOCATION

740 LEAD IN SOIL ABOVE 80 □□/□□ (MILLIGRAMS PER KILOGRAM)

* 2.5 FT SAMPLE WAS □80 □□/□□

Stantec

735 E. CARNEGIE DRIVE, SUITE 280
SAN BERNARDINO, CA. 92408
PHONE:(909) 335-6116 FAX:(909) 335-6120

FOR: DeNOVA HOMES, 443 SOUTH VAN BUREN STREET, PLACENTIA, CALIFORNIA		LEAD SAMPLE AT 1.5 FEET		FIGURE: 3
JOB NUMBER: 185804417	DRAWN BY: JS/STA	CHECKED BY: DM	APPROVED BY: KE	DATE: 04/22/19

FILEPATH:C:\Users\saguinaldo\Desktop_Working Files\SB_2019\DeNovaHomes\FIG 3_DeNOVA HOMES_LEAD SAMPLES @ DEEPER.dwg modified by saguinaldo on Apr 29, 2019 at 18:13

APPENDIX A
LABORATORY DATA SHEETS AND QA/QC RESULTS

April 09, 2019

Dion Monge
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
Tel: (909) 335-6116
Fax:(909) 335-6120

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

Re: ATL Work Order Number : 1901276
Client Reference : Olson-Placentia, 185803357

Enclosed are the results for sample(s) received on April 01, 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,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec		Project Number :	Olson-Placentia, 185803357
735 E. Carnegie Drive, Suite 280		Report To :	Dion Monge
San Bernardino , CA 92408		Reported :	04/09/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
G1-0.5	1901276-01	Soil	4/01/19 9:50	4/01/19 17:14
G1-1.5	1901276-02	Soil	4/01/19 9:55	4/01/19 17:14
G2-0.5	1901276-03	Soil	4/01/19 7:40	4/01/19 17:14
G2-1.5	1901276-04	Soil	4/01/19 7:45	4/01/19 17:14
G3-0.5	1901276-05	Soil	4/01/19 7:55	4/01/19 17:14
G3-1.5	1901276-06	Soil	4/01/19 8:00	4/01/19 17:14
G4-0.5	1901276-07	Soil	4/01/19 8:55	4/01/19 17:14
G4-1.5	1901276-08	Soil	4/01/19 9:00	4/01/19 17:14
G5-0.5	1901276-09	Soil	4/01/19 8:05	4/01/19 17:14
G5-1.5	1901276-10	Soil	4/01/19 8:10	4/01/19 17:14
G6-0.5	1901276-11	Soil	4/01/19 8:15	4/01/19 17:14
G6-1.5	1901276-12	Soil	4/01/19 8:20	4/01/19 17:14
G7-0.5	1901276-13	Soil	4/01/19 8:25	4/01/19 17:14
G7-1.5	1901276-14	Soil	4/01/19 8:30	4/01/19 17:14
G8-0.5	1901276-15	Soil	4/01/19 8:35	4/01/19 17:14
G8-1.5	1901276-16	Soil	4/01/19 8:40	4/01/19 17:14
G9-0.5	1901276-17	Soil	4/01/19 8:45	4/01/19 17:14
G9-1.5	1901276-18	Soil	4/01/19 8:50	4/01/19 17:14
G10-0.5	1901276-19	Soil	4/01/19 9:00	4/01/19 17:14
G10-1.5	1901276-20	Soil	4/01/19 9:05	4/01/19 17:14
G11-0.5	1901276-21	Soil	4/01/19 9:10	4/01/19 17:14
G11-1.5	1901276-22	Soil	4/01/19 9:15	4/01/19 17:14
G12-0.5	1901276-23	Soil	4/01/19 9:20	4/01/19 17:14
G12-1.5	1901276-24	Soil	4/01/19 9:25	4/01/19 17:14
G13-0.5	1901276-25	Soil	4/01/19 9:30	4/01/19 17:14
G13-1.5	1901276-26	Soil	4/01/19 9:35	4/01/19 17:14
G14-0.5	1901276-27	Soil	4/01/19 9:40	4/01/19 17:14
G14-1.5	1901276-28	Soil	4/01/19 9:45	4/01/19 17:14
G15-0.5	1901276-29	Soil	4/01/19 10:00	4/01/19 17:14
G15-1.5	1901276-30	Soil	4/01/19 10:05	4/01/19 17:14
G16-0.5	1901276-31	Soil	4/01/19 10:10	4/01/19 17:14
G16-1.5	1901276-32	Soil	4/01/19 10:15	4/01/19 17:14
G17-0.5	1901276-33	Soil	4/01/19 10:15	4/01/19 17:14
G17-1.5	1901276-34	Soil	4/01/19 10:20	4/01/19 17:14
G18-0.5	1901276-35	Soil	4/01/19 10:25	4/01/19 17:14

Certificate of Analysis

Stantec		Project Number :	Olson-Placentia, 185803357
735 E. Carnegie Drive, Suite 280		Report To :	Dion Monge
San Bernardino , CA 92408		Reported :	04/09/2019

G18-1.5	1901276-36	Soil	4/01/19 10:30	4/01/19 17:14
G19-0.5	1901276-37	Soil	4/01/19 10:35	4/01/19 17:14
G19-1.5	1901276-38	Soil	4/01/19 10:40	4/01/19 17:14
G20-0.5	1901276-39	Soil	4/01/19 10:45	4/01/19 17:14
G20-1.5	1901276-40	Soil	4/01/19 10:50	4/01/19 17:14
G21-0.5	1901276-41	Soil	4/01/19 10:55	4/01/19 17:14
G21-1.5	1901276-42	Soil	4/01/19 11:00	4/01/19 17:14
G22-0.5	1901276-43	Soil	4/01/19 11:05	4/01/19 17:14
G22-1.5	1901276-44	Soil	4/01/19 11:10	4/01/19 17:14
G23-0.5	1901276-45	Soil	4/01/19 11:15	4/01/19 17:14
G23-1.5	1901276-46	Soil	4/01/19 11:20	4/01/19 17:14
G24-0.5	1901276-47	Soil	4/01/19 11:25	4/01/19 17:14
G24-1.5	1901276-48	Soil	4/01/19 11:30	4/01/19 17:14
G25-0.5	1901276-49	Soil	4/01/19 11:35	4/01/19 17:14
G25-1.5	1901276-50	Soil	4/01/19 11:40	4/01/19 17:14
G26-0.5	1901276-51	Soil	4/01/19 11:45	4/01/19 17:14
G26-1.5	1901276-52	Soil	4/01/19 11:50	4/01/19 17:14
G27-0.5	1901276-53	Soil	4/01/19 11:55	4/01/19 17:14
G27-1.5	1901276-54	Soil	4/01/19 12:00	4/01/19 17:14
G29-0.5	1901276-55	Soil	4/01/19 13:25	4/01/19 17:14
G29-1.5	1901276-56	Soil	4/01/19 13:30	4/01/19 17:14
G30-0.5	1901276-57	Soil	4/01/19 13:35	4/01/19 17:14
G30-1.5	1901276-58	Soil	4/01/19 13:40	4/01/19 17:14
G31-0.5	1901276-59	Soil	4/01/19 13:45	4/01/19 17:14
G31-1.5	1901276-60	Soil	4/01/19 13:50	4/01/19 17:14
G32-0.5	1901276-61	Soil	4/01/19 13:55	4/01/19 17:14
G32-1.5	1901276-62	Soil	4/01/19 14:00	4/01/19 17:14
G33-0.5	1901276-63	Soil	4/01/19 14:05	4/01/19 17:14
G33-1.5	1901276-64	Soil	4/01/19 14:10	4/01/19 17:14
G34-0.5	1901276-65	Soil	4/01/19 14:15	4/01/19 17:14
G34-1.5	1901276-66	Soil	4/01/19 14:20	4/01/19 17:14

Certificate of Analysis

Stantec	Project Number : Olson-Placentia, 185803357
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/09/2019

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: GO**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1901276-01	G1-0.5	**740**	mg/kg	1.0	1	B9D0203	04/04/2019	04/05/19 14:57	
1901276-02	G1-1.5	**280**	mg/kg	1.0	1	B9D0203	04/04/2019	04/05/19 14:58	
1901276-03	G2-0.5	**210**	mg/kg	0.99	1	B9D0204	04/04/2019	04/05/19 15:03	
1901276-04	G2-1.5	**180**	mg/kg	0.99	1	B9D0204	04/04/2019	04/05/19 15:05	
1901276-05	G3-0.5	**210**	mg/kg	1.0	1	B9D0204	04/04/2019	04/05/19 15:06	
1901276-06	G3-1.5	**440**	mg/kg	0.99	1	B9D0204	04/04/2019	04/05/19 15:06	
1901276-07	G4-0.5	**500**	mg/kg	1.0	1	B9D0204	04/04/2019	04/05/19 15:07	
1901276-08	G4-1.5	**38**	mg/kg	1.0	1	B9D0204	04/04/2019	04/05/19 15:08	
1901276-09	G5-0.5	**380**	mg/kg	0.99	1	B9D0204	04/04/2019	04/05/19 15:09	
1901276-10	G5-1.5	**36**	mg/kg	0.99	1	B9D0204	04/04/2019	04/05/19 15:09	
1901276-11	G6-0.5	**360**	mg/kg	0.99	1	B9D0204	04/04/2019	04/05/19 15:10	
1901276-12	G6-1.5	**25**	mg/kg	1.0	1	B9D0204	04/04/2019	04/05/19 15:11	
1901276-13	G7-0.5	**230**	mg/kg	1.0	1	B9D0204	04/04/2019	04/05/19 15:14	
1901276-14	G7-1.5	**17**	mg/kg	0.99	1	B9D0204	04/04/2019	04/05/19 15:15	
1901276-15	G8-0.5	**470**	mg/kg	1.0	1	B9D0204	04/04/2019	04/05/19 15:16	
1901276-16	G8-1.5	**33**	mg/kg	0.99	1	B9D0204	04/04/2019	04/05/19 15:17	
1901276-17	G9-0.5	**370**	mg/kg	0.99	1	B9D0204	04/04/2019	04/05/19 15:17	
1901276-18	G9-1.5	**38**	mg/kg	1.0	1	B9D0204	04/04/2019	04/05/19 15:18	
1901276-19	G10-0.5	**410**	mg/kg	1.0	1	B9D0204	04/04/2019	04/05/19 15:19	
1901276-20	G10-1.5	**25**	mg/kg	0.99	1	B9D0204	04/04/2019	04/05/19 15:19	
1901276-21	G11-0.5	**270**	mg/kg	1.0	1	B9D0204	04/04/2019	04/05/19 15:20	
1901276-22	G11-1.5	**170**	mg/kg	1.0	1	B9D0204	04/04/2019	04/05/19 15:22	
1901276-23	G12-0.5	**130**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:27	
1901276-24	G12-1.5	**43**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:28	
1901276-25	G13-0.5	**56**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:29	
1901276-26	G13-1.5	**32**	mg/kg	0.99	1	B9D0205	04/04/2019	04/05/19 15:31	
1901276-27	G14-0.5	**160**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:32	
1901276-28	G14-1.5	**62**	mg/kg	0.99	1	B9D0205	04/04/2019	04/05/19 15:32	
1901276-29	G15-0.5	**380**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:33	
1901276-30	G15-1.5	**310**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:34	

Certificate of Analysis

Stantec	Project Number : Olson-Placentia, 185803357
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/09/2019

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: GO**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1901276-31	G16-0.5	**93**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:35	
1901276-32	G16-1.5	**140**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:35	
1901276-33	G17-0.5	**110**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:37	
1901276-34	G17-1.5	**22**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:40	
1901276-35	G18-0.5	**280**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:40	
1901276-36	G18-1.5	**22**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:41	
1901276-37	G19-0.5	**490**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:42	
1901276-38	G19-1.5	**20**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:43	
1901276-39	G20-0.5	**220**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:43	
1901276-40	G20-1.5	**61**	mg/kg	0.99	1	B9D0205	04/04/2019	04/05/19 15:44	
1901276-41	G21-0.5	**210**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:45	
1901276-42	G21-1.5	**21**	mg/kg	1.0	1	B9D0205	04/04/2019	04/05/19 15:45	
1901276-43	G22-0.5	**110**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 15:52	
1901276-44	G22-1.5	**30**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 15:53	
1901276-45	G23-0.5	**280**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 15:54	
1901276-46	G23-1.5	**58**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 15:54	
1901276-47	G24-0.5	**140**	mg/kg	0.99	1	B9D0206	04/04/2019	04/05/19 15:55	
1901276-48	G24-1.5	**200**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 15:57	
1901276-49	G25-0.5	**11**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 15:58	
1901276-50	G25-1.5	**3.0**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 15:59	
1901276-51	G26-0.5	**600**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 15:59	
1901276-52	G26-1.5	**49**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 16:00	
1901276-53	G27-0.5	**3.2**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 16:02	
1901276-54	G27-1.5	**1.3**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 16:03	
1901276-55	G29-0.5	**240**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 16:04	
1901276-56	G29-1.5	**5.0**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 16:06	
1901276-57	G30-0.5	**7.8**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 16:07	
1901276-58	G30-1.5	**5.9**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 16:07	
1901276-59	G31-0.5	**23**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 16:08	
1901276-60	G31-1.5	**3.8**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 16:09	

Certificate of Analysis

Stantec	Project Number : Olson-Placentia, 185803357
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/09/2019

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: GO**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1901276-61	G32-0.5	**6.3**	mg/kg	0.99	1	B9D0206	04/04/2019	04/05/19 16:10	
1901276-62	G32-1.5	**3.2**	mg/kg	1.0	1	B9D0206	04/04/2019	04/05/19 16:10	
1901276-63	G33-0.5	**6.0**	mg/kg	1.0	1	B9D0207	04/04/2019	04/05/19 16:17	
1901276-64	G33-1.5	**5.3**	mg/kg	0.99	1	B9D0207	04/04/2019	04/05/19 16:18	
1901276-65	G34-0.5	**6.7**	mg/kg	0.99	1	B9D0207	04/04/2019	04/05/19 16:18	
1901276-66	G34-1.5	**5.0**	mg/kg	1.0	1	B9D0207	04/04/2019	04/05/19 16:19	

Certificate of Analysis

Stantec	Project Number : Olson-Placentia, 185803357
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/09/2019

QUALITY CONTROL SECTION

Lead 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 B9D0203 - EPA 3050 Modified_S										
Blank (B9D0203-BLK1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
Blank (B9D0203-BLK2)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
LCS (B9D0203-BS1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	48.7955	1.0	0.18	50.0000		97.6	80 - 120			
Duplicate (B9D0203-DUP1)			**Source: 1901276-02**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	259.806	1.0	0.18		280.313			7.59	20	
Duplicate (B9D0203-DUP2)			**Source: 1901262-09**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	47.8549	1.0	0.18		30.0874			45.6	20	R
Matrix Spike (B9D0203-MS1)			**Source: 1901276-02**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	720.683	0.99	0.18	247.525	280.313	178	29 - 126			M1
Matrix Spike (B9D0203-MS2)			**Source: 1901262-09**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	292.841	1.0	0.18	250.000	30.0874	105	29 - 126			
Matrix Spike Dup (B9D0203-MSD1)			**Source: 1901276-02**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	470.559	0.99	0.18	247.525	280.313	76.9	29 - 126	42.0	20	R

Certificate of Analysis

Stantec	Project Number : Olson-Placentia, 185803357
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/09/2019

Lead 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 B9D0204 - EPA 3050 Modified_S										
Blank (B9D0204-BLK1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
Blank (B9D0204-BLK2)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
LCS (B9D0204-BS1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	46.6814	1.0	0.18	50.0000		93.4	80 - 120			
Duplicate (B9D0204-DUP1)			**Source: 1901276-22**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	177.714	0.99	0.18		167.824			5.72	20	
Duplicate (B9D0204-DUP2)			**Source: 1901276-12**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	20.6575	1.0	0.18		25.0462			19.2	20	
Matrix Spike (B9D0204-MS1)			**Source: 1901276-22**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	464.205	1.0	0.18	252.525	167.824	117	29 - 126			
Matrix Spike (B9D0204-MS2)			**Source: 1901276-12**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	259.830	0.99	0.18	247.525	25.0462	94.9	29 - 126			
Matrix Spike Dup (B9D0204-MSD1)			**Source: 1901276-22**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	422.486	1.0	0.18	250.000	167.824	102	29 - 126	9.41	20	

Certificate of Analysis

Stantec	Project Number : Olson-Placentia, 185803357
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/09/2019

Lead 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 B9D0205 - EPA 3050 Modified_S										
Blank (B9D0205-BLK1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
Blank (B9D0205-BLK2)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
LCS (B9D0205-BS1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	46.2791	1.0	0.18	50.0000		92.6	80 - 120			
Duplicate (B9D0205-DUP1)			**Source: 1901276-42**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	19.5099	1.0	0.18		21.2695			8.63	20	
Duplicate (B9D0205-DUP2)			**Source: 1901276-32**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	75.7081	0.99	0.18		142.435			61.2	20	R
Matrix Spike (B9D0205-MS1)			**Source: 1901276-42**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	238.666	1.0	0.18	250.000	21.2695	87.0	29 - 126			
Matrix Spike (B9D0205-MS2)			**Source: 1901276-32**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	296.853	1.0	0.18	250.000	142.435	61.8	29 - 126			
Matrix Spike Dup (B9D0205-MSD1)			**Source: 1901276-42**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	236.689	1.0	0.18	250.000	21.2695	86.2	29 - 126	0.832	20	

Certificate of Analysis

Stantec	Project Number : Olson-Placentia, 185803357
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/09/2019

Lead 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 B9D0206 - EPA 3050 Modified_S										
Blank (B9D0206-BLK1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
Blank (B9D0206-BLK2)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
LCS (B9D0206-BS1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	46.9860	1.0	0.18	50.0000		94.0	80 - 120			
Duplicate (B9D0206-DUP1)			**Source: 1901276-62**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	3.86789	1.0	0.18		3.20615			18.7	20	
Duplicate (B9D0206-DUP2)			**Source: 1901276-52**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	59.7413	1.0	0.18		48.5599			20.6	20	R
Matrix Spike (B9D0206-MS1)			**Source: 1901276-62**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	223.741	1.0	0.18	250.000	3.20615	88.2	29 - 126			
Matrix Spike (B9D0206-MS2)			**Source: 1901276-52**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	253.812	1.0	0.18	252.525	48.5599	81.3	29 - 126			
Matrix Spike Dup (B9D0206-MSD1)			**Source: 1901276-62**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	213.195	0.99	0.18	247.525	3.20615	84.8	29 - 126	4.83	20	

Certificate of Analysis

Stantec	Project Number : Olson-Placentia, 185803357
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/09/2019

Lead 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 B9D0207 - EPA 3050 Modified_S										
Blank (B9D0207-BLK1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
Blank (B9D0207-BLK2)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
LCS (B9D0207-BS1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	43.9832	1.0	0.18	50.0000		88.0	80 - 120			
Duplicate (B9D0207-DUP1)			**Source: 1901303-16**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	46.9732	1.0	0.18		37.6189			22.1	20	R
Duplicate (B9D0207-DUP2)			**Source: 1901303-06**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	9.84496	1.0	0.18		9.88507			0.407	20	
Matrix Spike (B9D0207-MS1)			**Source: 1901303-16**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	269.534	0.99	0.18	247.525	37.6189	93.7	29 - 126			
Matrix Spike (B9D0207-MS2)			**Source: 1901303-06**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	228.986	1.0	0.18	250.000	9.88507	87.6	29 - 126			
Matrix Spike Dup (B9D0207-MSD1)			**Source: 1901303-16**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	268.675	0.99	0.18	247.525	37.6189	93.3	29 - 126	0.319	20	

Certificate of Analysis

Stantec		Project Number :	Olson-Placentia, 185803357
735 E. Carnegie Drive, Suite 280		Report To :	Dion Monge
San Bernardino , CA 92408		Reported :	04/09/2019

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.
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.

Stantec **CHAIN OF CUSTODY**

Laboratory Project Number: 1901276

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Client Name/Address:	Project Manager:	Analysis Required	Turn Around Time:
Stantec Consulting Services Inc. **735 E. Carnegie Drive, Suite 280** **San Bernardino, CA 92408** **909-335-6116**	Dion Munge E-Mail Address: dion.munge@stantec.com Sampler Name: DM ND Stantec Project Number: 185801357 Project: Lilac - Placentia	Filtered Sample Lead (6010)	Normal TAT: X 72 Hour: 48 Hour 24 Hour Same Day: Other: Sample Temp °C: 10.0 ice samples received on day of collection 4/1/19

Laboratory (circle):
Cal Science - 714-895-5494
ATL - 800-499-4388
TAL - 949-261-1022
Jones Environmental - 714-449-9937

	Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	Lead (6010)	Special Instructions
-01	G1-0.5	SOIL	1	1	4/1/19	0950		X	
-02	G1-1.5					0955		X	
-03	G2-0.5					0740		X	
-04	G2-1.5					0745		X	
-05	G3-0.5					0755		X	
-06	G3-1.5					0800		X	
-07	G4-0.5					0855		X	
-08	G4-1.5					0900		X	
-09	G5-0.5					0805		X	
-10	G5-1.5					0810		X	
-11	G6-0.5					0815		X	
-12	G6-1.5					0820		X	
-13	G7-0.5				08/25	~~0830~~		X	
-14	G7-1.5					0830		X	
-15	G8-0.5					0835		X	

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
	4/1/19				
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time
			NICK DCS	4/1/19	400
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time
NICK ESPINOSA	4/1/19	1714	MAR	4/1/19	1714

Stantec CHAIN OF CUSTODY

Laboratory Project Number: 1201276

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Client Name/Address:	Project Manager:	Analysis Required	Turn Around Time:
Stantec Consulting Services Inc. 735 E. Carnegie Drive, Suite 280 San Bernardino, CA 92408 909-335-6116	Dian Minaya E-Mail Address: dian.minaya@stantec.com Sampler Name: DH/ND. CM Stantec Project Number: 185603357 Project: UCSM Placentia	Filtered Sample; lead (6010)	Normal TAT: X 72 Hour: 48 Hour 24 Hour Same Day: Other: Sample Temp °C:
Laboratory (circle): Cal Science - 714-895-5494 ATL - 800-499-4388 TAL - 949-261-1022 Jones Environmental - 714-449-9937			

	Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	lead (6010)	Special Instructions
-16	G8-1.5	soil	1	1	4/1/19	0840		X	
-17	G9-0.5					0845		X	
-18	G9-1.5					0850		X	
-19	G10-0.5					0900		X	
-20	G10-1.5					0905		X	
-21	G11-0.5					0910		X	
-22	G11-1.5					0915		X	
-23	G12-0.5					0920		X	
-24	G12-1.5					0925		X	
-25	G13-0.5					0930		X	
-26	G13-1.5					0935		X	
-27	G14-0.5					0940		X	
-28	G14-1.5					0945		X	
-29	G15-0.5					1000		X	
-30	G15-1.5	↓	↓	↓	↓	1005		X	

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
	4/1/19		NICK E DCS	4/1	400 pm
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time
	4/1/19	1714		4/1/19	1714

Stantec CHAIN OF CUSTODY

Laboratory Project Number: 1a01276

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Client Name/Address:	Project Manager:	Analysis Required	Turn Around Time:
Stantec Consulting Services Inc. 735 E. Carnegie Drive, Suite 280 San Bernardino, CA 92408 909-335-6116	Dion Monge		Normal TAT: X
	E-Mail Address: dion.monge@stantec.com		72 Hour:
	Sampler Name: DA/ND.		48 Hour
Laboratory (circle):	Stantec Project Number: 18580357		24 Hour
Cal Science - 714-895-5494			Same Day:
ATL - 800-499-4388			Other:
TAL - 949-261-1022	Project: Placentia		Sample Temp °C:
Jones Environmental - 714-449-9937			

	Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	lead (6010)										Special Instructions
-31	G16-0.5	soil	1	1	4/1/19	1010		X										
-32	G16-1.5					1015		X										
-33	G17-0.5					1015		X										
-34	G17-1.5					1020		X										
-35	G18-0.5					1025		X										
-36	G18-1.5					1030		X										
-37	G19-0.5					1035		X										
-38	G19-1.5					1040		X										
-39	G20-0.5					1045		X										
-40	G20-1.5					1050		X										
-41	G21-0.5					1055		X										
-42	G21-1.5					1100		X										
-43	G22-0.5					1105		X										
-44	G22-1.5					1110		X										
-45	G23-0.5					1115		X										

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
[signature]	4/1/19		NICE E	4/1/19	400
Relinquished By + Company Name: NICE	Date 4/1/19	Time ~~1712~~ 1714	Received By + Company Name: UFR [signature]	Date 4/1/19	Time ~~1712~~ 1714
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

Stantec

CHAIN OF CUSTODY

Laboratory Project Number: 1901270

Client Name/Address:
Stantec Consulting Services Inc.
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
909-335-6116

Laboratory (circle):
Cal Science - 714-895-5494
ATL - 800-499-4388
TAL - 949-261-1022
Jones Environmental - 714-449-9937

Project Manager: Dan Monge
E-Mail Address: dan.monge@stantec.com
Sampler Name: DA/ND
Stantec Project Number: 185603357
Project: Placentia

Analysis Required

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

Sample Temp °C:

	Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	Lead (6010)	+PH (8015)	VOCs (8260)	Special Instructions
-46	G23 - ~~1.5~~ 1.5	Soil	1	1	4/1/19	1120		X			
-47	G24 - ~~0.5~~ 0.5					1125		X			
-48	G24 - 1.5					1130		X			
-49	G25 - 0.5					1135		X			
-50	G25 - 1.5					1140		X			
-51	G26 - 0.5					1145		X	X	X	
-52	G26 - 1.5					1150		X	X	X	
-53	G27 - 0.5					1155		X			
-54	G27 - 1.5					1200		X			
-55	G29 - 0.5					1325		X			
-56	G29 - 1.5					1330		X			
-57	G30 - 0.5					1335		X			
-58	G30 - 1.5					1340		X			
-59	G31 - 0.5					1345		X			
-60	G31 - ~~1.5~~ 1.5					1350		X			

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
	4/1/19		NCCS E	4/1	400 pm
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time
	4/1/19	1714	KFR	4/1/19	1714
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

Stantec

CHAIN OF CUSTODY

Laboratory Project Number: 1901276

Page 5 of 5

Client Name/Address:	Project Manager:	Analysis Required	Turn Around Time:
Stantec Consulting Services Inc. 735 E. Carnegie Drive, Suite 280 San Bernardino, CA 92408 909-335-6116	Dim Monge E-Mail Address: Dim.monge@stantec.com Sampler Name: DAND Stantec Project Number: 185803357 Project: Placentia	Filtered Sample: lead (6010)	Normal TAT: X 72 Hour: 48 Hour 24 Hour Same Day: Other: Sample Temp °C:
Laboratory (circle): Cal Science - 714-895-5494 ATL - 800-499-4388 TAL - 949-261-1022 Jones Environmental - 714-449-9937			

	Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	lead (6010)										Special Instructions
-61	DE G32-0.5	Soil	1	1	4/1/19	1355												
-62	G32-1.5					1400												
-63	G33-0.5					1405												
-64	G33-1.5					1410												
-65	G34-0.5					1415												
-66	G34-1.5					1420												

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
[signature]	4/1/19		Nick E	4/1/19	400 pm
Relinquished By + Company Name: Nick E	Date 4/1/19	Time 1714	Received By + Company Name: [signature]	Date 4/01/19	Time 17H
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

ADVANCED TECHNOLOGY LABORATORIES

April 18, 2019

Dion Monge
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
Tel: (909) 335-6116
Fax:(909) 335-6120

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

Re: ATL Work Order Number : 1901308
Client Reference : DeNova-Placentia, 185804417

Enclosed are the results for sample(s) received on April 02, 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,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
G35-0.5	1901308-01	Soil	4/02/19 7:30	4/02/19 16:37
G35-1.5	1901308-02	Soil	4/02/19 7:35	4/02/19 16:37
G36-0.5	1901308-03	Soil	4/02/19 7:40	4/02/19 16:37
G36-1.5	1901308-04	Soil	4/02/19 7:45	4/02/19 16:37
G37-0.5	1901308-05	Soil	4/02/19 7:50	4/02/19 16:37
G37-1.5	1901308-06	Soil	4/02/19 7:55	4/02/19 16:37
G38-0.5	1901308-07	Soil	4/02/19 8:00	4/02/19 16:37
G38-1.5	1901308-08	Soil	4/02/19 8:05	4/02/19 16:37
G39-0.5	1901308-09	Soil	4/02/19 8:10	4/02/19 16:37
G39-1.5	1901308-10	Soil	4/02/19 8:15	4/02/19 16:37
G40-0.5	1901308-11	Soil	4/02/19 8:20	4/02/19 16:37
G40-1.5	1901308-12	Soil	4/02/19 8:25	4/02/19 16:37
G41-0.5	1901308-13	Soil	4/02/19 8:30	4/02/19 16:37
G41-1.5	1901308-14	Soil	4/02/19 8:35	4/02/19 16:37
G43-0.5	1901308-15	Soil	4/02/19 8:40	4/02/19 16:37
G43-1.5	1901308-16	Soil	4/02/19 8:43	4/02/19 16:37
G26-2.0	1901308-17	Soil	4/02/19 8:45	4/02/19 16:37
G44-0.5	1901308-18	Soil	4/02/19 8:50	4/02/19 16:37
G44-1.5	1901308-19	Soil	4/02/19 8:55	4/02/19 16:37
G45-0.5	1901308-20	Soil	4/02/19 9:00	4/02/19 16:37
G45-1.5	1901308-21	Soil	4/02/19 9:05	4/02/19 16:37
G46-0.5	1901308-22	Soil	4/02/19 9:10	4/02/19 16:37
G46-1.5	1901308-23	Soil	4/02/19 9:15	4/02/19 16:37
G47-0.5	1901308-24	Soil	4/02/19 9:20	4/02/19 16:37
G47-1.5	1901308-25	Soil	4/02/19 9:25	4/02/19 16:37
G48-0.5	1901308-26	Soil	4/02/19 9:30	4/02/19 16:37
G48-1.5	1901308-27	Soil	4/02/19 9:35	4/02/19 16:37
G49-2.0	1901308-28	Soil	4/02/19 10:00	4/02/19 16:37
G49-0.5	1901308-29	Soil	4/02/19 9:40	4/02/19 16:37
G49-1.5	1901308-30	Soil	4/02/19 9:45	4/02/19 16:37
G50-0.5	1901308-31	Soil	4/02/19 9:50	4/02/19 16:37
G50-1.5	1901308-32	Soil	4/02/19 9:55	4/02/19 16:37
G51-0.5	1901308-33	Soil	4/02/19 10:05	4/02/19 16:37
G51-1.5	1901308-34	Soil	4/02/19 10:10	4/02/19 16:37
G52-0.5	1901308-35	Soil	4/02/19 10:15	4/02/19 16:37

Stantec	Project Number :	DeNova-Placentia, 185804417	
735 E. Carnegie Drive, Suite 280	Report To :	Dion Monge	
San Bernardino , CA 92408	Reported :	04/18/2019	

G52-1.0	1901308-36	Soil	4/02/19 10:20	4/02/19 16:37
G53-0.5	1901308-37	Soil	4/02/19 10:25	4/02/19 16:37
G53-1.5	1901308-38	Soil	4/02/19 10:30	4/02/19 16:37
G55-0.5	1901308-39	Soil	4/02/19 10:35	4/02/19 16:37
G55-1.5	1901308-40	Soil	4/02/19 10:40	4/02/19 16:37
G56-0.5	1901308-41	Soil	4/02/19 10:45	4/02/19 16:37
G56-1.5	1901308-42	Soil	4/02/19 10:50	4/02/19 16:37
G57-0.5	1901308-43	Soil	4/02/19 10:55	4/02/19 16:37
G57-1.5	1901308-44	Soil	4/02/19 11:00	4/02/19 16:37
G58-0.5	1901308-45	Soil	4/02/19 11:05	4/02/19 16:37
G58-1.5	1901308-46	Soil	4/02/19 11:10	4/02/19 16:37
G59-0.5	1901308-47	Soil	4/02/19 11:15	4/02/19 16:37
G59-1.0	1901308-48	Soil	4/02/19 11:20	4/02/19 16:37
G60-0.5	1901308-49	Soil	4/02/19 11:25	4/02/19 16:37
G60-1.5	1901308-50	Soil	4/02/19 11:30	4/02/19 16:37
G61-0.5	1901308-51	Soil	4/02/19 11:35	4/02/19 16:37
G61-1.5	1901308-52	Soil	4/02/19 11:40	4/02/19 16:37
G62-0.5	1901308-53	Soil	4/02/19 11:45	4/02/19 16:37
G62-1.5	1901308-54	Soil	4/02/19 11:50	4/02/19 16:37
G63-0.5	1901308-55	Soil	4/02/19 11:55	4/02/19 16:37
G63-1.5	1901308-56	Soil	4/02/19 12:00	4/02/19 16:37
G65-0.5	1901308-57	Soil	4/02/19 12:05	4/02/19 16:37
G65-1.5	1901308-58	Soil	4/02/19 12:10	4/02/19 16:37
G66-0.5	1901308-59	Soil	4/02/19 12:15	4/02/19 16:37
G66-1.5	1901308-60	Soil	4/02/19 12:20	4/02/19 16:37
G67-0.5	1901308-61	Soil	4/02/19 12:25	4/02/19 16:37
G67-1.5	1901308-62	Soil	4/02/19 12:30	4/02/19 16:37
G68-0.5	1901308-63	Soil	4/02/19 12:35	4/02/19 16:37
G68-1.5	1901308-64	Soil	4/02/19 12:40	4/02/19 16:37
G69-0.5	1901308-65	Soil	4/02/19 12:45	4/02/19 16:37
G69-1.5	1901308-66	Soil	4/02/19 12:50	4/02/19 16:37
G70-0.5	1901308-67	Soil	4/02/19 12:55	4/02/19 16:37
G70-1.5	1901308-68	Soil	4/02/19 13:00	4/02/19 16:37
G72-0.5	1901308-69	Soil	4/02/19 13:05	4/02/19 16:37
G72-1.5	1901308-70	Soil	4/02/19 13:10	4/02/19 16:37
G73-0.5	1901308-71	Soil	4/02/19 13:15	4/02/19 16:37
G73-1.5	1901308-72	Soil	4/02/19 13:20	4/02/19 16:37
G74-0.5	1901308-73	Soil	4/02/19 13:25	4/02/19 16:37
G74-1.5	1901308-74	Soil	4/02/19 13:30	4/02/19 16:37

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: GO**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1901308-01	G35-0.5	**19**	mg/kg	0.99	1	B9D0209	04/04/2019	04/05/19 16:47	
1901308-02	G35-1.5	**2.2**	mg/kg	1.0	1	B9D0209	04/04/2019	04/05/19 16:48	
1901308-03	G36-0.5	**14**	mg/kg	1.0	1	B9D0209	04/04/2019	04/05/19 16:49	
1901308-04	G36-1.5	**2.3**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:26	
1901308-05	G37-0.5	**22**	mg/kg	0.99	1	B9D0211	04/04/2019	04/05/19 17:27	
1901308-06	G37-1.5	**11**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:28	
1901308-07	G38-0.5	**21**	mg/kg	0.99	1	B9D0211	04/04/2019	04/05/19 17:29	
1901308-08	G38-1.5	**11**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:30	
1901308-09	G39-0.5	**14**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:31	
1901308-10	G39-1.5	**3.8**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:32	
1901308-11	G40-0.5	**2.8**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:33	
1901308-12	G40-1.5	**1.9**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:33	
1901308-13	G41-0.5	**29**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:34	
1901308-14	G41-1.5	**16**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:39	
1901308-15	G43-0.5	**97**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:40	
1901308-16	G43-1.5	**19**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:40	
1901308-17	G26-2.0	**8.5**	mg/kg	0.99	1	B9D0211	04/04/2019	04/05/19 17:41	
1901308-18	G44-0.5	**79**	mg/kg	0.99	1	B9D0211	04/04/2019	04/05/19 17:42	
1901308-19	G44-1.5	**4.6**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:43	
1901308-20	G45-0.5	**190**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:44	
1901308-21	G45-1.5	**15**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:44	
1901308-22	G46-0.5	**41**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:47	
1901308-23	G46-1.5	**5.4**	mg/kg	1.0	1	B9D0211	04/04/2019	04/05/19 17:48	
1901308-24	G47-0.5	**15**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 17:54	
1901308-25	G47-1.5	**2.9**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 17:55	
1901308-26	G48-0.5	**41**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 17:57	
1901308-27	G48-1.5	**8.6**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 17:58	
1901308-29	G49-0.5	**70**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 17:59	
1901308-30	G49-1.5	**9.4**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 18:00	
1901308-31	G50-0.5	**11**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 18:01	

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: GO**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1901308-32	G50-1.5	**9.0**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 18:01	
1901308-33	G51-0.5	**69**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 18:02	
1901308-34	G51-1.5	**4.6**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 18:03	
1901308-35	G52-0.5	**160**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 18:07	
1901308-36	G52-1.0	**190**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 18:08	
1901308-37	G53-0.5	**11**	mg/kg	0.99	1	B9D0212	04/04/2019	04/05/19 18:09	
1901308-38	G53-1.5	**4.2**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 18:10	
1901308-39	G55-0.5	**6.8**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 18:11	
1901308-40	G55-1.5	**15**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 18:11	
1901308-41	G56-0.5	**6.4**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 18:12	
1901308-42	G56-1.5	**7.9**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 18:13	
1901308-43	G57-0.5	**7.9**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 18:14	
1901308-44	G57-1.5	**7.5**	mg/kg	1.0	1	B9D0212	04/04/2019	04/05/19 18:15	
1901308-45	G58-0.5	**7.2**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 16:57	
1901308-46	G58-1.5	**8.2**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 16:58	
1901308-47	G59-0.5	**270**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 16:59	
1901308-48	G59-1.0	**160**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 17:00	
1901308-49	G60-0.5	**340**	mg/kg	0.99	1	B9D0213	04/04/2019	04/05/19 17:00	
1901308-50	G60-1.5	**12**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 17:01	
1901308-51	G61-0.5	**13**	mg/kg	0.99	1	B9D0213	04/04/2019	04/05/19 17:02	
1901308-52	G61-1.5	**20**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 17:03	
1901308-53	G62-0.5	**10**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 17:03	
1901308-54	G62-1.5	**20**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 17:06	
1901308-55	G63-0.5	**19**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 17:09	
1901308-56	G63-1.5	**160**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 17:09	
1901308-57	G65-0.5	**210**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 17:10	
1901308-58	G65-1.5	**13**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 17:11	
1901308-59	G66-0.5	**64**	mg/kg	0.99	1	B9D0213	04/04/2019	04/05/19 17:12	
1901308-60	G66-1.5	**18**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 17:12	
1901308-61	G67-0.5	**51**	mg/kg	0.99	1	B9D0213	04/04/2019	04/05/19 17:13	

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: GO**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1901308-62	G67-1.5	**8.3**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 17:16	
1901308-63	G68-0.5	**340**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 17:17	
1901308-64	G68-1.5	**9.2**	mg/kg	1.0	1	B9D0213	04/04/2019	04/05/19 17:17	
1901308-65	G69-0.5	**61**	mg/kg	1.0	1	B9D0215	04/04/2019	04/08/19 10:07	
1901308-66	G69-1.5	**4.9**	mg/kg	1.0	1	B9D0215	04/04/2019	04/08/19 10:08	
1901308-67	G70-0.5	**14**	mg/kg	1.0	1	B9D0215	04/04/2019	04/08/19 10:09	
1901308-68	G70-1.5	**32**	mg/kg	1.0	1	B9D0215	04/04/2019	04/08/19 10:09	
1901308-69	G72-0.5	**30**	mg/kg	1.0	1	B9D0215	04/04/2019	04/08/19 10:10	
1901308-70	G72-1.5	**10**	mg/kg	1.0	1	B9D0215	04/04/2019	04/08/19 10:11	
1901308-71	G73-0.5	**170**	mg/kg	1.0	1	B9D0215	04/04/2019	04/08/19 10:11	
1901308-72	G73-1.5	**12**	mg/kg	1.0	1	B9D0215	04/04/2019	04/08/19 10:14	
1901308-73	G74-0.5	**3200**	mg/kg	1.0	1	B9D0215	04/04/2019	04/08/19 10:15	
1901308-74	G74-1.5	**1500**	mg/kg	1.0	1	B9D0215	04/04/2019	04/08/19 10:15	

Client Sample ID G26-2.0
Lab ID: 1901308-17

Gasoline Range Organics by EPA 8015B (Modified) **Analyst: JBL**

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B9D0310	04/07/2019	04/07/19 19:41	
Surrogate: 4-Bromofluorobenzene	*101 %*		*45 - 149*		B9D0310	04/07/2019	*04/07/19 19:41*	

Diesel Range Organics by EPA 8015B **Analyst: HT**

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**73**	10	1	B9D0347	04/08/2019	04/08/19 17:30	
ORO		**94**	10	1	B9D0347	04/08/2019	04/08/19 17:30	
Surrogate: p-Terphenyl	*113 %*		*58 - 172*		B9D0347	04/08/2019	*04/08/19 17:30*	

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Client Sample ID G49-2.0
Lab ID: 1901308-28

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9D0310	04/07/2019	04/07/19 20:00	
Surrogate: 4-Bromofluorobenzene *101 %*		*45 - 149*		B9D0310	04/07/2019	*04/07/19 20:00*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**850**	10	1	B9D0347	04/08/2019	04/08/19 20:23	
ORO	**1700**	10	1	B9D0347	04/08/2019	04/08/19 20:23	
Surrogate: p-Terphenyl *109 %*		*58 - 172*		B9D0347	04/08/2019	*04/08/19 20:23*	

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Client Sample ID G49-0.5
Lab ID: 1901308-29

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9D0310	04/07/2019	04/07/19 20:18	
Surrogate: 4-Bromofluorobenzene	*107 %*	*45 - 149*		B9D0310	04/07/2019	*04/07/19 20:18*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**6600**	100	10	B9D0347	04/08/2019	04/08/19 19:48	
ORO	**13000**	100	10	B9D0347	04/08/2019	04/08/19 19:48	
Surrogate: p-Terphenyl	*0%*	*58 - 172*		B9D0347	04/08/2019	*04/08/19 19:48*	S4

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,1,1-Trichloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,1,2-Trichloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,1-Dichloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,1-Dichloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,1-Dichloropropene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,2,3-Trichloropropane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,2,3-Trichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,2,4-Trichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,2,4-Trimethylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,2-Dibromo-3-chloropropane	ND	10	1	B9D0552	04/12/2019	04/12/19 10:43	
1,2-Dibromoethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,2-Dichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,2-Dichloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,2-Dichloropropane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,3,5-Trimethylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,3-Dichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,3-Dichloropropane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
1,4-Dichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
2,2-Dichloropropane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
2-Chlorotoluene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
4-Chlorotoluene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
4-Isopropyltoluene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Benzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Bromobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Client Sample ID G49-0.5
Lab ID: 1901308-29

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Bromochloromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Bromodichloromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Bromoform	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Bromomethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Carbon disulfide	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Carbon tetrachloride	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Chlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Chloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Chloroform	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Chloromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
cis-1,2-Dichloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
cis-1,3-Dichloropropene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Di-isopropyl ether	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Dibromochloromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Dibromomethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Dichlorodifluoromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Ethyl Acetate	ND	50	1	B9D0552	04/12/2019	04/12/19 10:43	
Ethyl Ether	ND	50	1	B9D0552	04/12/2019	04/12/19 10:43	
Ethyl tert-butyl ether	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Ethylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Freon-113	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Hexachlorobutadiene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Isopropylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
m,p-Xylene	ND	10	1	B9D0552	04/12/2019	04/12/19 10:43	
Methylene chloride	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
MTBE	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
n-Butylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
n-Propylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Naphthalene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
o-Xylene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
sec-Butylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Styrene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
tert-Amyl methyl ether	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
tert-Butanol	ND	100	1	B9D0552	04/12/2019	04/12/19 10:43	
tert-Butylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Tetrachloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Toluene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
trans-1,2-Dichloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
trans-1,3-Dichloropropene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Trichloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Trichlorofluoromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Client Sample ID G49-0.5
Lab ID: 1901308-29

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	50	1	B9D0552	04/12/2019	04/12/19 10:43	
Vinyl chloride	ND	5.0	1	B9D0552	04/12/2019	04/12/19 10:43	
Surrogate: 1,2-Dichloroethane-d4	*104 %*	*60 - 145*		B9D0552	04/12/2019	*04/12/19 10:43*	
Surrogate: 4-Bromofluorobenzene	*101 %*	*68 - 121*		B9D0552	04/12/2019	*04/12/19 10:43*	
Surrogate: Dibromofluoromethane	*101 %*	*65 - 137*		B9D0552	04/12/2019	*04/12/19 10:43*	
Surrogate: Toluene-d8	*102 %*	*82 - 119*		B9D0552	04/12/2019	*04/12/19 10:43*	

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Client Sample ID G49-1.5
Lab ID: 1901308-30

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9D0310	04/07/2019	04/07/19 20:37	
Surrogate: 4-Bromofluorobenzene	*98.5 %*	*45 - 149*		B9D0310	04/07/2019	*04/07/19 20:37*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**770**	10	1	B9D0347	04/08/2019	04/08/19 19:14	
ORO	**1500**	10	1	B9D0347	04/08/2019	04/08/19 19:14	
Surrogate: p-Terphenyl	*90.2 %*	*58 - 172*		B9D0347	04/08/2019	*04/08/19 19:14*	

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,1,1-Trichloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,1,2-Trichloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,1-Dichloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,1-Dichloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,1-Dichloropropene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,2,3-Trichloropropane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,2,3-Trichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,2,4-Trichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,2,4-Trimethylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,2-Dibromo-3-chloropropane	ND	10	1	B9D0552	04/12/2019	04/12/19 11:01	
1,2-Dibromoethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,2-Dichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,2-Dichloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,2-Dichloropropane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,3,5-Trimethylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,3-Dichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,3-Dichloropropane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
1,4-Dichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
2,2-Dichloropropane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
2-Chlorotoluene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
4-Chlorotoluene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
4-Isopropyltoluene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Benzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Bromobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Client Sample ID G49-1.5
Lab ID: 1901308-30

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Bromochloromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Bromodichloromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Bromoform	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Bromomethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Carbon disulfide	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Carbon tetrachloride	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Chlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Chloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Chloroform	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Chloromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
cis-1,2-Dichloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
cis-1,3-Dichloropropene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Di-isopropyl ether	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Dibromochloromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Dibromomethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Dichlorodifluoromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Ethyl Acetate	ND	50	1	B9D0552	04/12/2019	04/12/19 11:01	
Ethyl Ether	ND	50	1	B9D0552	04/12/2019	04/12/19 11:01	
Ethyl tert-butyl ether	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Ethylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Freon-113	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Hexachlorobutadiene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Isopropylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
m,p-Xylene	ND	10	1	B9D0552	04/12/2019	04/12/19 11:01	
Methylene chloride	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
MTBE	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
n-Butylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
n-Propylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Naphthalene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
o-Xylene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
sec-Butylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Styrene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
tert-Amyl methyl ether	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
tert-Butanol	ND	100	1	B9D0552	04/12/2019	04/12/19 11:01	
tert-Butylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Tetrachloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Toluene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
trans-1,2-Dichloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
trans-1,3-Dichloropropene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Trichloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Trichlorofluoromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Client Sample ID G49-1.5
Lab ID: 1901308-30

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	50	1	B9D0552	04/12/2019	04/12/19 11:01	
Vinyl chloride	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:01	
Surrogate: 1,2-Dichloroethane-d4	*99.7 %*	*60 - 145*		B9D0552	04/12/2019	*04/12/19 11:01*	
Surrogate: 4-Bromofluorobenzene	*95.5 %*	*68 - 121*		B9D0552	04/12/2019	*04/12/19 11:01*	
Surrogate: Dibromofluoromethane	*97.6 %*	*65 - 137*		B9D0552	04/12/2019	*04/12/19 11:01*	
Surrogate: Toluene-d8	*103 %*	*82 - 119*		B9D0552	04/12/2019	*04/12/19 11:01*	

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Client Sample ID G52-0.5
Lab ID: 1901308-35

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9D0310	04/07/2019	04/07/19 20:55	
Surrogate: 4-Bromofluorobenzene	*101 %*	*45 - 149*		B9D0310	04/07/2019	*04/07/19 20:55*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**1500**	100	10	B9D0347	04/08/2019	04/08/19 18:22	
ORO	**1900**	100	10	B9D0347	04/08/2019	04/08/19 18:22	
Surrogate: p-Terphenyl	*0%*	*58 - 172*		B9D0347	04/08/2019	*04/08/19 18:22*	S4

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,1,1-Trichloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,1,2-Trichloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,1-Dichloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,1-Dichloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,1-Dichloropropene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,2,3-Trichloropropane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,2,3-Trichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,2,4-Trichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,2,4-Trimethylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,2-Dibromo-3-chloropropane	ND	10	1	B9D0552	04/12/2019	04/12/19 11:20	
1,2-Dibromoethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,2-Dichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,2-Dichloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,2-Dichloropropane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,3,5-Trimethylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,3-Dichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,3-Dichloropropane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
1,4-Dichlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
2,2-Dichloropropane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
2-Chlorotoluene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
4-Chlorotoluene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
4-Isopropyltoluene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Benzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Bromobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Client Sample ID G52-0.5
Lab ID: 1901308-35

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Bromochloromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Bromodichloromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Bromoform	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Bromomethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Carbon disulfide	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Carbon tetrachloride	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Chlorobenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Chloroethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Chloroform	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Chloromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
cis-1,2-Dichloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
cis-1,3-Dichloropropene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Di-isopropyl ether	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Dibromochloromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Dibromomethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Dichlorodifluoromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Ethyl Acetate	ND	50	1	B9D0552	04/12/2019	04/12/19 11:20	
Ethyl Ether	ND	50	1	B9D0552	04/12/2019	04/12/19 11:20	
Ethyl tert-butyl ether	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Ethylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Freon-113	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Hexachlorobutadiene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Isopropylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
m,p-Xylene	ND	10	1	B9D0552	04/12/2019	04/12/19 11:20	
Methylene chloride	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
MTBE	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
n-Butylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
n-Propylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Naphthalene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
o-Xylene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
sec-Butylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Styrene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
tert-Amyl methyl ether	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
tert-Butanol	ND	100	1	B9D0552	04/12/2019	04/12/19 11:20	
tert-Butylbenzene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Tetrachloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Toluene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
trans-1,2-Dichloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
trans-1,3-Dichloropropene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Trichloroethene	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Trichlorofluoromethane	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Client Sample ID G52-0.5
Lab ID: 1901308-35

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl acetate	ND	50	1	B9D0552	04/12/2019	04/12/19 11:20	
Vinyl chloride	ND	5.0	1	B9D0552	04/12/2019	04/12/19 11:20	
Surrogate: 1,2-Dichloroethane-d4	*96.0 %*	*60 - 145*		B9D0552	04/12/2019	*04/12/19 11:20*	
Surrogate: 4-Bromofluorobenzene	*94.8 %*	*68 - 121*		B9D0552	04/12/2019	*04/12/19 11:20*	
Surrogate: Dibromofluoromethane	*96.7 %*	*65 - 137*		B9D0552	04/12/2019	*04/12/19 11:20*	
Surrogate: Toluene-d8	*99.6 %*	*82 - 119*		B9D0552	04/12/2019	*04/12/19 11:20*	

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Stantec	Project Number : DeNova-Placentia, 185804417
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QUALITY CONTROL SECTION

Lead 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 B9D0209 - EPA 3050 Modified_S										
Blank (B9D0209-BLK1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
Blank (B9D0209-BLK2)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
LCS (B9D0209-BS1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	45.7339	1.0	0.18	50.0000		91.5	80 - 120			
Duplicate (B9D0209-DUP1)			**Source: 1901308-03**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	14.8951	1.0	0.18		13.9627			6.46	20	
Duplicate (B9D0209-DUP2)			**Source: 1901303-26**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	38.0401	1.0	0.18		31.1780			19.8	20	
Matrix Spike (B9D0209-MS1)			**Source: 1901308-03**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	222.520	0.99	0.18	247.525	13.9627	84.3	29 - 126			
Matrix Spike (B9D0209-MS2)			**Source: 1901303-26**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	238.076	1.0	0.18	250.000	31.1780	82.8	29 - 126			
Matrix Spike Dup (B9D0209-MSD1)			**Source: 1901308-03**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	235.945	1.0	0.18	252.525	13.9627	87.9	29 - 126	5.86	20	

Certificate of Analysis

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Lead 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 B9D0211 - EPA 3050 Modified_S										
Blank (B9D0211-BLK1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
Blank (B9D0211-BLK2)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
LCS (B9D0211-BS1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	46.3499	1.0	0.18	50.0000		92.7	80 - 120			
Duplicate (B9D0211-DUP1)			**Source: 1901308-23**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	6.80222	1.0	0.18		5.44181			22.2	20	R
Duplicate (B9D0211-DUP2)			**Source: 1901308-13**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	29.0577	1.0	0.18		28.7316			1.13	20	
Matrix Spike (B9D0211-MS1)			**Source: 1901308-23**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	189.909	1.0	0.18	250.000	5.44181	73.8	29 - 126			
Matrix Spike (B9D0211-MS2)			**Source: 1901308-13**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	249.267	1.0	0.18	250.000	28.7316	88.2	29 - 126			
Matrix Spike Dup (B9D0211-MSD1)			**Source: 1901308-23**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	209.866	1.0	0.18	250.000	5.44181	81.8	29 - 126	9.98	20	

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Lead 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 B9D0212 - EPA 3050 Modified_S										
Blank (B9D0212-BLK1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
Blank (B9D0212-BLK2)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
LCS (B9D0212-BS1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	44.5219	1.0	0.18	50.0000		89.0	80 - 120			
Duplicate (B9D0212-DUP1)			**Source: 1901308-44**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	8.50582	1.0	0.18		7.50044			12.6	20	
Duplicate (B9D0212-DUP2)			**Source: 1901308-34**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	2.82608	1.0	0.18		4.59850			47.7	20	R
Matrix Spike (B9D0212-MS1)			**Source: 1901308-44**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	175.752	0.99	0.18	247.525	7.50044	68.0	29 - 126			
Matrix Spike (B9D0212-MS2)			**Source: 1901308-34**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	226.359	1.0	0.18	250.000	4.59850	88.7	29 - 126			
Matrix Spike Dup (B9D0212-MSD1)			**Source: 1901308-44**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	171.006	0.99	0.18	247.525	7.50044	66.1	29 - 126	2.74	20	

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San Bernardino , CA 92408	Reported : 04/18/2019

Lead 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 B9D0213 - EPA 3050 Modified_S										
Blank (B9D0213-BLK1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
Blank (B9D0213-BLK2)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	ND	1.0	0.18							
LCS (B9D0213-BS1)						Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	44.0434	1.0	0.18	50.0000		88.1	80 - 120			
Duplicate (B9D0213-DUP1)			**Source: 1901308-64**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	11.7785	0.99	0.18		9.15132			25.1	20	R
Duplicate (B9D0213-DUP2)			**Source: 1901308-54**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	26.9846	1.0	0.18		20.3327			28.1	20	R
Matrix Spike (B9D0213-MS1)			**Source: 1901308-64**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	215.268	1.0	0.18	252.525	9.15132	81.6	29 - 126			
Matrix Spike (B9D0213-MS2)			**Source: 1901308-54**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	222.705	1.0	0.18	250.000	20.3327	80.9	29 - 126			
Matrix Spike Dup (B9D0213-MSD1)			**Source: 1901308-64**			Prepared: 4/4/2019 Analyzed: 4/5/2019				
Lead	206.103	0.99	0.18	247.525	9.15132	79.6	29 - 126	4.35	20	

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Lead 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 B9D0215 - EPA 3050 Modified_S										
Blank (B9D0215-BLK1)						Prepared: 4/4/2019 Analyzed: 4/8/2019				
Lead	ND	1.0	0.18							
Blank (B9D0215-BLK2)						Prepared: 4/4/2019 Analyzed: 4/8/2019				
Lead	ND	1.0	0.18							
LCS (B9D0215-BS1)						Prepared: 4/4/2019 Analyzed: 4/8/2019				
Lead	44.9885	1.0	0.18	50.0000		90.0	80 - 120			
Duplicate (B9D0215-DUP1)			**Source: 1901311-17**			Prepared: 4/4/2019 Analyzed: 4/8/2019				
Lead	1.68205	1.0	0.18		2.03509			19.0	20	
Duplicate (B9D0215-DUP2)			**Source: 1901308-74**			Prepared: 4/4/2019 Analyzed: 4/8/2019				
Lead	1621.42	1.0	0.18		1527.23			5.98	20	
Matrix Spike (B9D0215-MS1)			**Source: 1901311-17**			Prepared: 4/4/2019 Analyzed: 4/8/2019				
Lead	216.754	1.0	0.18	250.000	2.03509	85.9	29 - 126			
Matrix Spike (B9D0215-MS2)			**Source: 1901308-74**			Prepared: 4/4/2019 Analyzed: 4/8/2019				
Lead	833.076	1.0	0.18	250.000	1527.23	-278	29 - 126			M1
Matrix Spike Dup (B9D0215-MSD1)			**Source: 1901311-17**			Prepared: 4/4/2019 Analyzed: 4/8/2019				
Lead	209.460	1.0	0.18	250.000	2.03509	83.0	29 - 126	3.42	20	

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Stantec	Project Number : DeNova-Placentia, 185804417
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Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9D0310 - GCVOA_S										
Blank (B9D0310-BLK1)						Prepared: 4/7/2019 Analyzed: 4/7/2019				
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.1975*			*0.200000*		*98.7*	*45 - 149*			
LCS (B9D0310-BS1)						Prepared: 4/7/2019 Analyzed: 4/7/2019				
Gasoline Range Organics	4.47000	1.0	0.20	5.00000		89.4	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.1998*			*0.200000*		*99.9*	*45 - 149*			
Matrix Spike (B9D0310-MS1)			**Source: 1901360-01**			Prepared: 4/7/2019 Analyzed: 4/7/2019				
Gasoline Range Organics	4.51500	1.0	0.20	5.00000	ND	90.3	24 - 129			
Surrogate: 4-Bromofluorobenzene	*0.2132*			*0.200000*		*107*	*45 - 149*			
Matrix Spike Dup (B9D0310-MSD1)			**Source: 1901360-01**			Prepared: 4/7/2019 Analyzed: 4/7/2019				
Gasoline Range Organics	4.24400	1.0	0.20	5.00000	ND	84.9	24 - 129	6.19	20	
Surrogate: 4-Bromofluorobenzene	*0.2104*			*0.200000*		*105*	*45 - 149*			

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Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9D0347 - GCSEMI_DRO_S										
Blank (B9D0347-BLK1)						Prepared: 4/8/2019 Analyzed: 4/8/2019				
DRO	ND	10	10							
ORO	ND	10	10							
Surrogate: p-Terphenyl	*85.01*			*80.0000*		*106*	*58 - 172*			
LCS (B9D0347-BS1)						Prepared: 4/8/2019 Analyzed: 4/8/2019				
DRO	1127.46	10	10	1000.00		113	71 - 165			
Surrogate: p-Terphenyl	*85.51*			*80.0000*		*107*	*58 - 172*			
Matrix Spike (B9D0347-MS1)			**Source: 1901308-30**			Prepared: 4/8/2019 Analyzed: 4/8/2019				
DRO	1745.88	10	10	1000.00	772.260	97.4	61 - 171			
Surrogate: p-Terphenyl	*85.76*			*80.0000*		*107*	*58 - 172*			
Matrix Spike Dup (B9D0347-MSD1)			**Source: 1901308-30**			Prepared: 4/8/2019 Analyzed: 4/8/2019				
DRO	1467.41	10	10	1000.00	772.260	69.5	61 - 171	17.3	20	
Surrogate: p-Terphenyl	*86.19*			*80.0000*		*108*	*58 - 172*			

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
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San Bernardino , CA 92408	Reported : 04/18/2019

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9D0552 - MSVOA_S										
Blank (B9D0552-BLK1)						Prepared: 4/12/2019 Analyzed: 4/12/2019				
1,1,1,2-Tetrachloroethane	ND	5.0	0.96							
1,1,1-Trichloroethane	ND	5.0	1.1							
1,1,2,2-Tetrachloroethane	ND	5.0	0.62							
1,1,2-Trichloroethane	ND	5.0	1.6							
1,1-Dichloroethane	ND	5.0	0.81							
1,1-Dichloroethene	ND	5.0	2.6							
1,1-Dichloropropene	ND	5.0	2.3							
1,2,3-Trichloropropane	ND	5.0	0.54							
1,2,3-Trichlorobenzene	ND	5.0	1.2							
1,2,4-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trimethylbenzene	ND	5.0	1.5							
1,2-Dibromo-3-chloropropane	ND	10	1.6							
1,2-Dibromoethane	ND	5.0	3.2							
1,2-Dichlorobenzene	ND	5.0	1.1							
1,2-Dichloroethane	ND	5.0	1.2							
1,2-Dichloropropane	ND	5.0	1.8							
1,3,5-Trimethylbenzene	ND	5.0	1.7							
1,3-Dichlorobenzene	ND	5.0	1.3							
1,3-Dichloropropane	ND	5.0	1.1							
1,4-Dichlorobenzene	ND	5.0	1.2							
2,2-Dichloropropane	ND	5.0	1.2							
2-Chlorotoluene	ND	5.0	1.6							
4-Chlorotoluene	ND	5.0	1.5							
4-Isopropyltoluene	ND	5.0	2.3							
Benzene	ND	5.0	0.64							
Bromobenzene	ND	5.0	1.1							
Bromochloromethane	ND	5.0	0.64							
Bromodichloromethane	ND	5.0	1.2							
Bromoform	ND	5.0	0.80							
Bromomethane	ND	5.0	2.5							
Carbon disulfide	ND	5.0	3.5							
Carbon tetrachloride	ND	5.0	1.2							
Chlorobenzene	ND	5.0	1.0							
Chloroethane	ND	5.0	1.1							
Chloroform	ND	5.0	0.82							
Chloromethane	ND	5.0	1.4							
cis-1,2-Dichloroethene	ND	5.0	0.67							
cis-1,3-Dichloropropene	ND	5.0	1.9							
Di-isopropyl ether	ND	5.0	0.55							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	1.6							
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	8.1							
Ethyl Ether	ND	50	6.1							
Ethyl tert-butyl ether	ND	5.0	0.67							

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Volatile Organic Compounds by EPA 8260B - 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 B9D0552 - MSVOA_S (continued)										
Blank (B9D0552-BLK1) - Continued						Prepared: 4/12/2019 Analyzed: 4/12/2019				
Ethylbenzene	ND	5.0	0.91							
Freon-113	ND	5.0	2.8							
Hexachlorobutadiene	ND	5.0	2.5							
Isopropylbenzene	ND	5.0	1.8							
m,p-Xylene	ND	10	1.5							
Methylene chloride	ND	5.0	2.3							
MTBE	ND	5.0	0.63							
n-Butylbenzene	ND	5.0	2.4							
n-Propylbenzene	ND	5.0	2.2							
Naphthalene	ND	5.0	0.97							
o-Xylene	ND	5.0	0.87							
sec-Butylbenzene	ND	5.0	2.3							
Styrene	ND	5.0	1.5							
tert-Amyl methyl ether	ND	5.0	0.59							
tert-Butanol	ND	100	19							
tert-Butylbenzene	ND	5.0	2.0							
Tetrachloroethene	ND	5.0	1.6							
Toluene	ND	5.0	0.94							
trans-1,2-Dichloroethene	ND	5.0	0.59							
trans-1,3-Dichloropropene	ND	5.0	2.1							
Trichloroethene	ND	5.0	3.1							
Trichlorofluoromethane	ND	5.0	1.4							
Vinyl acetate	ND	50	9.8							
Vinyl chloride	ND	5.0	1.7							
Surrogate: 1,2-Dichloroethane-d4	*47.08*			*50.0000*		*94.2*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*45.69*			*50.0000*		*91.4*	*68 - 121*			
Surrogate: Dibromofluoromethane	*44.37*			*50.0000*		*88.7*	*65 - 137*			
Surrogate: Toluene-d8	*50.70*			*50.0000*		*101*	*82 - 119*			
LCS (B9D0552-BS1)						Prepared: 4/12/2019 Analyzed: 4/12/2019				
1,1,1,2-Tetrachloroethane	49.0800	5.0	0.96	50.0000		98.2	82 - 114			
1,1,1-Trichloroethane	45.1600	5.0	1.1	50.0000		90.3	70 - 121			
1,1,2,2-Tetrachloroethane	45.5800	5.0	0.62	50.0000		91.2	65 - 116			
1,1,2-Trichloroethane	47.0200	5.0	1.6	50.0000		94.0	73 - 114			
1,1-Dichloroethane	45.2900	5.0	0.81	50.0000		90.6	69 - 117			
1,1-Dichloroethene	46.1600	5.0	2.6	50.0000		92.3	57 - 128			
1,1-Dichloropropene	55.7200	5.0	2.3	50.0000		111	76 - 122			
1,2,3-Trichloropropane	45.7300	5.0	0.54	50.0000		91.5	65 - 116			
1,2,3-Trichlorobenzene	47.8300	5.0	1.2	50.0000		95.7	72 - 130			
1,2,4-Trichlorobenzene	47.3600	5.0	1.1	50.0000		94.7	74 - 141			
1,2,4-Trimethylbenzene	45.8900	5.0	1.5	50.0000		91.8	81 - 126			
1,2-Dibromo-3-chloropropane	41.3700	10	1.6	50.0000		82.7	63 - 126			
1,2-Dibromoethane	44.7100	5.0	3.2	50.0000		89.4	75 - 113			
1,2-Dichlorobenzene	47.5600	5.0	1.1	50.0000		95.1	83 - 114			
1,2-Dichloroethane	44.6400	5.0	1.2	50.0000		89.3	73 - 115			

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Volatile Organic Compounds by EPA 8260B - 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 B9D0552 - MSVOA_S (continued)										
LCS (B9D0552-BS1) - Continued						Prepared: 4/12/2019 Analyzed: 4/12/2019				
1,2-Dichloropropane	42.9200	5.0	1.8	50.0000		85.8	75 - 117			
1,3,5-Trimethylbenzene	46.2400	5.0	1.7	50.0000		92.5	80 - 126			
1,3-Dichlorobenzene	46.7600	5.0	1.3	50.0000		93.5	83 - 113			
1,3-Dichloropropane	45.4300	5.0	1.1	50.0000		90.9	79 - 108			
1,4-Dichlorobenzene	47.7500	5.0	1.2	50.0000		95.5	82 - 114			
2,2-Dichloropropane	45.2100	5.0	1.2	50.0000		90.4	66 - 135			
2-Chlorotoluene	45.4900	5.0	1.6	50.0000		91.0	79 - 117			
4-Chlorotoluene	45.7700	5.0	1.5	50.0000		91.5	77 - 118			
4-Isopropyltoluene	42.6200	5.0	2.3	50.0000		85.2	81 - 129			
Benzene	89.3800	5.0	0.64	100.000		89.4	78 - 112			
Bromobenzene	49.6400	5.0	1.1	50.0000		99.3	79 - 111			
Bromochloromethane	44.1300	5.0	0.64	50.0000		88.3	69 - 116			
Bromodichloromethane	44.3800	5.0	1.2	50.0000		88.8	79 - 111			
Bromoform	46.6700	5.0	0.80	50.0000		93.3	75 - 119			
Bromomethane	55.0300	5.0	2.5	50.0000		110	31 - 168			
Carbon disulfide	43.4900	5.0	3.5	50.0000		87.0	54 - 141			
Carbon tetrachloride	50.5400	5.0	1.2	50.0000		101	74 - 125			
Chlorobenzene	45.0000	5.0	1.0	50.0000		90.0	83 - 112			
Chloroethane	48.7300	5.0	1.1	50.0000		97.5	53 - 144			
Chloroform	43.1900	5.0	0.82	50.0000		86.4	69 - 118			
Chloromethane	55.5900	5.0	1.4	50.0000		111	46 - 137			
cis-1,2-Dichloroethene	44.4400	5.0	0.67	50.0000		88.9	68 - 118			
cis-1,3-Dichloropropene	51.9900	5.0	1.9	50.0000		104	77 - 121			
Di-isopropyl ether	45.0100	5.0	0.55	50.0000		90.0	60 - 129			
Dibromochloromethane	45.8200	5.0	1.0	50.0000		91.6	80 - 111			
Dibromomethane	49.2100	5.0	1.6	50.0000		98.4	78 - 108			
Dichlorodifluoromethane	65.9000	5.0	2.2	50.0000		132	41 - 146			
Ethyl Acetate	439.670	50	8.1	500.000		87.9	52 - 130			
Ethyl Ether	399.300	50	6.1	500.000		79.9	54 - 138			
Ethyl tert-butyl ether	43.8900	5.0	0.67	50.0000		87.8	52 - 141			
Ethylbenzene	86.5500	5.0	0.91	100.000		86.6	82 - 121			
Freon-113	47.4200	5.0	2.8	50.0000		94.8	59 - 139			
Hexachlorobutadiene	45.5100	5.0	2.5	50.0000		91.0	69 - 143			
Isopropylbenzene	45.4300	5.0	1.8	50.0000		90.9	78 - 124			
m,p-Xylene	91.5600	10	1.5	100.000		91.6	85 - 118			
Methylene chloride	40.2000	5.0	2.3	50.0000		80.4	44 - 146			
MTBE	42.6400	5.0	0.63	50.0000		85.3	61 - 122			
n-Butylbenzene	45.6600	5.0	2.4	50.0000		91.3	78 - 135			
n-Propylbenzene	44.9900	5.0	2.2	50.0000		90.0	78 - 127			
Naphthalene	42.6500	5.0	0.97	50.0000		85.3	68 - 129			
o-Xylene	88.5500	5.0	0.87	100.000		88.6	86 - 118			
sec-Butylbenzene	45.0100	5.0	2.3	50.0000		90.0	80 - 127			
Styrene	45.5000	5.0	1.5	50.0000		91.0	85 - 117			
tert-Amyl methyl ether	42.9000	5.0	0.59	50.0000		85.8	48 - 135			
tert-Butanol	203.650	100	19	250.000		81.5	0 - 175			

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Volatile Organic Compounds by EPA 8260B - 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 B9D0552 - MSVOA_S (continued)										
LCS (B9D0552-BS1) - Continued						Prepared: 4/12/2019 Analyzed: 4/12/2019				
tert-Butylbenzene	46.5700	5.0	2.0	50.0000		93.1	81 - 122			
Tetrachloroethene	47.3100	5.0	1.6	50.0000		94.6	77 - 122			
Toluene	90.4700	5.0	0.94	100.000		90.5	79 - 114			
trans-1,2-Dichloroethene	44.1700	5.0	0.59	50.0000		88.3	66 - 125			
trans-1,3-Dichloropropene	48.0900	5.0	2.1	50.0000		96.2	76 - 120			
Trichloroethene	45.2400	5.0	3.1	50.0000		90.5	79 - 117			
Trichlorofluoromethane	47.5600	5.0	1.4	50.0000		95.1	55 - 133			
Vinyl acetate	495.740	50	9.8	500.000		99.1	52 - 141			
Vinyl chloride	54.9200	5.0	1.7	50.0000		110	58 - 132			
Surrogate: 1,2-Dichloroethane-d4	*44.29*			*50.0000*		*88.6*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*47.45*			*50.0000*		*94.9*	*68 - 121*			
Surrogate: Dibromofluoromethane	*46.12*			*50.0000*		*92.2*	*65 - 137*			
Surrogate: Toluene-d8	*48.38*			*50.0000*		*96.8*	*82 - 119*			
LCS Dup (B9D0552-BSD1)						Prepared: 4/12/2019 Analyzed: 4/12/2019				
1,1,1,2-Tetrachloroethane	53.1600	5.0	0.96	50.0000		106	82 - 114	7.98	20	
1,1,1-Trichloroethane	44.6700	5.0	1.1	50.0000		89.3	70 - 121	1.09	20	
1,1,2,2-Tetrachloroethane	52.7300	5.0	0.62	50.0000		105	65 - 116	14.5	20	
1,1,2-Trichloroethane	51.2700	5.0	1.6	50.0000		103	73 - 114	8.65	20	
1,1-Dichloroethane	46.1100	5.0	0.81	50.0000		92.2	69 - 117	1.79	20	
1,1-Dichloroethene	45.8000	5.0	2.6	50.0000		91.6	57 - 128	0.783	20	
1,1-Dichloropropene	53.0100	5.0	2.3	50.0000		106	76 - 122	4.98	20	
1,2,3-Trichloropropane	53.4200	5.0	0.54	50.0000		107	65 - 116	15.5	20	
1,2,3-Trichlorobenzene	53.8500	5.0	1.2	50.0000		108	72 - 130	11.8	20	
1,2,4-Trichlorobenzene	54.5900	5.0	1.1	50.0000		109	74 - 141	14.2	20	
1,2,4-Trimethylbenzene	49.5400	5.0	1.5	50.0000		99.1	81 - 126	7.65	20	
1,2-Dibromo-3-chloropropane	52.5500	10	1.6	50.0000		105	63 - 126	23.8	20	R
1,2-Dibromoethane	48.5800	5.0	3.2	50.0000		97.2	75 - 113	8.30	20	
1,2-Dichlorobenzene	53.5500	5.0	1.1	50.0000		107	83 - 114	11.8	20	
1,2-Dichloroethane	47.7000	5.0	1.2	50.0000		95.4	73 - 115	6.63	20	
1,2-Dichloropropane	47.6900	5.0	1.8	50.0000		95.4	75 - 117	10.5	20	
1,3,5-Trimethylbenzene	51.1600	5.0	1.7	50.0000		102	80 - 126	10.1	20	
1,3-Dichlorobenzene	52.2600	5.0	1.3	50.0000		105	83 - 113	11.1	20	
1,3-Dichloropropane	48.9800	5.0	1.1	50.0000		98.0	79 - 108	7.52	20	
1,4-Dichlorobenzene	52.4700	5.0	1.2	50.0000		105	82 - 114	9.42	20	
2,2-Dichloropropane	45.9400	5.0	1.2	50.0000		91.9	66 - 135	1.60	20	
2-Chlorotoluene	49.5000	5.0	1.6	50.0000		99.0	79 - 117	8.44	20	
4-Chlorotoluene	50.8800	5.0	1.5	50.0000		102	77 - 118	10.6	20	
4-Isopropyltoluene	47.6000	5.0	2.3	50.0000		95.2	81 - 129	11.0	20	
Benzene	94.3600	5.0	0.64	100.000		94.4	78 - 112	5.42	20	
Bromobenzene	51.4400	5.0	1.1	50.0000		103	79 - 111	3.56	20	
Bromochloromethane	45.8300	5.0	0.64	50.0000		91.7	69 - 116	3.78	20	
Bromodichloromethane	46.1000	5.0	1.2	50.0000		92.2	79 - 111	3.80	20	
Bromoform	49.4600	5.0	0.80	50.0000		98.9	75 - 119	5.80	20	
Bromomethane	54.7300	5.0	2.5	50.0000		109	31 - 168	0.547	20	

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Volatile Organic Compounds by EPA 8260B - 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 B9D0552 - MSVOA_S (continued)										
LCS Dup (B9D0552-BSD1) - Continued						Prepared: 4/12/2019 Analyzed: 4/12/2019				
Carbon disulfide	43.2800	5.0	3.5	50.0000		86.6	54 - 141	0.484	20	
Carbon tetrachloride	49.7100	5.0	1.2	50.0000		99.4	74 - 125	1.66	20	
Chlorobenzene	49.5100	5.0	1.0	50.0000		99.0	83 - 112	9.54	20	
Chloroethane	44.9000	5.0	1.1	50.0000		89.8	53 - 144	8.18	20	
Chloroform	44.2500	5.0	0.82	50.0000		88.5	69 - 118	2.42	20	
Chloromethane	55.7500	5.0	1.4	50.0000		112	46 - 137	0.287	20	
cis-1,2-Dichloroethene	44.5200	5.0	0.67	50.0000		89.0	68 - 118	0.180	20	
cis-1,3-Dichloropropene	58.0400	5.0	1.9	50.0000		116	77 - 121	11.0	20	
Di-isopropyl ether	46.9400	5.0	0.55	50.0000		93.9	60 - 129	4.20	20	
Dibromochloromethane	49.4700	5.0	1.0	50.0000		98.9	80 - 111	7.66	20	
Dibromomethane	53.9000	5.0	1.6	50.0000		108	78 - 108	9.10	20	
Dichlorodifluoromethane	67.5700	5.0	2.2	50.0000		135	41 - 146	2.50	20	
Ethyl Acetate	495.180	50	8.1	500.000		99.0	52 - 130	11.9	20	
Ethyl Ether	421.450	50	6.1	500.000		84.3	54 - 138	5.40	20	
Ethyl tert-butyl ether	48.9200	5.0	0.67	50.0000		97.8	52 - 141	10.8	20	
Ethylbenzene	93.1000	5.0	0.91	100.000		93.1	82 - 121	7.29	20	
Freon-113	45.0800	5.0	2.8	50.0000		90.2	59 - 139	5.06	20	
Hexachlorobutadiene	52.3000	5.0	2.5	50.0000		105	69 - 143	13.9	20	
Isopropylbenzene	50.5300	5.0	1.8	50.0000		101	78 - 124	10.6	20	
m,p-Xylene	97.7600	10	1.5	100.000		97.8	85 - 118	6.55	20	
Methylene chloride	43.4600	5.0	2.3	50.0000		86.9	44 - 146	7.79	20	
MTBE	47.7100	5.0	0.63	50.0000		95.4	61 - 122	11.2	20	
n-Butylbenzene	50.1600	5.0	2.4	50.0000		100	78 - 135	9.39	20	
n-Propylbenzene	49.4200	5.0	2.2	50.0000		98.8	78 - 127	9.38	20	
Naphthalene	48.8700	5.0	0.97	50.0000		97.7	68 - 129	13.6	20	
o-Xylene	95.9400	5.0	0.87	100.000		95.9	86 - 118	8.01	20	
sec-Butylbenzene	50.4000	5.0	2.3	50.0000		101	80 - 127	11.3	20	
Styrene	49.0700	5.0	1.5	50.0000		98.1	85 - 117	7.55	20	
tert-Amyl methyl ether	47.2200	5.0	0.59	50.0000		94.4	48 - 135	9.59	20	
tert-Butanol	230.650	100	19	250.000		92.3	0 - 175	12.4	20	
tert-Butylbenzene	51.6000	5.0	2.0	50.0000		103	81 - 122	10.2	20	
Tetrachloroethene	49.2700	5.0	1.6	50.0000		98.5	77 - 122	4.06	20	
Toluene	97.1300	5.0	0.94	100.000		97.1	79 - 114	7.10	20	
trans-1,2-Dichloroethene	44.5200	5.0	0.59	50.0000		89.0	66 - 125	0.789	20	
trans-1,3-Dichloropropene	53.9100	5.0	2.1	50.0000		108	76 - 120	11.4	20	
Trichloroethene	46.2600	5.0	3.1	50.0000		92.5	79 - 117	2.23	20	
Trichlorofluoromethane	48.0000	5.0	1.4	50.0000		96.0	55 - 133	0.921	20	
Vinyl acetate	542.660	50	9.8	500.000		109	52 - 141	9.04	20	
Vinyl chloride	54.8600	5.0	1.7	50.0000		110	58 - 132	0.109	20	
Surrogate: 1,2-Dichloroethane-d4	*44.52*			*50.0000*		*89.0*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*51.16*			*50.0000*		*102*	*68 - 121*			
Surrogate: Dibromofluoromethane	*47.56*			*50.0000*		*95.1*	*65 - 137*			
Surrogate: Toluene-d8	*51.59*			*50.0000*		*103*	*82 - 119*			
Matrix Spike (B9D0552-MS1)				**Source: 1901448-03**		Prepared: 4/12/2019 Analyzed: 4/12/2019				

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Volatile Organic Compounds by EPA 8260B - 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 B9D0552 - MSVOA_S (continued)										
Matrix Spike (B9D0552-MS1) - Continued			**Source: 1901448-03**			Prepared: 4/12/2019 Analyzed: 4/12/2019				
1,1,1,2-Tetrachloroethane	45.7100	5.0	0.96	50.0000	ND	91.4	45 - 121			
1,1,1-Trichloroethane	44.0300	5.0	1.1	50.0000	ND	88.1	43 - 127			
1,1,2,2-Tetrachloroethane	48.7800	5.0	0.62	50.0000	ND	97.6	32 - 128			
1,1,2-Trichloroethane	49.5900	5.0	1.6	50.0000	ND	99.2	45 - 121			
1,1-Dichloroethane	44.4600	5.0	0.81	50.0000	ND	88.9	46 - 119			
1,1-Dichloroethene	43.9900	5.0	2.6	50.0000	ND	88.0	40 - 130			
1,1-Dichloropropene	49.8800	5.0	2.3	50.0000	ND	99.8	45 - 130			
1,2,3-Trichloropropane	49.0700	5.0	0.54	50.0000	ND	98.1	42 - 124			
1,2,3-Trichlorobenzene	42.6100	5.0	1.2	50.0000	ND	85.2	4 - 135			
1,2,4-Trichlorobenzene	42.0200	5.0	1.1	50.0000	ND	84.0	8 - 141			
1,2,4-Trimethylbenzene	45.0000	5.0	1.5	50.0000	ND	90.0	30 - 136			
1,2-Dibromo-3-chloropropane	41.6300	10	1.6	50.0000	ND	83.3	38 - 132			
1,2-Dibromoethane	46.8400	5.0	3.2	50.0000	ND	93.7	45 - 121			
1,2-Dichlorobenzene	45.3900	5.0	1.1	50.0000	ND	90.8	30 - 125			
1,2-Dichloroethane	46.4800	5.0	1.2	50.0000	ND	93.0	51 - 115			
1,2-Dichloropropane	45.9200	5.0	1.8	50.0000	ND	91.8	50 - 118			
1,3,5-Trimethylbenzene	47.3900	5.0	1.7	50.0000	ND	94.8	29 - 137			
1,3-Dichlorobenzene	46.1100	5.0	1.3	50.0000	ND	92.2	30 - 124			
1,3-Dichloropropane	44.7100	5.0	1.1	50.0000	ND	89.4	49 - 116			
1,4-Dichlorobenzene	46.6900	5.0	1.2	50.0000	ND	93.4	31 - 124			
2,2-Dichloropropane	45.3100	5.0	1.2	50.0000	ND	90.6	41 - 134			
2-Chlorotoluene	45.8200	5.0	1.6	50.0000	ND	91.6	32 - 127			
4-Chlorotoluene	47.0600	5.0	1.5	50.0000	ND	94.1	34 - 124			
4-Isopropyltoluene	42.5000	5.0	2.3	50.0000	ND	85.0	26 - 141			
Benzene	88.7100	5.0	0.64	100.000	ND	88.7	48 - 117			
Bromobenzene	48.4000	5.0	1.1	50.0000	ND	96.8	40 - 117			
Bromochloromethane	44.4400	5.0	0.64	50.0000	ND	88.9	48 - 117			
Bromodichloromethane	45.4800	5.0	1.2	50.0000	ND	91.0	49 - 115			
Bromoform	44.4500	5.0	0.80	50.0000	ND	88.9	42 - 127			
Bromomethane	44.3700	5.0	2.5	50.0000	ND	88.7	19 - 157			
Carbon disulfide	41.7900	5.0	3.5	50.0000	ND	83.6	34 - 138			
Carbon tetrachloride	48.4500	5.0	1.2	50.0000	ND	96.9	43 - 130			
Chlorobenzene	43.1800	5.0	1.0	50.0000	ND	86.4	41 - 122			
Chloroethane	51.0200	5.0	1.1	50.0000	ND	102	32 - 145			
Chloroform	43.1200	5.0	0.82	50.0000	ND	86.2	46 - 118			
Chloromethane	54.8300	5.0	1.4	50.0000	ND	110	34 - 132			
cis-1,2-Dichloroethene	43.8300	5.0	0.67	50.0000	ND	87.7	44 - 119			
cis-1,3-Dichloropropene	54.6900	5.0	1.9	50.0000	ND	109	44 - 126			
Di-isopropyl ether	44.6200	5.0	0.55	50.0000	ND	89.2	42 - 126			
Dibromochloromethane	42.7100	5.0	1.0	50.0000	ND	85.4	46 - 119			
Dibromomethane	52.3400	5.0	1.6	50.0000	ND	105	52 - 114			
Dichlorodifluoromethane	68.3800	5.0	2.2	50.0000	ND	137	22 - 147			
Ethyl Acetate	485.100	50	8.1	500.000	ND	97.0	9 - 140			
Ethyl Ether	409.030	50	6.1	500.000	ND	81.8	45 - 131			
Ethyl tert-butyl ether	47.0700	5.0	0.67	50.0000	ND	94.1	33 - 138			

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Volatile Organic Compounds by EPA 8260B - 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 B9D0552 - MSVOA_S (continued)										
Matrix Spike (B9D0552-MS1) - Continued			**Source: 1901448-03**				Prepared: 4/12/2019 Analyzed: 4/12/2019			
Ethylbenzene	83.6800	5.0	0.91	100.000	ND	83.7	38 - 131			
Freon-113	45.2000	5.0	2.8	50.0000	ND	90.4	38 - 140			
Hexachlorobutadiene	40.7800	5.0	2.5	50.0000	ND	81.6	4 - 141			
Isopropylbenzene	46.5100	5.0	1.8	50.0000	ND	93.0	35 - 133			
m,p-Xylene	88.9500	10	1.5	100.000	ND	89.0	38 - 130			
Methylene chloride	40.8000	5.0	2.3	50.0000	ND	81.6	26 - 137			
MTBE	45.8900	5.0	0.63	50.0000	ND	91.8	45 - 121			
n-Butylbenzene	44.2300	5.0	2.4	50.0000	ND	88.5	18 - 144			
n-Propylbenzene	45.9100	5.0	2.2	50.0000	ND	91.8	30 - 137			
Naphthalene	41.8800	5.0	0.97	50.0000	ND	83.8	14 - 137			
o-Xylene	86.3600	5.0	0.87	100.000	ND	86.4	41 - 129			
sec-Butylbenzene	46.7300	5.0	2.3	50.0000	ND	93.5	24 - 140			
Styrene	42.6800	5.0	1.5	50.0000	ND	85.4	41 - 125			
tert-Amyl methyl ether	44.3300	5.0	0.59	50.0000	ND	88.7	31 - 133			
tert-Butanol	223.890	100	19	250.000	ND	89.6	0 - 201			
tert-Butylbenzene	47.8600	5.0	2.0	50.0000	ND	95.7	30 - 134			
Tetrachloroethene	44.4700	5.0	1.6	50.0000	ND	88.9	37 - 130			
Toluene	91.5000	5.0	0.94	100.000	1.47000	90.0	45 - 122			
trans-1,2-Dichloroethene	44.0900	5.0	0.59	50.0000	ND	88.2	46 - 122			
trans-1,3-Dichloropropene	49.3000	5.0	2.1	50.0000	ND	98.6	44 - 124			
Trichloroethene	45.9300	5.0	3.1	50.0000	ND	91.9	36 - 142			
Trichlorofluoromethane	49.1100	5.0	1.4	50.0000	ND	98.2	37 - 135			
Vinyl acetate	502.870	50	9.8	500.000	ND	101	0 - 136			
Vinyl chloride	55.4400	5.0	1.7	50.0000	ND	111	42 - 131			
Surrogate: 1,2-Dichloroethane-d4	*47.81*			*50.0000*		*95.6*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*46.61*			*50.0000*		*93.2*	*68 - 121*			
Surrogate: Dibromofluoromethane	*49.25*			*50.0000*		*98.5*	*65 - 137*			
Surrogate: Toluene-d8	*49.86*			*50.0000*		*99.7*	*82 - 119*			
Matrix Spike (B9D0552-MS2)			**Source: 1901447-04**				Prepared: 4/12/2019 Analyzed: 4/12/2019			
1,1,1,2-Tetrachloroethane	29.6800	5.0	0.96	50.0000	ND	59.4	45 - 121			
1,1,1-Trichloroethane	36.3000	5.0	1.1	50.0000	ND	72.6	43 - 127			
1,1,2,2-Tetrachloroethane	26.4000	5.0	0.62	50.0000	ND	52.8	32 - 128			
1,1,2-Trichloroethane	29.5400	5.0	1.6	50.0000	ND	59.1	45 - 121			
1,1-Dichloroethane	35.1200	5.0	0.81	50.0000	ND	70.2	46 - 119			
1,1-Dichloroethene	36.0700	5.0	2.6	50.0000	ND	72.1	40 - 130			
1,1-Dichloropropene	36.8400	5.0	2.3	50.0000	ND	73.7	45 - 130			
1,2,3-Trichloropropane	28.7000	5.0	0.54	50.0000	ND	57.4	42 - 124			
1,2,3-Trichlorobenzene	9.34000	5.0	1.2	50.0000	ND	18.7	4 - 135			
1,2,4-Trichlorobenzene	10.4300	5.0	1.1	50.0000	ND	20.9	8 - 141			
1,2,4-Trimethylbenzene	28.1100	5.0	1.5	50.0000	ND	56.2	30 - 136			
1,2-Dibromo-3-chloropropane	22.5300	10	1.6	50.0000	ND	45.1	38 - 132			
1,2-Dibromoethane	26.8200	5.0	3.2	50.0000	ND	53.6	45 - 121			
1,2-Dichlorobenzene	20.4800	5.0	1.1	50.0000	ND	41.0	30 - 125			
1,2-Dichloroethane	30.9500	5.0	1.2	50.0000	ND	61.9	51 - 115			

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Volatile Organic Compounds by EPA 8260B - 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 B9D0552 - MSVOA_S (continued)										
Matrix Spike (B9D0552-MS2) - Continued			**Source: 1901447-04**			Prepared: 4/12/2019 Analyzed: 4/12/2019				
1,2-Dichloropropane	32.4800	5.0	1.8	50.0000	ND	65.0	50 - 118			
1,3,5-Trimethylbenzene	30.8100	5.0	1.7	50.0000	ND	61.6	29 - 137			
1,3-Dichlorobenzene	23.0400	5.0	1.3	50.0000	ND	46.1	30 - 124			
1,3-Dichloropropane	29.1200	5.0	1.1	50.0000	ND	58.2	49 - 116			
1,4-Dichlorobenzene	22.2300	5.0	1.2	50.0000	ND	44.5	31 - 124			
2,2-Dichloropropane	36.0700	5.0	1.2	50.0000	ND	72.1	41 - 134			
2-Chlorotoluene	29.8200	5.0	1.6	50.0000	ND	59.6	32 - 127			
4-Chlorotoluene	26.8400	5.0	1.5	50.0000	ND	53.7	34 - 124			
4-Isopropyltoluene	29.6900	5.0	2.3	50.0000	ND	59.4	26 - 141			
Benzene	68.1400	5.0	0.64	100.000	ND	68.1	48 - 117			
Bromobenzene	25.9800	5.0	1.1	50.0000	ND	52.0	40 - 117			
Bromochloromethane	30.8100	5.0	0.64	50.0000	ND	61.6	48 - 117			
Bromodichloromethane	29.8300	5.0	1.2	50.0000	ND	59.7	49 - 115			
Bromoform	20.5100	5.0	0.80	50.0000	ND	41.0	42 - 127			M2
Bromomethane	39.0600	5.0	2.5	50.0000	ND	78.1	19 - 157			
Carbon disulfide	37.1400	5.0	3.5	50.0000	ND	74.3	34 - 138			
Carbon tetrachloride	36.1500	5.0	1.2	50.0000	ND	72.3	43 - 130			
Chlorobenzene	27.3700	5.0	1.0	50.0000	ND	54.7	41 - 122			
Chloroethane	37.6600	5.0	1.1	50.0000	ND	75.3	32 - 145			
Chloroform	32.8400	5.0	0.82	50.0000	ND	65.7	46 - 118			
Chloromethane	45.7500	5.0	1.4	50.0000	ND	91.5	34 - 132			
cis-1,2-Dichloroethene	32.4000	5.0	0.67	50.0000	ND	64.8	44 - 119			
cis-1,3-Dichloropropene	35.1900	5.0	1.9	50.0000	ND	70.4	44 - 126			
Di-isopropyl ether	33.4800	5.0	0.55	50.0000	ND	67.0	42 - 126			
Dibromochloromethane	24.7500	5.0	1.0	50.0000	ND	49.5	46 - 119			
Dibromomethane	34.3700	5.0	1.6	50.0000	ND	68.7	52 - 114			
Dichlorodifluoromethane	59.8200	5.0	2.2	50.0000	ND	120	22 - 147			
Ethyl Acetate	335.700	50	8.1	500.000	ND	67.1	9 - 140			
Ethyl Ether	307.670	50	6.1	500.000	ND	61.5	45 - 131			
Ethyl tert-butyl ether	34.9300	5.0	0.67	50.0000	ND	69.9	33 - 138			
Ethylbenzene	59.4600	5.0	0.91	100.000	ND	59.5	38 - 131			
Freon-113	37.1100	5.0	2.8	50.0000	ND	74.2	38 - 140			
Hexachlorobutadiene	23.3500	5.0	2.5	50.0000	ND	46.7	4 - 141			
Isopropylbenzene	33.9800	5.0	1.8	50.0000	ND	68.0	35 - 133			
m,p-Xylene	61.4000	10	1.5	100.000	ND	61.4	38 - 130			
Methylene chloride	31.1100	5.0	2.3	50.0000	ND	62.2	26 - 137			
MTBE	33.4500	5.0	0.63	50.0000	ND	66.9	45 - 121			
n-Butylbenzene	30.9300	5.0	2.4	50.0000	ND	61.9	18 - 144			
n-Propylbenzene	31.7400	5.0	2.2	50.0000	ND	63.5	30 - 137			
Naphthalene	12.1800	5.0	0.97	50.0000	ND	24.4	14 - 137			
o-Xylene	57.5900	5.0	0.87	100.000	ND	57.6	41 - 129			
sec-Butylbenzene	33.1900	5.0	2.3	50.0000	ND	66.4	24 - 140			
Styrene	26.6900	5.0	1.5	50.0000	ND	53.4	41 - 125			
tert-Amyl methyl ether	31.4600	5.0	0.59	50.0000	ND	62.9	31 - 133			
tert-Butanol	215.030	100	19	250.000	ND	86.0	0 - 201			

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Volatile Organic Compounds by EPA 8260B - 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 B9D0552 - MSVOA_S (continued)										
Matrix Spike (B9D0552-MS2) - Continued			**Source: 1901447-04**			Prepared: 4/12/2019 Analyzed: 4/12/2019				
tert-Butylbenzene	33.7300	5.0	2.0	50.0000	ND	67.5	30 - 134			
Tetrachloroethene	32.8400	5.0	1.6	50.0000	ND	65.7	37 - 130			
Toluene	66.0700	5.0	0.94	100.000	ND	66.1	45 - 122			
trans-1,2-Dichloroethene	35.9000	5.0	0.59	50.0000	ND	71.8	46 - 122			
trans-1,3-Dichloropropene	28.9300	5.0	2.1	50.0000	ND	57.9	44 - 124			
Trichloroethene	33.0400	5.0	3.1	50.0000	ND	66.1	36 - 142			
Trichlorofluoromethane	38.2600	5.0	1.4	50.0000	ND	76.5	37 - 135			
Vinyl acetate	373.030	50	9.8	500.000	ND	74.6	0 - 136			
Vinyl chloride	46.2500	5.0	1.7	50.0000	ND	92.5	42 - 131			
Surrogate: 1,2-Dichloroethane-d4	*53.70*			*50.0000*		*107*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*49.21*			*50.0000*		*98.4*	*68 - 121*			
Surrogate: Dibromofluoromethane	*50.76*			*50.0000*		*102*	*65 - 137*			
Surrogate: Toluene-d8	*50.39*			*50.0000*		*101*	*82 - 119*			
Matrix Spike Dup (B9D0552-MSD1)			**Source: 1901448-03**			Prepared: 4/12/2019 Analyzed: 4/12/2019				
1,1,1,2-Tetrachloroethane	45.5700	5.0	0.96	50.0000	ND	91.1	45 - 121	0.307	20	
1,1,1-Trichloroethane	42.0600	5.0	1.1	50.0000	ND	84.1	43 - 127	4.58	20	
1,1,2,2-Tetrachloroethane	49.3400	5.0	0.62	50.0000	ND	98.7	32 - 128	1.14	20	
1,1,2-Trichloroethane	49.7600	5.0	1.6	50.0000	ND	99.5	45 - 121	0.342	20	
1,1-Dichloroethane	43.9200	5.0	0.81	50.0000	ND	87.8	46 - 119	1.22	20	
1,1-Dichloroethene	44.1900	5.0	2.6	50.0000	ND	88.4	40 - 130	0.454	20	
1,1-Dichloropropene	47.9900	5.0	2.3	50.0000	ND	96.0	45 - 130	3.86	20	
1,2,3-Trichloropropane	49.0600	5.0	0.54	50.0000	ND	98.1	42 - 124	0.0204	20	
1,2,3-Trichlorobenzene	41.9500	5.0	1.2	50.0000	ND	83.9	4 - 135	1.56	20	
1,2,4-Trichlorobenzene	44.1600	5.0	1.1	50.0000	ND	88.3	8 - 141	4.97	20	
1,2,4-Trimethylbenzene	43.9200	5.0	1.5	50.0000	ND	87.8	30 - 136	2.43	20	
1,2-Dibromo-3-chloropropane	47.9000	10	1.6	50.0000	ND	95.8	38 - 132	14.0	20	
1,2-Dibromoethane	48.5400	5.0	3.2	50.0000	ND	97.1	45 - 121	3.56	20	
1,2-Dichlorobenzene	45.2900	5.0	1.1	50.0000	ND	90.6	30 - 125	0.221	20	
1,2-Dichloroethane	44.2000	5.0	1.2	50.0000	ND	88.4	51 - 115	5.03	20	
1,2-Dichloropropane	42.7900	5.0	1.8	50.0000	ND	85.6	50 - 118	7.06	20	
1,3,5-Trimethylbenzene	44.4000	5.0	1.7	50.0000	ND	88.8	29 - 137	6.51	20	
1,3-Dichlorobenzene	43.1600	5.0	1.3	50.0000	ND	86.3	30 - 124	6.61	20	
1,3-Dichloropropane	44.9900	5.0	1.1	50.0000	ND	90.0	49 - 116	0.624	20	
1,4-Dichlorobenzene	45.1800	5.0	1.2	50.0000	ND	90.4	31 - 124	3.29	20	
2,2-Dichloropropane	42.3600	5.0	1.2	50.0000	ND	84.7	41 - 134	6.73	20	
2-Chlorotoluene	44.2700	5.0	1.6	50.0000	ND	88.5	32 - 127	3.44	20	
4-Chlorotoluene	44.0400	5.0	1.5	50.0000	ND	88.1	34 - 124	6.63	20	
4-Isopropyltoluene	41.4500	5.0	2.3	50.0000	ND	82.9	26 - 141	2.50	20	
Benzene	85.8800	5.0	0.64	100.000	ND	85.9	48 - 117	3.24	20	
Bromobenzene	46.2000	5.0	1.1	50.0000	ND	92.4	40 - 117	4.65	20	
Bromochloromethane	42.0700	5.0	0.64	50.0000	ND	84.1	48 - 117	5.48	20	
Bromodichloromethane	42.2900	5.0	1.2	50.0000	ND	84.6	49 - 115	7.27	20	
Bromoform	43.2700	5.0	0.80	50.0000	ND	86.5	42 - 127	2.69	20	
Bromomethane	45.0900	5.0	2.5	50.0000	ND	90.2	19 - 157	1.61	20	

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Volatile Organic Compounds by EPA 8260B - 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 B9D0552 - MSVOA_S (continued)										
Matrix Spike Dup (B9D0552-MSD1) - Continued			**Source: 1901448-03**			Prepared: 4/12/2019 Analyzed: 4/12/2019				
Carbon disulfide	40.4900	5.0	3.5	50.0000	ND	81.0	34 - 138	3.16	20	
Carbon tetrachloride	45.3500	5.0	1.2	50.0000	ND	90.7	43 - 130	6.61	20	
Chlorobenzene	42.0100	5.0	1.0	50.0000	ND	84.0	41 - 122	2.75	20	
Chloroethane	48.1900	5.0	1.1	50.0000	ND	96.4	32 - 145	5.71	20	
Chloroform	42.3200	5.0	0.82	50.0000	ND	84.6	46 - 118	1.87	20	
Chloromethane	54.0100	5.0	1.4	50.0000	ND	108	34 - 132	1.51	20	
cis-1,2-Dichloroethene	42.3500	5.0	0.67	50.0000	ND	84.7	44 - 119	3.43	20	
cis-1,3-Dichloropropene	52.5300	5.0	1.9	50.0000	ND	105	44 - 126	4.03	20	
Di-isopropyl ether	44.9500	5.0	0.55	50.0000	ND	89.9	42 - 126	0.737	20	
Dibromochloromethane	43.5800	5.0	1.0	50.0000	ND	87.2	46 - 119	2.02	20	
Dibromomethane	50.1200	5.0	1.6	50.0000	ND	100	52 - 114	4.33	20	
Dichlorodifluoromethane	64.0800	5.0	2.2	50.0000	ND	128	22 - 147	6.49	20	
Ethyl Acetate	497.140	50	8.1	500.000	ND	99.4	9 - 140	2.45	20	
Ethyl Ether	410.430	50	6.1	500.000	ND	82.1	45 - 131	0.342	20	
Ethyl tert-butyl ether	46.1900	5.0	0.67	50.0000	ND	92.4	33 - 138	1.89	20	
Ethylbenzene	81.7900	5.0	0.91	100.000	ND	81.8	38 - 131	2.28	20	
Freon-113	42.8900	5.0	2.8	50.0000	ND	85.8	38 - 140	5.24	20	
Hexachlorobutadiene	38.4000	5.0	2.5	50.0000	ND	76.8	4 - 141	6.01	20	
Isopropylbenzene	43.9800	5.0	1.8	50.0000	ND	88.0	35 - 133	5.59	20	
m,p-Xylene	86.5900	10	1.5	100.000	ND	86.6	38 - 130	2.69	20	
Methylene chloride	41.2100	5.0	2.3	50.0000	ND	82.4	26 - 137	1.00	20	
MTBE	46.5100	5.0	0.63	50.0000	ND	93.0	45 - 121	1.34	20	
n-Butylbenzene	43.0800	5.0	2.4	50.0000	ND	86.2	18 - 144	2.63	20	
n-Propylbenzene	43.2000	5.0	2.2	50.0000	ND	86.4	30 - 137	6.08	20	
Naphthalene	42.4700	5.0	0.97	50.0000	ND	84.9	14 - 137	1.40	20	
o-Xylene	84.5800	5.0	0.87	100.000	ND	84.6	41 - 129	2.08	20	
sec-Butylbenzene	44.1700	5.0	2.3	50.0000	ND	88.3	24 - 140	5.63	20	
Styrene	43.5500	5.0	1.5	50.0000	ND	87.1	41 - 125	2.02	20	
tert-Amyl methyl ether	45.9700	5.0	0.59	50.0000	ND	91.9	31 - 133	3.63	20	
tert-Butanol	250.570	100	19	250.000	ND	100	0 - 201	11.2	20	
tert-Butylbenzene	44.1500	5.0	2.0	50.0000	ND	88.3	30 - 134	8.06	20	
Tetrachloroethene	42.1600	5.0	1.6	50.0000	ND	84.3	37 - 130	5.33	20	
Toluene	86.9800	5.0	0.94	100.000	1.47000	85.5	45 - 122	5.06	20	
trans-1,2-Dichloroethene	41.9300	5.0	0.59	50.0000	ND	83.9	46 - 122	5.02	20	
trans-1,3-Dichloropropene	47.9700	5.0	2.1	50.0000	ND	95.9	44 - 124	2.73	20	
Trichloroethene	42.0900	5.0	3.1	50.0000	ND	84.2	36 - 142	8.73	20	
Trichlorofluoromethane	49.0300	5.0	1.4	50.0000	ND	98.1	37 - 135	0.163	20	
Vinyl acetate	489.650	50	9.8	500.000	ND	97.9	0 - 136	2.66	20	
Vinyl chloride	52.8100	5.0	1.7	50.0000	ND	106	42 - 131	4.86	20	
Surrogate: 1,2-Dichloroethane-d4	*50.82*			*50.0000*		*102*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*48.01*			*50.0000*		*96.0*	*68 - 121*			
Surrogate: Dibromofluoromethane	*49.77*			*50.0000*		*99.5*	*65 - 137*			
Surrogate: Toluene-d8	*49.85*			*50.0000*		*99.7*	*82 - 119*			
Matrix Spike Dup (B9D0552-MSD2)			**Source: 1901447-04**			Prepared: 4/12/2019 Analyzed: 4/12/2019				

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

Project Number : DeNova-Placentia, 185804417
Report To : Dion Monge
Reported : 04/18/2019

Volatile Organic Compounds by EPA 8260B - 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 B9D0552 - MSVOA_S (continued)										
Matrix Spike Dup (B9D0552-MSD2) - Continued		**Source: 1901447-04**				Prepared: 4/12/2019 Analyzed: 4/12/2019				
1,1,1,2-Tetrachloroethane	24.5000	5.0	0.96	50.0000	ND	49.0	45 - 121	19.1	20	
1,1,1-Trichloroethane	34.7100	5.0	1.1	50.0000	ND	69.4	43 - 127	4.48	20	
1,1,2,2-Tetrachloroethane	21.2900	5.0	0.62	50.0000	ND	42.6	32 - 128	21.4	20	R
1,1,2-Trichloroethane	26.6200	5.0	1.6	50.0000	ND	53.2	45 - 121	10.4	20	
1,1-Dichloroethane	34.7100	5.0	0.81	50.0000	ND	69.4	46 - 119	1.17	20	
1,1-Dichloroethene	37.3800	5.0	2.6	50.0000	ND	74.8	40 - 130	3.57	20	
1,1-Dichloropropene	39.3800	5.0	2.3	50.0000	ND	78.8	45 - 130	6.66	20	
1,2,3-Trichloropropane	23.1200	5.0	0.54	50.0000	ND	46.2	42 - 124	21.5	20	R
1,2,3-Trichlorobenzene	3.36000	5.0	1.2	50.0000	ND	6.72	4 - 135	94.2	20	R
1,2,4-Trichlorobenzene	4.55000	5.0	1.1	50.0000	ND	9.10	8 - 141	78.5	20	R
1,2,4-Trimethylbenzene	20.6900	5.0	1.5	50.0000	ND	41.4	30 - 136	30.4	20	R
1,2-Dibromo-3-chloropropane	18.8000	10	1.6	50.0000	ND	37.6	38 - 132	18.0	20	M2
1,2-Dibromoethane	24.1700	5.0	3.2	50.0000	ND	48.3	45 - 121	10.4	20	
1,2-Dichlorobenzene	11.1800	5.0	1.1	50.0000	ND	22.4	30 - 125	58.7	20	M2, R
1,2-Dichloroethane	28.6600	5.0	1.2	50.0000	ND	57.3	51 - 115	7.68	20	
1,2-Dichloropropane	29.7600	5.0	1.8	50.0000	ND	59.5	50 - 118	8.74	20	
1,3,5-Trimethylbenzene	23.3800	5.0	1.7	50.0000	ND	46.8	29 - 137	27.4	20	R
1,3-Dichlorobenzene	13.7400	5.0	1.3	50.0000	ND	27.5	30 - 124	50.6	20	M2, R
1,3-Dichloropropane	23.7800	5.0	1.1	50.0000	ND	47.6	49 - 116	20.2	20	M2, R
1,4-Dichlorobenzene	13.4800	5.0	1.2	50.0000	ND	27.0	31 - 124	49.0	20	M2, R
2,2-Dichloropropane	35.2800	5.0	1.2	50.0000	ND	70.6	41 - 134	2.21	20	
2-Chlorotoluene	21.6700	5.0	1.6	50.0000	ND	43.3	32 - 127	31.7	20	R
4-Chlorotoluene	20.2600	5.0	1.5	50.0000	ND	40.5	34 - 124	27.9	20	R
4-Isopropyltoluene	24.1400	5.0	2.3	50.0000	ND	48.3	26 - 141	20.6	20	R
Benzene	65.2100	5.0	0.64	100.000	ND	65.2	48 - 117	4.39	20	
Bromobenzene	17.6900	5.0	1.1	50.0000	ND	35.4	40 - 117	38.0	20	M2, R
Bromochloromethane	29.3800	5.0	0.64	50.0000	ND	58.8	48 - 117	4.75	20	
Bromodichloromethane	26.2900	5.0	1.2	50.0000	ND	52.6	49 - 115	12.6	20	
Bromoform	16.7700	5.0	0.80	50.0000	ND	33.5	42 - 127	20.1	20	M2, R
Bromomethane	40.1000	5.0	2.5	50.0000	ND	80.2	19 - 157	2.63	20	
Carbon disulfide	37.6600	5.0	3.5	50.0000	ND	75.3	34 - 138	1.39	20	
Carbon tetrachloride	35.7900	5.0	1.2	50.0000	ND	71.6	43 - 130	1.00	20	
Chlorobenzene	22.8700	5.0	1.0	50.0000	ND	45.7	41 - 122	17.9	20	
Chloroethane	34.2700	5.0	1.1	50.0000	ND	68.5	32 - 145	9.43	20	
Chloroform	30.8000	5.0	0.82	50.0000	ND	61.6	46 - 118	6.41	20	
Chloromethane	44.2500	5.0	1.4	50.0000	ND	88.5	34 - 132	3.33	20	
cis-1,2-Dichloroethene	30.7300	5.0	0.67	50.0000	ND	61.5	44 - 119	5.29	20	
cis-1,3-Dichloropropene	30.2400	5.0	1.9	50.0000	ND	60.5	44 - 126	15.1	20	
Di-isopropyl ether	32.4100	5.0	0.55	50.0000	ND	64.8	42 - 126	3.25	20	
Dibromochloromethane	19.1000	5.0	1.0	50.0000	ND	38.2	46 - 119	25.8	20	M2, R
Dibromomethane	29.0700	5.0	1.6	50.0000	ND	58.1	52 - 114	16.7	20	
Dichlorodifluoromethane	59.5400	5.0	2.2	50.0000	ND	119	22 - 147	0.469	20	
Ethyl Acetate	323.120	50	8.1	500.000	ND	64.6	9 - 140	3.82	20	
Ethyl Ether	291.170	50	6.1	500.000	ND	58.2	45 - 131	5.51	20	
Ethyl tert-butyl ether	32.3400	5.0	0.67	50.0000	ND	64.7	33 - 138	7.70	20	

Certificate of Analysis

Stantec	Project Number : DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/18/2019

Volatile Organic Compounds by EPA 8260B - 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 B9D0552 - MSVOA_S (continued)										
Matrix Spike Dup (B9D0552-MSD2) - Continued			**Source: 1901447-04**			Prepared: 4/12/2019 Analyzed: 4/12/2019				
Ethylbenzene	52.4300	5.0	0.91	100.000	ND	52.4	38 - 131	12.6	20	
Freon-113	37.0500	5.0	2.8	50.0000	ND	74.1	38 - 140	0.162	20	
Hexachlorobutadiene	18.2800	5.0	2.5	50.0000	ND	36.6	4 - 141	24.4	20	R
Isopropylbenzene	28.6900	5.0	1.8	50.0000	ND	57.4	35 - 133	16.9	20	
m,p-Xylene	53.0000	10	1.5	100.000	ND	53.0	38 - 130	14.7	20	
Methylene chloride	28.6800	5.0	2.3	50.0000	ND	57.4	26 - 137	8.13	20	
MTBE	30.1000	5.0	0.63	50.0000	ND	60.2	45 - 121	10.5	20	
n-Butylbenzene	23.3900	5.0	2.4	50.0000	ND	46.8	18 - 144	27.8	20	R
n-Propylbenzene	26.2100	5.0	2.2	50.0000	ND	52.4	30 - 137	19.1	20	
Naphthalene	6.43000	5.0	0.97	50.0000	ND	12.9	14 - 137	61.8	20	M2, R
o-Xylene	47.3200	5.0	0.87	100.000	ND	47.3	41 - 129	19.6	20	
sec-Butylbenzene	26.8200	5.0	2.3	50.0000	ND	53.6	24 - 140	21.2	20	R
Styrene	19.4900	5.0	1.5	50.0000	ND	39.0	41 - 125	31.2	20	M2, R
tert-Amyl methyl ether	29.0600	5.0	0.59	50.0000	ND	58.1	31 - 133	7.93	20	
tert-Butanol	253.060	100	19	250.000	ND	101	0 - 201	16.2	20	
tert-Butylbenzene	27.4500	5.0	2.0	50.0000	ND	54.9	30 - 134	20.5	20	R
Tetrachloroethene	30.3700	5.0	1.6	50.0000	ND	60.7	37 - 130	7.82	20	
Toluene	61.5600	5.0	0.94	100.000	ND	61.6	45 - 122	7.07	20	
trans-1,2-Dichloroethene	35.1700	5.0	0.59	50.0000	ND	70.3	46 - 122	2.05	20	
trans-1,3-Dichloropropene	24.4200	5.0	2.1	50.0000	ND	48.8	44 - 124	16.9	20	
Trichloroethene	30.4900	5.0	3.1	50.0000	ND	61.0	36 - 142	8.03	20	
Trichlorofluoromethane	38.1900	5.0	1.4	50.0000	ND	76.4	37 - 135	0.183	20	
Vinyl acetate	338.470	50	9.8	500.000	ND	67.7	0 - 136	9.71	20	
Vinyl chloride	47.8100	5.0	1.7	50.0000	ND	95.6	42 - 131	3.32	20	
Surrogate: 1,2-Dichloroethane-d4	*53.92*			*50.0000*		*108*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*47.27*			*50.0000*		*94.5*	*68 - 121*			
Surrogate: Dibromofluoromethane	*49.25*			*50.0000*		*98.5*	*65 - 137*			
Surrogate: Toluene-d8	*50.01*			*50.0000*		*100*	*82 - 119*			

Certificate of Analysis

Stantec		Project Number :	DeNova-Placentia, 185804417
735 E. Carnegie Drive, Suite 280		Report To :	Dion Monge
San Bernardino , CA 92408		Reported :	04/18/2019

Notes and Definitions

S4	Surrogate was diluted out.
R	RPD value outside acceptance criteria. Calculation is based on raw values.
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.
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.

Stantec

CHAIN OF CUSTODY

Laboratory Project Number: 190130Y

Page 1 of 1

Client Name/Address:	Project Manager:
Stantec Consulting Services Inc. **735 E. Carnegie Drive, Suite 280** **San Bernardino, CA 92408** **909-335-6116**	Dim Mingt E-Mail Address: dim.mingt@stantec.com Sampler Name: DH / ND. Stantec Project Number: 185803357 Project: Dixon-Placental
Laboratory (circle): **Cal Science - 714-895-5494** **ATL - 800-499-4388** **TAL - 949-261-1022** **Jones Environmental - 714-449-9937**	

	Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	Analysis Required: Lead (6010)	Special Instructions
-01	G35-0.5	SOIL	1	1	4/2/19	0730		X	
-02	G35-1.5					0735		X	
-03	G36-0.5					0740		X	
-04	G36-1.5					0745		X	
-05	G37-0.5					0750		X	
-06	G37-1.5					0755		X	
-07	G38-0.5					0800		X	
-08	G38-1.5					0805		X	
-09	G39-0.5					0810		X	
-10	G39-1.5					0815		X	
-11	G40-0.5					0820		X	
-12	G40-1.5					0825		X	
-13	G41-0.5					0830		X	
-14	G41-1.5					0835		X	
-15	G43-0.5					0840		X	

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

Sample Temp °C:

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
	4/2/19	1637	ATL	4/2/19	1637
Relinquished By + Company Name: ATL	4/2/19	1754	Received By + Company Name: ATL	4/2/19	1754
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

Stantec

CHAIN OF CUSTODY

Laboratory Project Number: 190 1308

Page 2 of 4

Client Name/Address:	Project Manager:
Stantec Consulting Services Inc. 735 E. Carnegie Drive, Suite 280 San Bernardino, CA 92408 909-335-6116	Dun Minge
	E-Mail Address: dun.minge@stantec.com
	Sampler Name: OH/ND
Laboratory (circle): Cal Science - 714-895-5494 ATL - 800-499-4388 TAL - 949-261-1022 Jones Environmental - 714-449-9937	Stantec Project Number: 185803357
	Project: Olsen-Placentia

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

Sample Temp °C:

Analysis Required

	Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	lead (6010)	TPH (8015)									Special Instructions
	~~G42~~ DA	Soil	1	1	4/2/19	—		-										
-15	G43-0.5					0840		X										
-16	G43-1.5					0843		X										
-17	G26-2.0					0845		X	X									
-18	G44-0.5					0850		X										
-19	G44-1.5					0855		X										
-20	G45-0.5					0900		X										
-21	G45-1.5					0905		X										
-22	G46-0.5					0910		X										
-23	G46-1.5					0915		X										
-24	G47-0.5					0920		X										
-25	G47-1.5					0925		X										
-26	G48-0.5					0930		X										
-27	G48-1.5					0935		X										
-28	G49-2.0					1000			X									

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
[signature]	4/2/19	1637	[signature] ATL	4/2/19	1637
Relinquished By + Company Name: [signature]	Date 4/2/19	Time 1754	Received By + Company Name: [signature] ATL	Date 4/2/19	Time 1754
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

Stantec

CHAIN OF CUSTODY

Laboratory Project Number: 190130Y

Page 3 of 6

Client Name/Address:	Project Manager:
Stantec Consulting Services Inc. **735 E. Carnegie Drive, Suite 280** **San Bernardino, CA 92408** **909-335-6116**	Dan Monge E-Mail Address: dan.monge@stantec.com Sampler Name: DAVID Stantec Project Number: 185803257 Project: Olson - Placentia
Laboratory (circle): **Cal Science - 714-895-5494** **ATL - 800-499-4388** **TAL - 949-261-1022** **Jones Environmental - 714-449-9937**	

	Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	Analysis Required: Lead (6010)	TPH (8015)	VOCs (8260)	Turn Around Time: Normal TAT: X	Special Instructions
-29	G49-0.5	Soil	1	1	4/1/19	0940		X	X	X	72 Hour:	
-30	G49-1.5					0945		X	X	X	48 Hour	
-31	G50-0.5					0950		X			24 Hour	
-32	G50-1.5					0955		X			Same Day:	
-33	G51-0.5					1005		X			Other:	
-34	G51-1.5					1010		X			Sample Temp °C:	
-35	G52-0.5					1015		X	X	X		
-36	G52-1.0					1020		X				
-37	G53-0.5					1025		X				
-38	G53 1.5					1030		X				
-39	G55 - 0.5					1035		X				
-40	G55 - 1.5					1040		X				
-41	G56 -0.5					1045		X				
-42	G56- 1.5					1050		X				
-43	G57 - 0.5					1055		X				

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
	4/2/19	1637	APL	4/2/19	1637
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time
	4/2/19	1754	ATL	4/2/19	1754
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

Stantec CHAIN OF CUSTODY

Laboratory Project Number: 190130Y

Page 4 o

Client Name/Address:	Project Manager:
Stantec Consulting Services Inc. **735 E. Carnegie Drive, Suite 280** **San Bernardino, CA 92408** **909-335-6116**	Dillon Minge E-Mail Address: dillon.minge@stantec.com Sampler Name: DA/ND Stantec Project Number: 185703357 Project: Orsin - Placentia
Laboratory (circle): Cal Science - 714-895-5494 ATL - 800-499-4388 TAL - 949-261-1022 Jones Environmental - 714-449-9937	

	Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	Analysis Required: Lead (Pb)	Special Instructions
44	G57 - 1.5	Soil	1	1	4/2/19	1100		X	
45	G58 - 0.5					1105		X	
46	G58 - 1.5					1110		X	
47	G59 - 0.5					1115		X	
48	G59 - 1.0					1120		X	
49	G60 - 0.5					1125		X	
50	G60 - 1.5					1130		X	
51	G61 - 0.5					1135		X	
52	G61 - 1.5					1140		X	
53	G62 - 0.5					1145		X	
54	G62 - 1.5					1150		X	
55	G63 - 0.5					1155		X	
56	G63 - 1.5					1200		X	
57	C65 - 0.5					1205		X	
58	C65 - 1.5					1210		X	

Turn Around Ti
Normal TAT: X
72 Hour:
48 Hour
24 Hour
Same Day:
Other:
Sample Temp °C:

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
	4/12/19	1637		4/12/19	1637
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time
	4/12/19	1754	ATL	4/12/19	1754
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

Stantec

CHAIN OF CUSTODY

Laboratory Project Number: 1901308

Page 5 of

Client Name/Address:	Project Manager:
Stantec Consulting Services Inc. 735 E. Carnegie Drive, Suite 280 San Bernardino, CA 92408 909-335-6116	Dion Monge
	E-Mail Address: dion.monge@stantec.com
Laboratory (circle):	Sampler Name: DH/ND
Cal Science - 714-895-5494 ATL - 800-499-4388 TAL - 949-261-1022 Jones Environmental - 714-449-9937	Stantec Project Number: 185803357
	Project: Olson-Placentia

Analysis Required

Turn Around Ti
Normal TAT: X
72 Hour:
48 Hour
24 Hour
Same Day:
Other:
Sample Temp °C:

	Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	lead (6010)									Special Instructi
-59	G66-0.5	soil	1	1	4/2/19	1215		X									
-60	G66-1.5					1220		X									
-61	G67-0.5					1225		X									
-62	G67-1.5					1230		X									
-63	G68-0.5					1235		X									
-64	G68-1.5					1240		X									
-65	G69-0.5					1245		X									
-66	G69-1.5					1250		X									
-67	G70-0.5					1255		X									
-68	G70-1.5					1300		X									
-69	G72-0.5					1305		X									
-70	G72-1.5					1310		X									
-71	G73-0.5					1315		X									
-72	G73-1.5					1320		X									
-73	G74-0.5					1325		X									

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
[signature]	4/2/19	1637	[signature] ATL	4/2/19	1637
Relinquished By + Company Name: [signature]	Date 4/2/19	Time 1754	Received By + Company Name: [signature] ATL	Date 4/2/19	Time 1754
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

Stantec

CHAIN OF CUSTODY

Laboratory Project Number: 1901308

Page 6 of

Client Name/Address:	Project Manager:
Stantec Consulting Services Inc. 735 E. Carnegie Drive, Suite 280 San Bernardino, CA 92408 909-335-6116	Dion Monge
	E-Mail Address: dion.monge@stantec.com
Laboratory (circle):	Sampler Name: DH/ND
Cal Science - 714-895-5494 ATL - 800-499-4388 TAL - 949-261-1022 Jones Environmental - 714-449-9937	Stantec Project Number: 185803357
	Project: Olson - Placentia

Analysis Required

Turn Around Ti
Normal TAT: X
72 Hour:
48 Hour
24 Hour
Same Day:
Other:
Sample Temp °C:

Sample Description/Identification	Sample Matrix	Preservative (see below)	# of Cont.	Sample Date	Sample Time	Filtered Sample	lead (6010)										Special Instructi
-74 G74-1.5	SOIL	1	1	4/2/19	1330		X										

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
[signature]	4/2/19	1637	[signature] ATL	4/2/19	1637
Relinquished By + Company Name:	Date	Time	Received By + Company Name: [signature] ATL	Date 4/2/19	Time 1754
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time

April 24, 2019

Dion Monge
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
Tel: (909) 335-6116
Fax:(909) 335-6120

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

Re: ATL Work Order Number : 1901637
Client Reference : 185804417

Enclosed are the results for sample(s) received on April 23, 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,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/24/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
G3-2.5	1901637-01	Soil	4/22/19 12:05	4/23/19 11:30
G15-2.5	1901637-02	Soil	4/22/19 11:55	4/23/19 11:30
G24-2.5	1901637-03	Soil	4/22/19 12:15	4/23/19 11:30
G59-2.5	1901637-04	Soil	4/22/19 9:15	4/23/19 11:30
G63-2.5	1901637-05	Soil	4/22/19 8:45	4/23/19 11:30
G74-2.5	1901637-06	Soil	4/22/19 8:20	4/23/19 11:30
G75-0.5	1901637-07	Soil	4/22/19 10:00	4/23/19 11:30
G75-1.5	1901637-08	Soil	4/22/19 10:10	4/23/19 11:30
G76-0.5	1901637-10	Soil	4/22/19 11:15	4/23/19 11:30
G76-1.5	1901637-11	Soil	4/22/19 11:20	4/23/19 11:30
G77-0.5	1901637-13	Soil	4/22/19 12:25	4/23/19 11:30
G78-0.5	1901637-16	Soil	4/22/19 12:45	4/23/19 11:30
G79-0.5	1901637-19	Soil	4/22/19 13:00	4/23/19 11:30

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/24/2019

Total Metals by ICP-AES EPA 6010B

Analyte: Lead **Analyst: GO**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1901637-01	G3-2.5	**1.6**	mg/kg	1.0	1	B9D1064	04/23/2019	04/24/19 09:49	
1901637-02	G15-2.5	**9.1**	mg/kg	1.0	1	B9D1064	04/23/2019	04/24/19 09:53	
1901637-03	G24-2.5	**ND**	mg/kg	1.0	1	B9D1064	04/23/2019	04/24/19 09:54	
1901637-04	G59-2.5	**2.5**	mg/kg	1.0	1	B9D1064	04/23/2019	04/24/19 09:55	
1901637-05	G63-2.5	**5.5**	mg/kg	1.0	1	B9D1064	04/23/2019	04/24/19 09:56	
1901637-06	G74-2.5	**3.4**	mg/kg	1.0	1	B9D1064	04/23/2019	04/24/19 09:58	
1901637-07	G75-0.5	**12**	mg/kg	1.0	1	B9D1064	04/23/2019	04/24/19 10:01	
1901637-08	G75-1.5	**3.6**	mg/kg	1.0	1	B9D1064	04/23/2019	04/24/19 10:03	
1901637-10	G76-0.5	**1.9**	mg/kg	1.0	1	B9D1064	04/23/2019	04/24/19 10:04	
1901637-11	G76-1.5	**ND**	mg/kg	1.0	1	B9D1064	04/23/2019	04/24/19 10:05	
1901637-13	G77-0.5	**45**	mg/kg	1.0	1	B9D1064	04/23/2019	04/24/19 10:06	
1901637-16	G78-0.5	**53**	mg/kg	1.0	1	B9D1064	04/23/2019	04/24/19 10:07	
1901637-19	G79-0.5	**64**	mg/kg	1.0	1	B9D1064	04/23/2019	04/24/19 10:09	

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/24/2019

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 B9D1064 - EPA 3050B_S										
Blank (B9D1064-BLK1)						Prepared: 4/23/2019 Analyzed: 4/24/2019				
Lead	ND	1.0	0.18							
LCS (B9D1064-BS1)						Prepared: 4/23/2019 Analyzed: 4/24/2019				
Lead	43.8056	1.0	0.18	50.0000		87.6	80 - 120			
Matrix Spike (B9D1064-MS1)			**Source: 1901637-01**			Prepared: 4/23/2019 Analyzed: 4/24/2019				
Lead	91.2676	1.0	0.18	125.000	1.57390	71.8	29 - 126			
Matrix Spike Dup (B9D1064-MSD1)			**Source: 1901637-01**			Prepared: 4/23/2019 Analyzed: 4/24/2019				
Lead	90.3685	1.0	0.18	125.000	1.57390	71.0	29 - 126	0.990	20	

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/24/2019

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.

Stantec

CHAIN OF CUSTODY FORM

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

1901637

Client Name/Address:
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408

Project/PO Number: 185804417

Laboratory: ATL

Project Manager: Dion Monge
Email Address: Dion.Monge@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: Lead 6010B	Analysis Required: HOLD	Special Instructions
G3-2.5	Soil	8oz	1	4.22.19	1205	ICE	X		
G15-2.5					1155		X		
G24-2.5					1215		X		
G59-2.5					0915		X		
G63-2.5					0845		X		
G74-2.5					0820		X		
G75-0.5					1000		X		
G75-1.5					1010		X		
G75-2.5					1015		X	X	
G76-0.5					1115		X		
G76-1.5					1120		X		
G76-2.5					1125		X	X	

Relinquished By: [signature] Date/Time: 4-23-2019 1130
Received By: [signature] Date/Time: 4/23/19 1130

Relinquished By: [signature] Date/Time: 4/23/19 1213
Received By: [signature] Date/Time: 4/23/19 1213

Relinquished By: Date/Time:
Received in Lab By: Date/Time:

Turn-Around Time: Same day / 24 hour / 48 hour / 72 hours / 5 days / ~~Emergency~~

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

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

1901637

Client Name/Address:
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408

Project/PO Number:
185804417

Laboratory: ATL

Project Manager: Dion Monge
Email Address: Dion.Monge@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: Lead 6010B	Analysis Required: HOLD	Special Instructions
G77-0.5	Soil	8oz	1	4.22.19	1225	ICE	X		
G77-1.5	"	"	"	"	1230	"	"	X	
G77-2.5	"	"	"	"	1235	"	"	X	
G78-0.5	"	"	"	"	1245	"	X		
G78-1.5	"	"	"	"	1248	"	"	X	
G78-2.5	"	"	"	"	1250	"	"	X	
G79-0.5	"	"	"	"	1300	"	X		
G79-1.5	"	"	"	"	1303	"	"	X	
G79-2.5	"	"	"	"	1305	"	"	X	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	4-23-2019 1130	[signature]	4/23/19 1130
[signature]	4/23/19 1213	[signature]	4/23/19 1213
Relinquished By:	Date/Time:	Received in Lab By:	Date/Time:

Turn-Around Time: Same day / 24 hour / 48 hour / 72 hours / 5 days / 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.

April 29, 2019

Dion Monge
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
Tel: (909) 335-6116
Fax:(909) 335-6120

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

Re: ATL Work Order Number : 1901706
Client Reference : 185804417

Enclosed are the results for sample(s) received on April 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,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/29/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
G49-5	1901706-02	Soil	4/26/19 12:08	4/26/19 14:19

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/29/2019

Client Sample ID G49-5

Lab ID: 1901706-02

Diesel Range Organics by EPA 8015B **Analyst: HT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	10	1	B9D1183	04/26/2019	04/29/19 10:35	
ORO	ND	10	1	B9D1183	04/26/2019	04/29/19 10:35	
Surrogate: p-Terphenyl	*105 %*	*58 - 172*		B9D1183	04/26/2019	*04/29/19 10:35*	

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/29/2019

QUALITY CONTROL SECTION

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9D1183 - GCSEMI_DRO_S										
Blank (B9D1183-BLK1)					Prepared: 4/26/2019 Analyzed: 4/29/2019					
DRO	ND	10	10							
ORO	ND	10	10							
Surrogate: p-Terphenyl	*87.25*			*80.0000*		*109*	*58 - 172*			
LCS (B9D1183-BS1)					Prepared: 4/26/2019 Analyzed: 4/29/2019					
DRO	1108.08	10	10	1000.00		111	71 - 165			
Surrogate: p-Terphenyl	*90.08*			*80.0000*		*113*	*58 - 172*			
Matrix Spike (B9D1183-MS1)			**Source: 1901706-02**		Prepared: 4/26/2019 Analyzed: 4/29/2019					
DRO	1074.68	10	10	1000.00	ND	107	61 - 171			
Surrogate: p-Terphenyl	*87.16*			*80.0000*		*109*	*58 - 172*			
Matrix Spike Dup (B9D1183-MSD1)			**Source: 1901706-02**		Prepared: 4/26/2019 Analyzed: 4/29/2019					
DRO	1132.60	10	10	1000.00	ND	113	61 - 171	5.25	20	
Surrogate: p-Terphenyl	*87.67*			*80.0000*		*110*	*58 - 172*			

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/29/2019

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.

Stantec

CHAIN OF CUSTODY FORM

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

1901706

Page 1 of 1

Client Name/Address:
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408

Project/PO Number: 185804417

Laboratory: ATL

Project Manager: Dion Monge
Email Address: Dion.monge@stantec.com

Phone Number: 909-335-6116
Fax Number: 909-335-6120

Sampler: J. Sargent Joshua.Sargent@Stantec.com

Analysis Required

	Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	TPH (d,o) 8015	HOLD								Special Instructions
01	G49-4	Soil	8oz	1	4.26.19	1206	ICE		X								
02	G49-5	↓	↓	1	4.26.19	1208	ICE	X									

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	4.26.19 1419	[signature]	4/26/19 2:19
[signature]	4/26/19 255	[signature]	4/26/19 1455
		Received in Lab By:	Date/Time:

Turn-Around Time: Same day / 72 hours / 24 hour / 5 days / 48 hour / normal

Sample Integrity: (Check) 5-9
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

April 30, 2019

Dion Monge
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
Tel: (909) 335-6116
Fax:(909) 335-6120

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

Re: ATL Work Order Number : 1901706
Client Reference : 185804417

Enclosed are the results for sample(s) received on April 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,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/30/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
G49-4	1901706-01	Soil	4/26/19 12:06	4/26/19 14:19

CASE NARRATIVE

Documentation pertaining to additional analyses/change order available upon request.

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/30/2019

Client Sample ID G49-4

Lab ID: 1901706-01

Diesel Range Organics by EPA 8015B **Analyst: CR**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**22**	10	1	B9D1214	04/29/2019	04/29/19 15:41	
ORO	**29**	10	1	B9D1214	04/29/2019	04/29/19 15:41	
Surrogate: p-Terphenyl	*110 %*	*58 - 172*		B9D1214	04/29/2019	*04/29/19 15:41*	

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/30/2019

QUALITY CONTROL SECTION

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9D1214 - GCSEMI_DRO_S										
Blank (B9D1214-BLK1)					Prepared: 4/29/2019 Analyzed: 4/29/2019					
DRO	ND	10	10							
ORO	ND	10	10							
Surrogate: p-Terphenyl	*60.35*			*80.0000*		*75.4*	*58 - 172*			
LCS (B9D1214-BS1)					Prepared: 4/29/2019 Analyzed: 4/29/2019					
DRO	931.420	10	10	1000.00		93.1	71 - 165			
Surrogate: p-Terphenyl	*69.82*			*80.0000*		*87.3*	*58 - 172*			
Matrix Spike (B9D1214-MS1)			**Source: 1901694-01**		Prepared: 4/29/2019 Analyzed: 4/29/2019					
DRO	1577.84	20	20	1000.00	395.060	118	61 - 171			
Surrogate: p-Terphenyl	*81.98*			*80.0000*		*102*	*58 - 172*			
Matrix Spike Dup (B9D1214-MSD1)			**Source: 1901694-01**		Prepared: 4/29/2019 Analyzed: 4/29/2019					
DRO	1532.82	20	20	1000.00	395.060	114	61 - 171	2.89	20	
Surrogate: p-Terphenyl	*79.60*			*80.0000*		*99.5*	*58 - 172*			

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 04/30/2019

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.

Stantec

CHAIN OF CUSTODY FORM

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

1901706

Page 1 of 1

Client Name/Address:
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408

Project/PO Number: 185804417

Laboratory: ATL

Project Manager: Dion Monge
Email Address: Dion.monge@stantec.com

Phone Number: 909-335-6116
Fax Number: 909-335-6120

Sampler: J. Sargent Joshua.Sargent@Stantec.com

Analysis Required

	Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	TPH (d,o) 8015	HOLD								Special Instructions
01	G49-4	Soil	8oz	1	4.26.19	1206	ICE		X								
02	G49-5	↓	↓	1	4.26.19	1208	ICE	X									

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	4.26.19 1419	[signature]	4/26/19 2:19
[signature]	4/26/19 255	[signature]	4/26/19 1455
		Received in Lab By:	Date/Time:

Turn-Around Time: Same day / 72 hours / 24 hour / 5 days / 48 hour / normal

Sample Integrity: (Check) 5-9
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.

Well Installation and Sampling Report

443 South Van Buren Street

Placentia, California 92870

May 8, 2019

Stantec Project Number: 185804417

Prepared for:

DeNova Homes, Inc.
3 Hughes
Irvine, California 92618

Prepared by:

Stantec Consulting Services Inc.
735 East Carnegie Drive, Suite 280
San Bernardino, California 92408

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(signature)

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Managing Principal Geologist

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1.0 INTRODUCTION

This report was prepared by Stantec Consulting Services, Inc. (Stantec) on behalf of the DeNova Homes, Inc. The scope of work included the installation and sampling of four groundwater monitoring wells at the property located at 443 South Van Buren Street, within the City of Placentia, County of Orange, California (the "Property" or "Site").

The work was conducted in accordance with the *Proposal for Groundwater Monitoring Well Installation and Sampling* (the "Proposal"), dated March 19, 2019. The following report describes the well installation and investigation sample results.

1.1 BACKGROUND

The Property consists of approximately 5.92 acres of land formerly used as an automotive wrecking and storage yard. According to the Department of Oil, Gas, and Geothermal Resources (DOGGR) well finder map, the Property is located within the Richfield oil and gas field. Two oil and gas wells have been located on the Property. An idle well designated as Greka Oil & Gas Inc. well number "Z19" is located in the northeastern portion of the Property, and a well designated as "Mondotte 2", listed as "plugged", is plotted in the central portion of the Site. Due to the current status of the Mondotte 2 oil well as inactive, no physical features related to this well are currently visible. Additionally, no records are available for review on the DOGGR well finder map for the Mondotte 2 well. An abandoned oil well casing was located through geophysical survey methods and excavation activities on August 1, 2017. Based on the well casing's true location relative to DOGGR maps (40-50 to the west of where DOGGR plots it) and because the casing size matches the one listed in DOGGR records, the well casing is believed to be the Mondotte 2 oil well.

An active railroad line is located along the northern Property boundary, and a drainage channel is located along the southern boundary. Multiple residences are located along the eastern Property boundary along South Van Buren Street. The Property is zoned manufacturing with oil production (M [O]). Surrounding properties are a mix of commercial and residential properties interspersed with actively pumping oil wells.

Additionally, historic aerial photographs depict multiple former aboveground storage tanks (ASTs) were present in the west/southwestern portion of the Property, and two potential undocumented wells are located off of the Property and near the northern Property boundary.

Since the 1970s, the Property has been operated by several automobile wrecking/dismantling businesses. According to Orange County Health Care Agency (OCHCA) records, hazardous materials used or stored as part of operations included used/waste oil, anti-freeze/coolant, and limited quantities of Stoddard solvent and chlorinated solvents for degreasing. Historically, OCHCA records indicate that a 466-gallon concrete used oil UST was historically present at the 461 S. Van Buren Street address. The UST was removed in 1992 and issued closure in 1993.

Multiple rounds of investigation have been performed on the Property by Stantec and others. These investigations have identified elevated metal concentrations, specifically lead, in shallow soils across the Property; petroleum impact to soils in the area of the Mondotte 2 oil well and the former car crusher; and volatile organic compound (VOC) impact to soil vapor. Specific data related to those investigations can be found in those reports.

To address the anticipated additional Site assessment and remedial efforts at the Property the Santa Ana Regional Water Quality Control Board (SARWQCB) was engaged to provide necessary oversight and the eventual no further action (NFA) letter. The SARWQCB expressed to Stantec and the Property owner that they will require groundwater assessment at the Property prior to approving a remedial action plan (RAP). Through discussions with DeNova Homes, it is their desire to characterize groundwater conditions beneath the Property in advance of re-engaging the SARWQCB. This report documents the well installation methodology and groundwater sampling results.

2.0 SITE GEOLOGY AND HYDROGEOLOGY

The Property is located in the southern portion of the Peninsular Ranges Geomorphic Province characterized by northwest-southeast trending mountains and faults. The regional surficial geology is underlain by recent alluvium described as unconsolidated stream, river channel, and alluvial fan deposits (California Department of Mining and Geology [CDMG], 1966). Shallow soils encountered during recent assessment activities have consisted of silty sand, and well- to poorly-graded sand. Deeper soils encountered during this assessment consisted predominately well- to poorly-graded sands with interbedded silts and silty sand lenses to a maximum explored depth of 80 feet below ground surface (bgs).

The Property is located within the Coastal Plain of Orange County Groundwater Basin (Basin Number 8-1) which underlies a coastal alluvial plain in the northwestern portion of Orange County. The vicinity of the Property is underlain with Quaternary-aged alluvium deposited by the Santa Ana River from the upper Santa Ana Unit, by Carbon Creek from the Puente Hills, and by minor streams from hills bounding the area.

The Property is located within the Coastal Plain of Orange County Groundwater Basin which is bounded by consolidated rocks exposed on the north in the Puente and Chino Hills; on the east in the Santa Ana Mountains; the south in the San Joaquin Hills; the Pacific Ocean on the southwest; and by a low topographic divide approximated by the Orange County – Los Angeles County line on the northwest. The basin underlies the lower Santa Ana River watershed (DWR, Bulletin 118, February 27, 2004).

According to data on the State Water Resources Control Board online database Geotracker (www.geotracker.waterboards.ca.gov), groundwater in the vicinity of the Property is approximately 68 feet below ground surface with a southerly flow direction. First groundwater was encountered during the drilling and installation of wells W1 through W4 at approximately 60 to 65 feet bgs. Groundwater stabilized in the newly installed groundwater wells at elevations ranging from 181.39 feet above mean sea level (amsl) at W2 to 180.49 feet amsl at W4. Gradient was calculated to the northwest at a magnitude of 0.003 feet per foot (ft/ft).

3.0 WELL INSTALLATION AND FIELD ACTIVITIES

The scope of work consisted of the following general elements:

- Pre-field activities, including utility clearance by Underground Service Alert (USA), health and safety planning, and well permitting;
- Drilling, followed by groundwater monitoring well installation and development;
- Water level gauging from top of casing (TOC) and groundwater sampling; and,
- Reporting

3.1 PRE-FIELD ACTIVITIES

Prior to the commencement of fieldwork, the following pre-drilling activities were conducted:

- The proposed boring locations were marked and coordination with Underground Service Alert (USA) was conducted prior to commencement of Site drilling activities.
- A site-specific Health and Safety Plan (HASP) was previously prepared for the Site. The HASP was updated to include the work elements conducted during this investigation. All Stantec personnel and subcontractors working at the Site were required to be familiar and comply with all provisions of the HASP. A review of current conditions was conducted during tailgate meetings at the Site.
- As required by the Orange County Health Care Agency (OCHCA), Environmental Health Division, a groundwater monitoring well permit was obtained prior to commencement of Site drilling activities (Appendix A).

3.2 FIELD INVESTIGATION

Stantec provided the services of a field geologist to supervise and direct all assessment activities performed during this investigation. All work was conducted under the direct supervision of s State of California registered professional and included the following:

- Advancement and installation of groundwater monitoring wells W1 through W4 at the Site from April 15 through April 18, 2019;
- Development of groundwater monitoring wells W1 through W4 on April 22 and 23, 2019; and,
- Sampling of on-site groundwater monitoring wells W1 through W4 on April 26, 2019.

3.2.1 Soil Boring and Soil Sampling Procedures

Stantec personnel oversaw the advancement and installation of four (4) groundwater monitoring well at the locations depicted on Figure 2. The wells were drilled and installed using a hollow stem auger drilling rig. Prior to advancement, any areas containing pavement were cored to expose underlying soils and a hand auger was used for utility clearance purposes to a depth of five feet bgs. Once the five-foot depth was reached, the soil borings were advanced further using a hollow stem auger drilling rig. All borings were advanced into groundwater to maximum depths between 75 and 80 feet bgs. During advancement, sampling of subsurface soils was performed in five-foot intervals starting at a depth of approximately five-feet bgs using an 18-inch long by 2-inch outer diameter and 1⅜-inch inner diameter split spoon sampler.

At each sampling interval, and sampler was driven into undisturbed soil using a 140-pound hammer dropping 30 inches until approximately 18 inches of penetration was achieved. The number of blow counts per 6-inch increments were noted on the boring logs. These blow counts were translated into relative densities for the sampled soils, as noted on the boring logs.

The soils from each sampling interval were visually examined by Stantec field personnel who classified the soils in accordance with the unified soil classification system (USCS). A photo-ionization detector (PID) was used to monitor/field screen the collected soils. Field screening for VOCs was achieved by removing the soil from the uppermost sample sleeve and placing it in a zip-lock type baggie. A PID probe was inserted into the baggie to monitor the headspace for VOC vapors.

3.2.2 Groundwater Monitoring Well Installation

Following completion of drilling to the target depth, 2-inch outer diameter schedule-40 polyvinyl chloride (PVC) well casing and 0.010-inch slotted PVC well screen were installed. The borehole annulus surrounding the screening interval was backfilled with a Monterey #2/12-size sand filter pack installed from the bottom of the boring to approximately two feet above the top of the well screen. A three-foot transition seal consisting of hydrated bentonite chips was placed on the top of the filter pack. The remainder of the borehole annulus was filled with a 5% bentonite by weight cement grout mixture to within 2 feet of the ground surface. Surface completion consisted of a traffic-rated flush-mount well vault. Well construction details are presented on the boring logs attached as Appendix B.

3.2.3 Groundwater Monitoring Well Development

The new groundwater monitoring wells W1 through W4 were developed using surging and bailing methods. The well was developed by repeatedly surging and bailing the well until a minimum of three saturated well-bore volumes were purged from the well and field monitoring parameters (*i.e.* pH, specific conductance, temperature, and dissolved oxygen) stabilized. Copies of the well development logs are included in Appendix B.

3.2.4 Groundwater Monitoring Well Survey

The on-Site groundwater monitoring wells were surveyed on April 26, 2019 by Aero Tech Surveys. The survey consisted of measuring the locational centers of the groundwater monitoring wells and the elevations

of the well box cover and the wellhead. This information was used in conjunction with the groundwater depth gauged in each well to determine the on-Site groundwater flow direction.

3.2.5 Groundwater Sampling Procedures

Groundwater sampling activities involve several activities including groundwater and free product depth measurements, well purging, sample collection, waste water disposal, etc. The procedures for conducting these activities are described below.

Depth to Water

Prior to purging each of the wells, the depth to groundwater within each well casing is measured to the nearest 0.01 foot using either an electronic Solinst water level indicator or an electronic oil-water interface probe. Wells with known elevation were measured from the top of each well casing as determined in accordance with previous surveys.

Low-Flow (Minimal Drawdown) Groundwater Sampling

Following depth to groundwater measurement, a low-flow pump is installed at 3 feet below the groundwater table and 3 feet off the bottom of the monitoring well. Tubing connects the pneumatic pump, submerged in the well, to a water flow cell equipped with a calibrated water quality probe. The probe continuously measures water quality parameters including pH, specific conductivity, dissolved oxygen (DO), oxidation-reduction (redox) potential, temperature, and turbidity.

Flow rates of 0.1-0.5 L/min are suggested for purging and sampling, but exact flow rates depend on Site-specific hydrology. Flow rate is adjusted to prevent drawdown from exceeding 0.3 feet. After installing the pneumatic pump, the depth to water meter was reinstalled to monitor drawdown.

Once flow is continuous, water quality parameter measurements are obtained. Measurements for temperature, pH, redox potential, conductivity, DO and turbidity are taken every three to five minutes. Purging continues until all water quality parameters have stabilized for three consecutive readings. Once parameters stabilize, a final reading was recorded, and samples were collected.

Groundwater Sampling Acquisition and Handling

Following purging operations, groundwater samples are collected from the discharge tube of the pneumatic pump. The discharge tube is disconnected from the flow cell prior to sampling. Samples are never taken from the outlet of the flow cell.

Collected water samples are discharged directly into laboratory provided, precleaned, 40 milliliter (ml) glass vials or one-liter amber bottles and sealed with Teflon-lined septum, screw-on lids. Labels documenting sample number, well identification, collection date and time, type of sample and type of preservative (if applicable) were affixed to each sample. The samples were then placed into an ice-filled cooler for delivery under chain-of-custody to a laboratory certified to perform the specified tests by the State of California Department of Health Services Environmental Laboratory Accreditation Program.

3.3 INVESTGIATION DERIVED WASTE (IDW)

All waste soil, wastewater, and purge water generated during the field activities were retained on-Site in appropriate containers (i.e. California Department of Transportation [DOT]-approved drums) for future disposal. All waste soil and waste water generated from the field activities will be delivered under appropriate manifest to a facility certified and licensed to receive such waste streams.

3.4 FIELD EQUIPMENT CLEANING PROCEDURES

To maintain quality control during drilling operations, all drill rods and reusable soil sampling equipment was decontaminated using a triple bucket rinse. Prior to drilling at a given location or sampling interval, all equipment coming in direct contact with soil samples was scrubbed with an Alconox scrub solution followed by a clean tap water rinse and then a final distilled water rinse. The disposable acetate soil sample liners utilized during the direct-push drilling activities were used for one sampling interval and then discarded. All decontamination water was contained in drums pending characterization and off-site disposal to an appropriate facility.

3.5 PERSONAL PROTECTIVE EQUIPMENT (PPE)

During drilling and sampling activities PPE used by Stantec personnel and the drilling subcontractor consisted of Level D equipment, as appropriate. This included reflective vests, steel toed boots, hard hats, safety glasses, and nitrile gloves.

4.0 WORK PLAN DEVIATIONS

First groundwater was anticipated to be encountered approximately 80 feet bgs, with final well construction depths at approximately 100 feet. First groundwater was encountered at approximately 60 to 65 feet bgs, with final groundwater monitoring well depths ranging from 75 to 80 feet bgs.

5.0 LABORATORY TESTING PROGRAM

A total of four (4) groundwater samples collected during this investigation were delivered under chain-of-custody to Advanced Technology Laboratories (ATL) based out of Signal Hill, California. The groundwater samples were analyzed for total petroleum hydrocarbons (TPH) and volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) test methods 8015 and 8260, respectively. ATL is certified to perform hazardous waste testing by the State of California Department of Health Services, Environmental Laboratory Accreditation Program (ELAP).

6.0 INVESTIGATION RESULTS

6.1 FIELD OBSERVATIONS

From April 15 through April 23, 2019, Stantec personnel oversaw the advancement of four (4) hollow stem borings and the installation and development of four (4) groundwater monitoring wells at the Property. Soils encountered during this investigation consisted largely of well- to poorly-graded sand interbedded with silt and silty sand lenses, and a clay zone located at approximately 75 to 80 feet bgs. First groundwater was encountered at approximately 60 to 65 feet bgs in all borings. No hydrocarbon staining or odors were observed in any of the borings advanced during this investigation. Boring logs are attached in Appendix B. Well construction details are summarized in attached Table 1.

On-Site groundwater monitoring wells were gauged and sampled on April 26, 2019. Groundwater elevations in the monitoring wells ranged from 181.39 feet amsl in well W2 to 180.49 feet amsl in well W4. Based on the recorded measurement and the well survey, groundwater flow direction was calculated to be to the northwest at a gradient of 0.003 feet per foot (ft/ft). The groundwater well gauging and sampling data sheets are attached as Appendix B. Groundwater elevation measurements are summarized in attached Table 2, and flow direction is shown on Figure 3.

6.2 ANALYTICAL RESULTS

Laboratory analyses test results from this assessment are presented on the laboratory data sheets attached as Appendix C. A summary of the analytical data from this assessment are summarized in attached Table 3. The laboratory test results from this investigation are discussed below and were compared to the more conservative value between the Department of Toxic Substances Control (DTSC) Note 3 screening level for residential sites (DTSC, 2018) and the United States Environmental Protection Agency Regional Screening Level for residential sites (US EPA, 2018).

6.2.1 Groundwater

No TPH or VOCs were detected above laboratory reporting limits in the groundwater samples collected from the four onsite groundwater monitoring wells (W1 through W4).

7.0 CONCLUSIONS AND RECOMMENDATIONS

Four monitoring wells (W1 through W4) were installed, developed, and sampled between April 15 and April 23, 2019. Depth to groundwater was measured in the wells between approximately 60 and 66 feet bgs with a flow direction to the northwest. The analytical results of groundwater samples collected from the wells reported no TPH or VOCs above laboratory reporting limits.

8.0 LIMITATIONS

The conclusions presented in this report are professional opinions based on data described in this report. The opinions of this report have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location and are subject to the following inherent limitations. 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 County and State regulations.

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

9.0 REFERENCES

California Geological Survey (CGS), 2002, California Geomorphic Provinces, Note 36.

_____, 2010a, Fault Activity Map of California, adjustable scale, http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html.

_____, 2010b, Alquist-Priolo Earthquake Fault Zones of California, http://www.quake.ca.gov/gmaps/ap/ap_maps.htm.

TABLES

TABLE 1

SUMMARY OF GROUNDWATER ELEVATION DATA

DeNova Homes, Inc
443 South Van Buren Street
Placentia, California

Well	Surveyed Wellhead Elevation[1]	Sampling Date	Depth to Static Water (ft bgs)	Free Product Thickness (ft)	Groundwater Elevation[2] (ft amsl)
W1	241.30	04/26/19	60.35	0.00	180.95
W2	242.82	04/26/19	61.43	0.00	181.39
W3	246.75	04/26/19	66.00	0.00	180.75
W4	246.59	04/26/19	66.10	0.00	180.49

Notes:

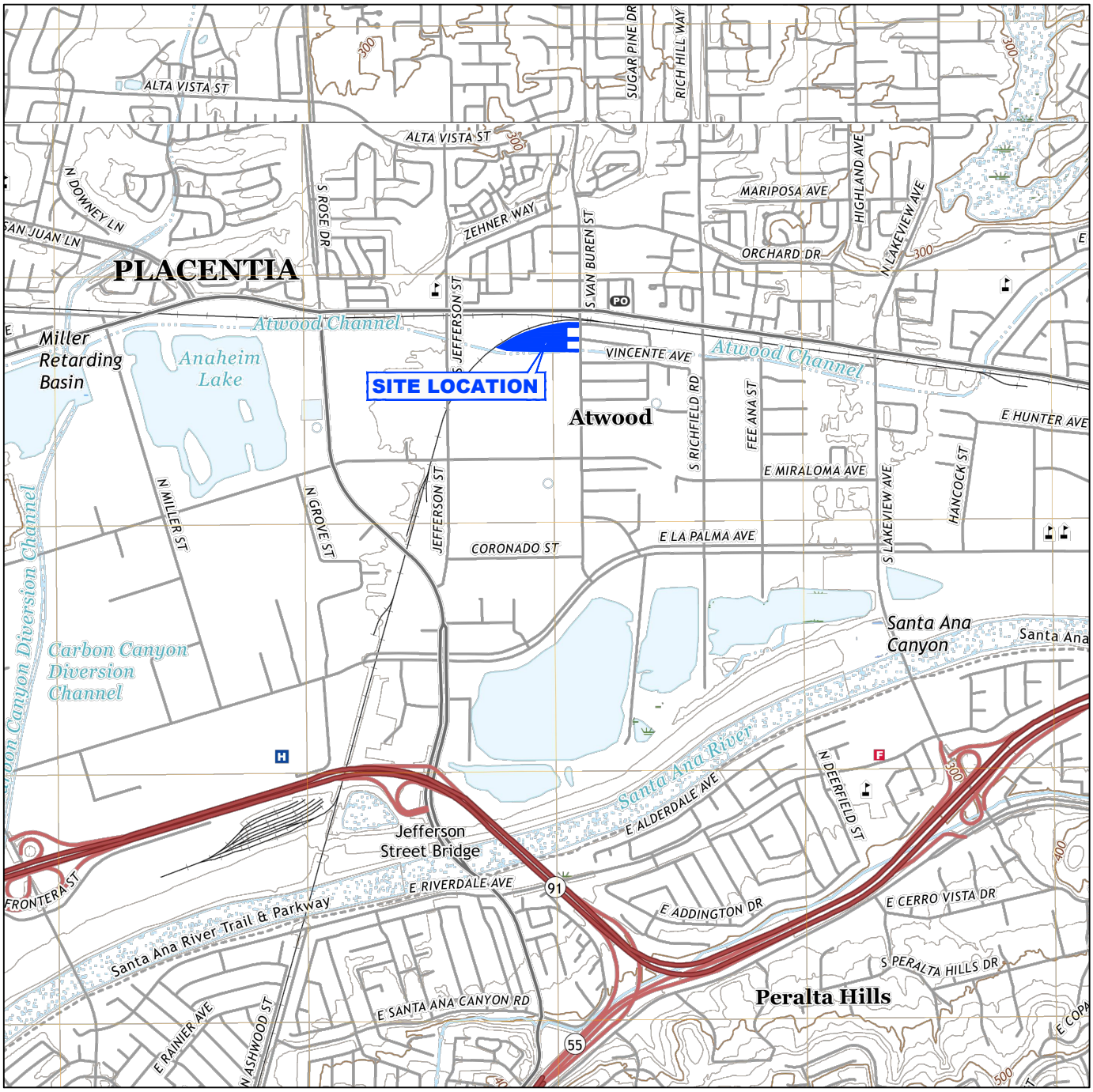
[1] = Elevations are measured in feet above mean sea level (amsl).

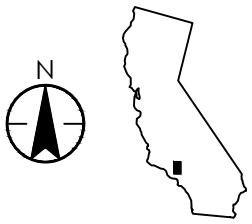
[2] = Groundwater Elevation in feet amsl = Surveyed Well Elevation-Depth to Static Water

bgs= Below Ground Surface

ft = Feet

FIGURES





1 1/2 0 1

SCALE IN MILE

1000 0 1000 2000 3000 4000 5000 6000 7000

SCALE IN FEET

REFERENCE: USGS 7.5 X 7.5 MINUTE □UADRANGLE□ORANGE, YORBA LINDA, 2018.

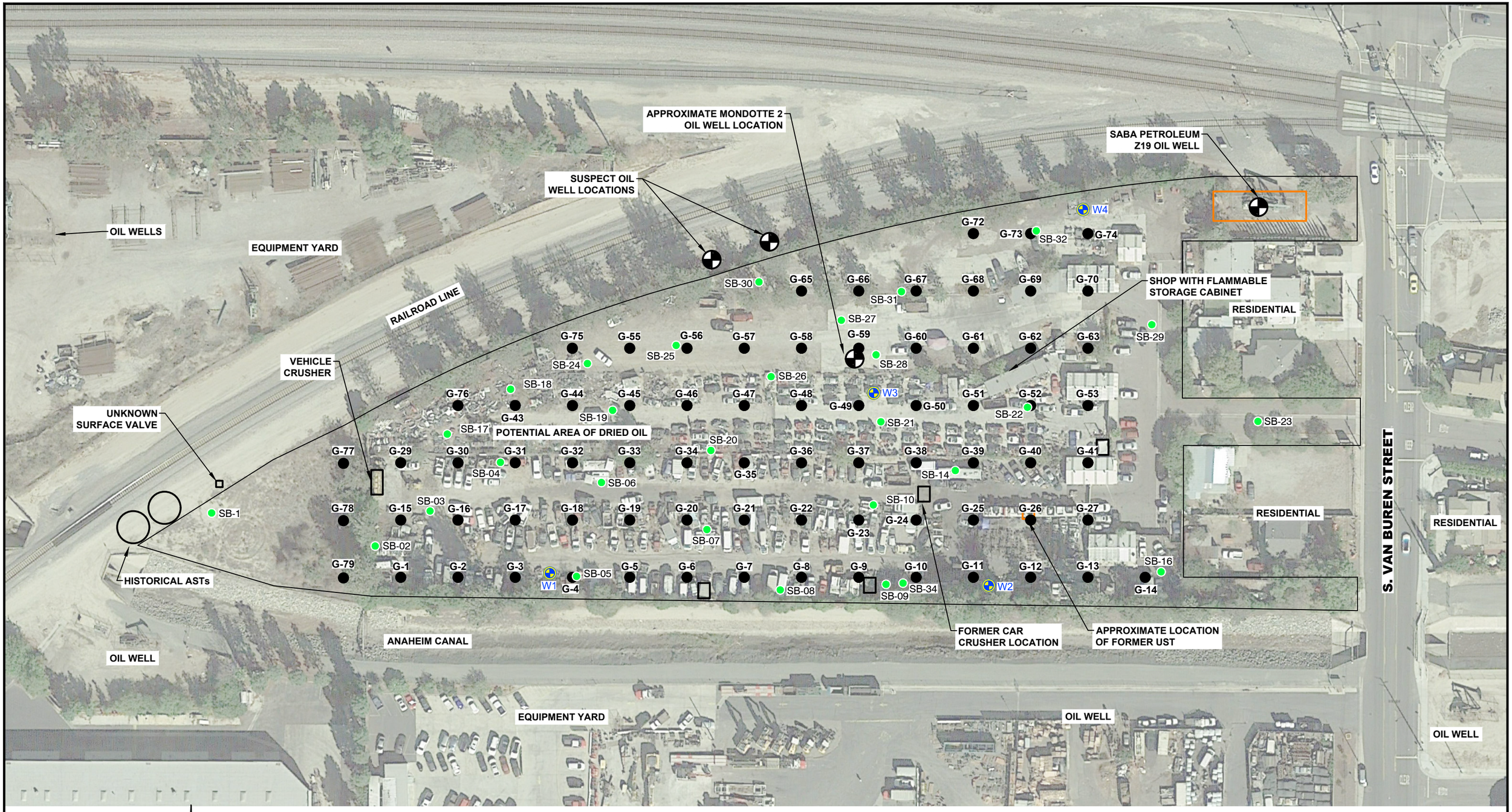
Stantec

25864-F BUSINESS CENTER DRIVE
REDLANDS, CALIFORNIA
PH (909) 335-6116 FAX (909) 335-6120

FOR:		FIGURE:
THE OLSON COMPANY 433 SOUTH VAN BUREN STREET, PLACENTIA, CALIFRNIA	**SITE LOCATION MAP**	**1**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185803982	JBL	DM	KE	05/06/19

FILEPATH:M:\00_OTHER OFFICES\Former-Redlands_San Bernadino\DeNovaHomes\FIG 2_DeNOVA HOMES_SITE-MAP_5-2019.dwg modified by jlieberman on May 06, 2019 at 14:20



N

0 80 160

APPROXIMATE SCALE IN FEET

LEGEND:

- PROPERTY BOUNDARY
- GROUNDWATER MONITORING WELL LOCATION (STANTEC 2019)
- SOIL BORING LOCATION
- SOIL SAMPLE LOCATION (STANTEC, 2017)
- SUSPECT OIL WELL LOCATION

Stantec

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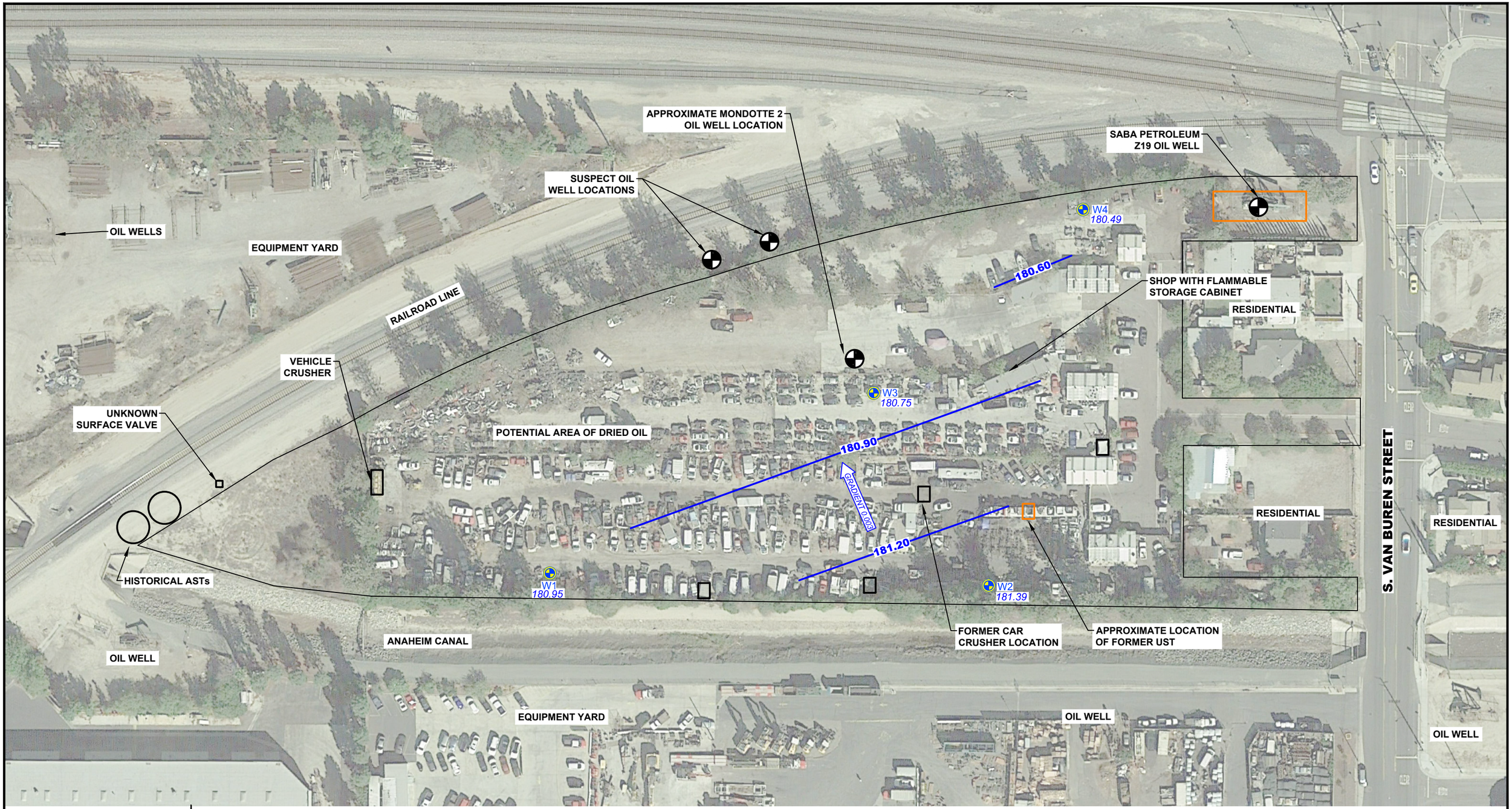
SAN BERNARDINO, CA. 92408
PHONE:(909) 335-6116 FAX:(909) 335-6120

FOR:		FIGURE:
DeNOVA HOMES 443 SOUTH VAN BUREN STREET, PLACENTIA, CALIFORNIA	**SITE MAP**	**2**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185804417	JS/STA/JBL	DM	KE	05/06/19

FILEPATH:M:\00_OTHER OFFICES\Former-Redlands_San Bernadino\DeNovaHomes\FIG 2_DeNOVA HOMES_SITE-MAP_5-2019.dwg modified by jlieberman on May 06, 2019 at 12:01



N

0 80 160

APPROXIMATE SCALE IN FEET

LEGEND:

———	PROPERTY BOUNDARY
	GROUNDWATER MONITORING WELL LOCATION (STANTEC 2019)
180.95	GROUNDWATER ELEVATION (FEET AMSL)
-180.60-	GROUNDWATER ELEVATION CONTOUR
GRADIENT 0.003	APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT FT/FT

Stantec
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FOR: DeNOVA HOMES
443 SOUTH VAN BUREN STREET, PLACENTIA, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP (APRIL 26, 2019)

FIGURE: **3**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185804417	JS/STA/JBL	DM	KE	05/06/19

FILEPATH:M:\00_OTHER OFFICES\Former-Redlands_San Bernadino\DeNovaHomes\FIG 2_DeNOVA HOMES_SITE-MAP_5-2019.dwg modified by jlieberman on May 06, 2019 at 13:49

APPENDIX A

Orange County Health Care Agency Environmental Health Division Permit

APPLICATION FOR WELL CONSTRUCTION PERMIT

ORANGE COUNTY HEALTH CARE AGENCY
ENVIRONMENTAL HEALTH DIVISION
1241 E. DYER ROAD, SUITE 120
SANTA ANA, CA 92705-5611
(714) 433-6000
FAX: (714) 433-6481

WELL PERMIT NUMBER 19-04-05

CITY Placentia

DATE 4-8-19

WELL LOCATION (ADDRESS IF AVAILABLE) 443 S. Van Buren St

NAME OF WELL OWNER DeNova Homes

ADDRESS 3 Hughes

CITY Irvine ZIP 92618 TELEPHONE 323.337.3544

NAME OF CONSULTING FIRM STANTEC CONSULTING SERVICES, INC

BUSINESS ADDRESS 735 E. Carnegie Dr.

CITY San Bernardino ZIP 92408 TELEPHONE 909.556-6516

NAME OF DRILLING CO. ABC Liovin Drilling, Inc C-57 LICENSE NO. 422904

CITY Poway ZIP 92064 TELEPHONE 562.981.8575 x.719

TYPE OF WELL (CHECK)

- PRIVATE DOMESTIC ☐
- PUBLIC DOMESTIC ☐
- IRRIGATION ☐
- CATHODIC ☐
- PROBE SURVEY ☐
- MONITORING ☑
- SOIL BORING ☐
- OTHER ☐
- TOTAL NUMBER 4

A. WELLS – SUBMIT A WELL CONSTRUCTION DIAGRAM (INCLUDE DIMENSIONS) Attached

B. SOIL BORINGS AND PROBES – (may be shallow)
TOTAL DEPTH 120 feet maximum
SEALING MATERIAL cement grout

C. PROPOSED START DATE 4-15-19

DIAGRAM OF WELL SITE (Use additional sheets and/or attachments)

☑ SITE PLAN ATTACHED

I hereby agree to comply in every respect with all requirements of the Health Care Agency and with all ordinances and laws of the County of Orange and of the State of California pertaining to well construction, reconstruction and destruction, including the requirements to maintain the integrity of all significant confining zones.

APPLICANT'S SIGNATURE 4-8-19 DATE

PRINT NAME Dion Monge

PHONE NUMBER 909.556.6516 FAX NUMBER 909.335.6120

Permit expires on 04.09.2020.

FOR ACCOUNTING USE ONLY:

HSO NO. 395887 CHECK NO. VS 5881

DATE 4/8/19 AMOUNT 843-

INTL. AC

APPROVAL BY OTHER AGENCIES:

JURISDICTION

REMARKS

AUTHORIZED SIGNATURE DATE

DISPOSITION OF PERMIT (DO NOT FILL IN):

☒ **APPROVED** SUBJECT TO THE FOLLOWING CONDITIONS:

A. NOTIFY THIS AGENCY AT LEAST **48 HOURS**
- ☒ PRIOR TO START. Notify of any changes.
- ☐ PRIOR TO SEALING THE ANNULAR SPACE OR FILLING OF THE CONDUCTOR CASING.

B. ☐ SUBMIT TO THE AGENCY WITHIN 30 DAYS AFTER COMPLETION OF WORK, A WELL COMPLETION REPORT AND/OR DRILLING LOGS. PLEASE REFERENCE PERMIT NO.

C. ☒ SECURE ALL MONITORING WELLS TO PREVENT TAMPERING.

D. ☒ OTHER Notify when all work is complete and include the depth to 1st water.

☐ **DENIED**

PERMIT ISSUED BY Juan Amora 04.08.2019 DATE

PRINT NAME Juan Amora 7144336287 PHONE NUMBER

WHEN SIGNED BY ORANGE COUNTY HEALTH CARE AGENCY REPRESENTATIVE, THIS APPLICATION IS A PERMIT.

@.F272-09.0803 (R11/01)

Scanned with CamScanner

APPENDIX B

Boring Logs and Field Sheets

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W1** PAGE 1 OF 5

Stantec

DRILLING: STARTED **4/15/19** COMPLETED: **4/15/19**
INSTALLATION: STARTED **4/15/19** COMPLETED: **4/15/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **60** **4/15/19**
BOREHOLE DEPTH (ft): **81.5**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **75.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SM	**SILTY SAND** ; SM; (7.5 YR 4/9) brown; fine to medium-grained; some fines; moist; no odor; no staining							
		SW-SM	**WELL GRADED SAND WITH SILT** ; SW-SM; (10YR 5/4) yellowish brown; fine to coarse-grained; little fines; moist; no odor; no staining							
5		SP-SM	**POORLY GRADED SAND WITH SILT** ; SP-SM; (10YR 5/2) grayish brown; very fine to fine-grained; little fines; no odor; no staining							
		SP	**POORLY GRADED SAND** ; SP; (10YR 6/3) pale brown; medium-grained; little coarse sand; trace fines; moist; no odor; no staining		0805 --	18	8 20 25	0.0	5	
10			...same as above; little fine gravel; little medium sand; coarse sand; trace fines; no odor; no staining		0815 --	18	18 25 48	0.0	10	5% Cement-Bentor by weight
15			... same as above.		0820 --	18	15 20 35	0.0	15	

GEO FORM 304 04182019_GW_INSTALLATION_LOGS.GPJ STANTEC001.GDT 5/6/19

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W1** PAGE 2 OF 5

Stantec

DRILLING: STARTED **4/15/19** COMPLETED: **4/15/19**
INSTALLATION: STARTED **4/15/19** COMPLETED: **4/15/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **60** **4/15/19**
BOREHOLE DEPTH (ft): **81.5**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **75.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		CL	**CLAY WITH SAND** ; CL; (10YR 4/3) brown; little very fine to fine-grained; medium to high plasticity; moist; no odor; no staining		0825 --	18	5 7 10	0.0		
25			**SANDY CLAY** ; (10YR 4/3) brown; some very fine to medium-grained; medium plastic fines; moist; no odor; no staining		0835 --	18	4 8 20	0.0	25	2" SCH40 PVC Blank 5% Cement-Bentor by weight
		SC	**CLAYEY SAND** ; SC; (10YR 4/3) brown; very fine to medium-grained; some medium plastic fines; moist; no odor; no staining							
30		SM	**SILTY SAND** ; SM; (10YR 4/3) yellowish brown; fine to medium-grained; non-plastic fines; moist; no odor; no staining		0845 --	14	10 15 21	0.0	30	2" SCH40 PVC Blank 5% Cement-Bentor by weight
		SP	**POORLY GRADED SAND** ; SP; (10YR 5/4) yellowish brown; fine to medium-grained; trace fines; moist; no odor; no staining							
35		SW	**WELL GRADED SAND** ; SW; (2.5YR 6/2) light grayish brown; fine to coarse-grained; trace fines; moist; no odor; no staining		0850 --	14	20 25 30	0.0	35	

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W1** PAGE 3 OF 5

Stantec

DRILLING: STARTED **4/15/19** COMPLETED: **4/15/19**
INSTALLATION: STARTED **4/15/19** COMPLETED: **4/15/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **60** **4/15/19**
BOREHOLE DEPTH (ft): **81.5**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **75.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SM	**SILTY SAND** ; SM; (10YR 5/3) brown; very fine to fine-grained; some fines; moist to wet (suspect capillary fringe); moist; no odor; no staining		0855 --	16	50 30 40	0.0		Dry Granular Bentonite
		SW	Drill rig chatter @ 40 - 41' **WELL GRADED SAND** ; SW; (10YR 4/2) dark grayish brown; trace fine gravel; fine to coarse sand; trace fines; moist; no odor; no staining							
45			... same as above.		0900 --	16	20 25 50-5	0.0	45	#2/12 Sand Filter Pack
50			... same as above.		0905 --	14	28 30 35	0.0	50	2" SCH 40 PVC Screen
55		SP	**POORLY GRADED SAND** ; SP; (10YR 5/2) grayish brown; medium to coarse-grained; trace fines; moist; no odor; no staining		0915 --	14	30 50-6	0.0	55	

GEO FORM 304 04182019_GW_INSTALLATION_LOGS.GPJ STANTEC001.GDT 5/6/19

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W1** PAGE 4 OF 5

Stantec

DRILLING: STARTED **4/15/19** COMPLETED: **4/15/19**
INSTALLATION: STARTED **4/15/19** COMPLETED: **4/15/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **60** **4/15/19**
BOREHOLE DEPTH (ft): **81.5**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **75.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
			... same as above; little fine to coarse gravel; wet; no odor; no staining		0920 --	12	20 50-5	0.0		
65			... same as above.		0930 --	12	10 18 50-4	0.0	65	2" SCH 40 PVC Screen
			Drill rig chatter, gravel layer @ 67-70'							
70		GW	**WELL GRADED GRAVEL WITH SAND** ; GW; (10YR 5/2) grayish brown; fine to coarse-grained; some medium to coarse sand; trace fines; moist; no odor; no staining		0935 --	12	5 13 50-4	0.0	70	
75		SP-SM	**POORLY GRADED SAND WITH SILT AND GRAVEL** ; SP-SM; (10YR 4/5) brown; fine to medium-grained; some fine gravel; fine to medium sand; little fines; moist; no odor; no staining		0940 --	11	25 35 50-5	0.0	75	#2/12 Sand Filter Pack
		CL	**SANDY CLAY** ; CL; (10YR 3/2) very dark grayish brown; some fine to medium sand; high plastic fines; moist; no odor; no staining							

GEO FORM 304 04182019_GW_INSTALLATION_LOGS.GPJ STANTEC001.GDT 5/6/19

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W1** PAGE 5 OF 5

Stantec

DRILLING: STARTED **4/15/19** COMPLETED: **4/15/19**
INSTALLATION: STARTED **4/15/19** COMPLETED: **4/15/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **60** **4/15/19**
BOREHOLE DEPTH (ft): **81.5**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **75.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		CL	... same as above.		0950 --	12	16 21 50-3	0.0		#2/12 Sand Filter Pack
			Hole terminated at 81.5 feet.							
85									85	
90									90	
95									95	

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W2** PAGE 1 OF 4

Stantec

DRILLING: STARTED **4/16/19** COMPLETED: **4/16/19**
INSTALLATION: STARTED **4/16/19** COMPLETED: **4/16/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **63.5** **4/15/19**
BOREHOLE DEPTH (ft): **77.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **77.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SM	**SILTY SAND** ; SM; (10YR 4/3) brown; fine to medium-grained; some fines; moist; minor hydrocarbon staining amd odor in top 1"							
		SW	**WELL GRADED SAND** ; SW; (10YR 4/3) brown; fine to coarse-grained; trace well graded coarse gravel; trace fines; moist; no odor; no staining							
5					0910 --	18	15 16 22	0.0	5	
		SP	**POORLY GRADED SAND** ; SP; (10YR 5/4) yellowish brown; medium to coarse-grained; little fine gravel; trace fines; moist; no odor; no staining							
		SC	**CLAYEY SAND** ; SC; (2.5Y 5/3) light olive brown; very fine to fine-grained; some low to medium plastic fines; moist; no odor; no staining							
10					0817 --	18	10 12 18	0.0	10	2" SCH40 PVC Blank 5% Cement-Bentor by weight
		SM	**SILTY SAND** ; SM; (2.5Y 5/4) light olive brown; very fine to fine-grained; some fines; moist; no odor; no staining							
15					0820 --	18	10 15 18	0.0	15	

GEO FORM 304 04182019_GW_INSTALLATION_LOGS.GPJ STANTEC001.GDT 5/6/19

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W2** PAGE 2 OF 4

Stantec

DRILLING: STARTED **4/16/19** COMPLETED: **4/16/19**
INSTALLATION: STARTED **4/16/19** COMPLETED: **4/16/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **63.5** **4/15/19** BOREHOLE DEPTH (ft): **77.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **77.0**
WELL CASING DIAMETER (in): **2** BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		CL	**SANDY CLAY** ; CL; (2.5Y 5/4) light olive brown; very fine to fine-grained; medium plasticity; moist; no odor; no staining		0830 --	18	5 8 24	0.0		
		SC	**CLAYEY SAND** ; SC; (2.5Y 5/4) light olive brown; very fine to fine-grained; medium plasticity; moist; no odor; no staining							5% Cement-Bentor by weight
25			**SAME AS ABOVE**		0835 --	17	6 8 14	0.0	25	
		SM	**SILTY SAND** ; SM; (2.5Y 5/4) light olive brown; very fine to fine-grained; medium plasticity; moist; no odor; no staining							
30			**SAME AS ABOVE**		0840 --	16	9 10 16	0.0	30	2" SCH40 PVC Blank 5% Cement-Bentor by weight
		SW-SM	**WELL GRADED SAND WITH SILT** ; SW-SM; (2.5Y 5/4) light olive brown; fine to coarse-grained; little fines; moist; no odor; no staining							
		SP	**POORLY GRADED SAND** ; SP; (2.5Y 5/4) light olive brown; fine-grained; trace fines; moist; no odor; no staining							
35					0850 --	17	10 14 16	0.0	35	
		CH	**FAT CLAY** ; CH; (2.5Y 5/6) light olive brown; very fine-grained; high plasticity; moist; no odor; no staining							

GEO FORM 304 04182019_GW_INSTALLATION_LOGS.GPJ STANTEC001.GDT 5/6/19

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W2** PAGE 3 OF 4

Stantec

DRILLING: STARTED **4/16/19** COMPLETED: **4/16/19**
INSTALLATION: STARTED **4/16/19** COMPLETED: **4/16/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **63.5** **4/15/19**
BOREHOLE DEPTH (ft): **77.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **77.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SP	**POORLY GRADED SAND** ; SP; (2.5Y 6/1) gray; fine to coarse-grained; fine to coarse gravel; medium to coarse sand; trace fines; moist; no odor; no staining		0900 --	17	9 11 13	0.0		
45			**SAME AS ABOVE**		0905 --	18	12 15 20	0.0	45	Dry Granular Bentonite
			Drill rig chatter; likely gravel layer @ 47-48'							
50			**SAME AS ABOVE**		0910 --	16	12 30 35	0.0	50	#2/12 Sand Filter Pack
			SAME AS ABOVE ; fine sand; trace fines							
55			**SAME AS ABOVE**		0925 --	16	20 25 50/5	0.0	55	2" SCH 40 PVC Screen
			SAME AS ABOVE ; medium sand; trace fines							

GEO FORM 304 04182019_GW_INSTALLATION_LOGS.GPJ STANTEC001.GDT 5/6/19

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W2** PAGE 4 OF 4

Stantec

DRILLING: STARTED **4/16/19** COMPLETED: **4/16/19**
INSTALLATION: STARTED **4/16/19** COMPLETED: **4/16/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **63.5** **4/15/19**
BOREHOLE DEPTH (ft): **77.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **77.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SP			0930 --	16	25 35 50/5	0.0		
		SP	**POORLY GRADED GRAVEL** ; SP; (2.5Y 6/1) gray; fine to coarse-grained; some fine to coarse gravel; medium to coarse sand; trace fines; suspect capillary fringe; moist; no odor; no staining							
			Wet; water @ 63.5'						▽	
65			**SAME AS ABOVE** ; wet		0945 --	18	10 18 50/3	0.0	65	
										2" SCH 40 PVC Screen
70			**SAME AS ABOVE** ; coarse-grained; some fine to coarse gravel; trace fines; moist; no odor; no staining		1000 --	18	10 33 50/5	0.0	70	
75									75	
		CL	**SANDY CLAY** ; CL; (10YR 3/4) dark yellowish brown; very fine-grained; medium plasticity; wet; no odor; no staining		1005 --	18	13 28 38	0.0		#2/12 Sand Filter Pack
			Hole terminated at 77 feet.							

GEO FORM 304 04182019_GW_INSTALLATION_LOGS.GPJ STANTEC001.GDT 5/6/19

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W3** PAGE 1 OF 5

Stantec

DRILLING: STARTED **4/16/19** COMPLETED: **4/17/19**
INSTALLATION: STARTED **4/16/19** COMPLETED: **4/17/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **62** **4/15/19** BOREHOLE DEPTH (ft): **81.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **80.0**
WELL CASING DIAMETER (in): **2** BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
			Top 3" of concrete							
		SM	**SILTY SAND** ; SM; (10YR 4/3) brown; fine to coarse-grained; trace fine gravel; fne to coarse sand; some fines; moist; no odor; no staining							
		SW	**WELL GRADED SAND** ; SW; (10YR 5/4) yellowish brown; fine to coarse-grained; some fine gravel; fine to coarse sand; trace fines; moist; no odor; no staining							
5					1445 --	18	7 10 14	0.0	5	
			SAME AS ABOVE ; (10YR 6/2) light gray							
10			**SAME AS ABOVE**		1450 --	17	13 18 25	0.0	10	2" SCH40 PVC Blank 5% Cement-Bentor by weight
		SP	**POORLY GRADED SAND** ; SP; (10YR 6/4) light yellowish brown; fine to coarse-grained; trace fine gravel; trace fines; moist; no odor; no staining							
15		SM	**SILTY SAND** ; SM; (2.5Y 5/4) light olive brown; fine to medium sand; some fines; moist; no odor; no staining		1455 --	18	6 12 9	0.0	15	

GEO FORM 304 04182019_GW_INSTALLATION_LOGS.GPJ STANTEC001.GDT 5/6/19

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W3** PAGE 2 OF 5

Stantec

DRILLING: STARTED **4/16/19** COMPLETED: **4/17/19**
INSTALLATION: STARTED **4/16/19** COMPLETED: **4/17/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **62** **4/15/19**
BOREHOLE DEPTH (ft): **81.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **80.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
			SAME AS ABOVE		1500 --	18	7 12 28	0.0		
		CL	**CLAY WITH SAND** ; CL; (2.5Y 5/5) light olive brown; very fine to fine-grained; high plasticity; moist; no odor; no staining							
25			**SAME AS ABOVE**		1505 --	16	7 11 13	0.0	25	5% Cement-Bentor by weight
		SM	**SILTY SAND** ; SM; (2.5Y 4/3) olive brown; fine to medium-grained; some fines; moist; no odor; no staining							
30			**SAME AS ABOVE** ; very fine to fine-grained		0755 --	16	10 13 24	0.0	30	2" SCH40 PVC Blank 5% Cement-Bentor by weight
35			**SAME AS ABOVE**		0805 --	16	9 11 20	0.0	35	

GEO FORM 304 04182019_GW_INSTALLATION_LOGS.GPJ STANTEC001.GDT 5/6/19

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W3** PAGE 3 OF 5

Stantec

DRILLING: STARTED **4/16/19** COMPLETED: **4/17/19**
INSTALLATION: STARTED **4/16/19** COMPLETED: **4/17/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **62** **4/15/19**
BOREHOLE DEPTH (ft): **81.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **80.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SP-SM	**POORLY GRADED SAND WITH SILT** ; SP-SM; (7.5YR 6/3) light brown; fine-grained; little very fine sand; little fines; moist; no odor; no staining		0812 --	16	23 28 40	0.0		
45			**SAME AS ABOVE** ; very moist; fine to medium sand		0820 --	16	25 35 42	0.0	45	
50		SW	**WELL GRADED SAND** ; SW; (10YR 5/2) grayish brown; fine to coarse-grained; little fine gravel; trace fines; moist; no odor; no staining; moist; no odor; no staining		0830 --	12	30 50-6	0.0	50	Dry Granular Bentonite
			Drill rig chatter; suspect gravel layer @ 52 - 53'							#2/12 Sand Filter Pack
55			**SAME AS ABOVE**		0840 --	9	35 50/5	0.0	55	
			Drill rig chatter; suspect gravel layer @ 57 - 58.5'							2" SCH 40 PVC Screen

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W3** PAGE 4 OF 5

Stantec

DRILLING: STARTED **4/16/19** COMPLETED: **4/17/19**
INSTALLATION: STARTED **4/16/19** COMPLETED: **4/17/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **62** **4/15/19**
BOREHOLE DEPTH (ft): **81.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **80.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
			SAME AS ABOVE ; loose in sampler		0852 --	7	40 50/5	0.0		
		CL	**SANDY CLAY** ; CL; (10YR 4/3) brown; very fine-grained; medium plasticity; moist; no odor; no staining							
65					0858 --	9	30 35 50/5	0.0	65	
		SW	**WELL GRADED SAND WITH GRAVEL** ; SW; (10YR 4/2) dark grayish brown; fine to coarse-grained; some fine gravel; fine to coarse sand; trace fines; moist; no odor; no staining Soft @68'							
70		SW	**SAME AS ABOVE** ; SW; (10YR 5/2); some fine to coarse gravel		0915 --	15	15 33 50/4	0.0	70	2" SCH 40 PVC Screen
		SM	**SILTY SAND** ; SM; (10YR 4/4) dark yellowish brown; very fine to fine-grained; some fines; moist; no odor; no staining							
75					0930 --	10	18 35 50/5	0.0	75	
			Water is very turbid in the retreiving sampler							

GEO FORM 304 04182019_GW_INSTALLATION_LOGS.GPJ STANTEC001.GDT 5/6/19

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W3** PAGE 5 OF 5

Stantec

DRILLING: STARTED **4/16/19** COMPLETED: **4/17/19**
INSTALLATION: STARTED **4/16/19** COMPLETED: **4/17/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **62** **4/15/19**
BOREHOLE DEPTH (ft): **81.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **80.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SM	**SAME AS ABOVE** ; some fine gravel; fine to coarse sand; decrease in fines; moist; no odor; no staining		0940 --	10	40 50/4	0.0		#2/12 Sand Filter Pack
			Hole terminated at 81.5 feet.							
85									85	
90									90	
95									95	

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W4** PAGE 1 OF 5

Stantec

DRILLING: STARTED **4/18/19** COMPLETED: **4/18/19**
INSTALLATION: STARTED **4/18/19** COMPLETED: **4/18/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **80.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **80.0**
WELL CASING DIAMETER (in): **2** BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
			Concrete 2"							
		SM	**SILTY SAND** ; SM; (10YR 4/3) brown; fine to medium-grained; trace fine gravel; fine to medium sand; some fines; moist; no odor; no staining							
		SW	**WELL GRADED SAND WITH SILT** ; SW; (10YR 6/3) pale brown; fine to coarse-grained; trace fine gravel; fine to coarse sand; trace fines; moist; no odor; no staining							
5			...same as above.						5	
			WELL GRADED SAND ; (2.5Y 6/2) light blackish gray; fine to coarse-grained; little fine to coarse gravel; fine to coarse sand; trace fines; moist; no odor; no staining		0850 --	16	8 10 12	0.0		
10			...same as above.		0855 --	12	6 12 20	0.0	10	2" SCH40 PVC Blank 5% Cement-Bentonite by weight
15			...same as above; little fine gravel		0900 --	16	11 20 17	0.0	15	
		SM	**SILTY SAND** ; SM; (2.5Y 5/4) light olive brown; very fine to fine-grained; some fines; moist; no odor; no staining							

GEO FORM 304 04182019_GW_INSTALLATION_LOGS.GPJ STANTEC001.GDT 5/6/19

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W4** PAGE 2 OF 5

Stantec

DRILLING: STARTED **4/18/19** COMPLETED: **4/18/19**
INSTALLATION: STARTED **4/18/19** COMPLETED: **4/18/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **80.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **80.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SP	**POORLY GRADED SAND** ; SP; (2.5Y 6/2) light grayish brown; very fine to fine-grained; trace coarse sand; trace fines; moist; no odor; no staining		0905 --	14	10 24 30	0.0		5% Cement-Bentor by weight
		CL	**SANDY CLAY** ; CL; (2.5Y 4/3) olive brown; very fine to fine-grained; high plasticity; moist; no odor; no staining							
25					0915 --	17	15 15 30	0.0	25	
		SM	**SILTY SAND** ; SM; (2.5Y 5/3) light olive brown; very fine to fine-grained; moist; no odor; no staining							
		SC	**CLAYEY SAND** ; SC; (2.5Y 5/3) light olive brown; very fine to fine-grained; medium plasticity; moist; no odor; no staining							
30					0920 --	18	6 11 15	0.0	30	2" SCH40 PVC Blank 5% Cement-Bentor by weight
		SM	**SILTY SAND** ; SM; (2.5Y 5/3) light olive brown; very fine to fine-grained; medium plasticity; some non-plastic fines; moist; no odor; no staining							
35			...same as above; very fine grained		0930 --	18	10 13 16	0.0	35	

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W4** PAGE 3 OF 5

Stantec

DRILLING: STARTED **4/18/19** COMPLETED: **4/18/19**
INSTALLATION: STARTED **4/18/19** COMPLETED: **4/18/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **80.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **80.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
		SM	...same as above.		0935 --	18	13 18 30	0.0		
		SW	**WELL GRADED SAND** ; SW; (2.5Y 6/2) light yellowish brown; fine to coarse-grained; trace fines; moist; no odor; no staining							
45		SW-SM	**WELL GRADED SAND WITH SILT** ; SW-SM; (2.5Y 6/2) light brownish gray; fine to coarse-grained; little fine to coarse gravel; fine to coarse sand; little fines; moist; no odor; no staining		0945 --	16	18 34 50/5	0.0	45	Dry Granular Bentonite
50			...same as above.		0950 --	12	30 50/5	0.0	50	#2/12 Sand Filter Pack
55			**WELL GRADED SAND** ; (2.5Y 6.5) light brownish gray; little fine to coarse gravel; fine to coarse sand; trace fines; moist; no odor; no staining		1000 --	9	42 50/4	0.0	55	2" SCH 40 PVC Screen

GEO FORM 304 04182019_GW_INSTALLATION_LOGS.GPJ STANTEC001.GDT 5/6/19

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W4** PAGE 4 OF 5

Stantec

DRILLING: STARTED **4/18/19** COMPLETED: **4/18/19**
INSTALLATION: STARTED **4/18/19** COMPLETED: **4/18/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **80.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **80.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
			SAME AS ABOVE		1010 --	9	38 50/5	0.0		
			Approximate groundwater @62'							
65		SP	**POORLY GRADED SAND** ; SP; (2.5Y 6/2) grayish brown; coarse-grained; trace fines; wet; no odor; no staining		1015 --	18	24 30 50/6	0.0	65	
70			**SAME AS ABOVE**		1025 --	18	16 40 50/2	0.0	70	2" SCH 40 PVC Screen
		SP-SM	**POORLY GRADED SAND WITH SILT** ; SP-SM; (10YR 4/3) brown; fine-grained; little fines; wet; no odor; no staining							
			Drill rig chatter; suspect gravel layer @ 72.5 - 77.5'							
75		SW	**WELL GRADED SAND WITH GRAVEL** ; SW; (10YR 5/1) gray; fine to coarse-grained; some fine to coarse gravel; fine to coarse sand; trace fines; wet; no odor; no staining		1045 --	18	7 24 50/3	0.0	75	

GEO FORM 304 04182019_GW_INSTALLATION_LOGS.GPJ STANTEC001.GDT 5/6/19

PROJECT: **DeNova - Placentia**
LOCATION: **443 S. Van Buren Placentia, California**
PROJECT NUMBER: **185804417**

WELL / PROBEHOLE / BOREHOLE NO: **W4** PAGE 5 OF 5

Stantec

DRILLING: STARTED **4/18/19** COMPLETED: **4/18/19**
INSTALLATION: STARTED **4/18/19** COMPLETED: **4/18/19**
DRILLING COMPANY: **ABC Liovin**
DRILLING EQUIPMENT: **CME 85**
DRILLING METHOD: **HSA**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **80.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **80.0**
WELL CASING DIAMETER (in): **2** BOREHOLE DIAMETER (in): **8**
LOGGED BY: **JS** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recovery (ft.)	Blow Count	PID Reading (ppmv)	Depth (feet)	Well Construction
			SAME AS ABOVE		1050 --	8	20 50/3	0.0		#2/12 Sand Filter Pack
			Hole terminated at 81.5 feet.							
85									85	
90									90	
95									95	

GEO FORM 304 04182019_GW_INSTALLATION_LOGS.GPJ STANTEC001.GDT 5/6/19

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
1340 Reynolds Avenue, Suite 108
Irvine, CA 92614
Toll-free: 888-620-7463

Pine Environmental Services, Inc.

Instrument ID 10125
Description MiniRAE 2000
Calibrated 4/15/2019 8:37:17PM

Manufacturer Rae Systems
Model Number PGM7600
Serial Number/ Lot Number 110-013115
Location California
Department

State Certified
Status Pass
Temp °C 23
Humidity % 45

Calibration Specifications

Group # 1
Group Name VOC
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	PPM	100.00	PPM	100.00	100.00	0.00%	Pass

Test Instruments Used During the Calibration (As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
CA ISO 100PPM (EAQ-248-100-2)	CA ISO 100PPM (EAQ-248-100-2) 34L	Gasco	31721	EAQ-248-100-2		5/2/2020

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Thanh Hoang

All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment
Please call 800-301-9663 for Technical Assistance

APPENDIX C

Laboratory Data Sheets and QA/QC Results

May 03, 2019

Dion Monge
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
Tel: (909) 335-6116
Fax:(909) 335-6120

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

Re: ATL Work Order Number : 1901718
Client Reference : 185804417

Enclosed are the results for sample(s) received on April 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,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 05/03/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W1	1901718-01	Water	4/26/19 9:35	4/26/19 14:19
W2	1901718-02	Water	4/26/19 10:45	4/26/19 14:19
W3	1901718-03	Water	4/26/19 11:50	4/26/19 14:19
W4	1901718-04	Water	4/26/19 13:15	4/26/19 14:19

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 05/03/2019

Client Sample ID W1

Lab ID: 1901718-01

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	B9E0029	05/02/2019	05/02/19 03:41	
Surrogate: 4-Bromofluorobenzene	*106 %*	*70 - 130*		B9E0029	05/02/2019	*05/02/19 03:41*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	0.20	1	B9E0090	05/02/2019	05/02/19 17:24	
ORO	ND	0.20	1	B9E0090	05/02/2019	05/02/19 17:24	
Surrogate: p-Terphenyl	*91.8 %*	*32 - 169*		B9E0090	05/02/2019	*05/02/19 17:24*	

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	B9D1203	04/29/2019	04/29/19 13:05	
1,1,1-Trichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,1,2-Trichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,1-Dichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,1-Dichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,1-Dichloropropene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,2,3-Trichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,2,3-Trichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,2,4-Trichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,2,4-Trimethylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,2-Dibromo-3-chloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,2-Dibromoethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,2-Dichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,2-Dichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,2-Dichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,3,5-Trimethylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,3-Dichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,3-Dichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
1,4-Dichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
2,2-Dichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
2-Chlorotoluene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 05/03/2019

Client Sample ID W1

Lab ID: 1901718-01

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	B9D1203	04/29/2019	04/29/19 13:05	
4-Isopropyltoluene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Benzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Bromobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Bromochloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Bromodichloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Bromoform	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Bromomethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Carbon disulfide	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Carbon tetrachloride	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Chlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Chloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Chloroform	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Chloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
cis-1,2-Dichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
cis-1,3-Dichloropropene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Di-isopropyl ether	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Dibromochloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Dibromomethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Dichlorodifluoromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Ethyl Acetate	ND	50	1	B9D1203	04/29/2019	04/29/19 13:05	
Ethyl Ether	ND	50	1	B9D1203	04/29/2019	04/29/19 13:05	
Ethyl tert-butyl ether	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Ethylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Freon-113	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Hexachlorobutadiene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Isopropylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
m,p-Xylene	ND	10	1	B9D1203	04/29/2019	04/29/19 13:05	
Methylene chloride	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
MTBE	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
n-Butylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
n-Propylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Naphthalene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
o-Xylene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
sec-Butylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Styrene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
tert-Amyl methyl ether	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
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Client Sample ID W1

Lab ID: 1901718-01

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	B9D1203	04/29/2019	04/29/19 13:05	
tert-Butylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Tetrachloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Toluene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
trans-1,2-Dichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
trans-1,3-Dichloropropene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Trichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Trichlorofluoromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Vinyl acetate	ND	50	1	B9D1203	04/29/2019	04/29/19 13:05	
Vinyl chloride	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:05	
Surrogate: 1,2-Dichloroethane-d4	*128 %*	*57 - 152*		B9D1203	04/29/2019	*04/29/19 13:05*	
Surrogate: 4-Bromofluorobenzene	*90.9 %*	*62 - 134*		B9D1203	04/29/2019	*04/29/19 13:05*	
Surrogate: Dibromofluoromethane	*128 %*	*56 - 167*		B9D1203	04/29/2019	*04/29/19 13:05*	
Surrogate: Toluene-d8	*113 %*	*33 - 170*		B9D1203	04/29/2019	*04/29/19 13:05*	

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Stantec	Project Number : 185804417
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Client Sample ID W2

Lab ID: 1901718-02

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	B9E0029	05/02/2019	05/02/19 04:05	
Surrogate: 4-Bromofluorobenzene	*108 %*		*70 - 130*		B9E0029	05/02/2019	*05/02/19 04:05*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte		Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		ND	0.20	1	B9E0090	05/02/2019	05/02/19 17:41	
ORO		ND	0.20	1	B9E0090	05/02/2019	05/02/19 17:41	
Surrogate: p-Terphenyl	*96.8 %*		*32 - 169*		B9E0090	05/02/2019	*05/02/19 17:41*	

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	B9D1203	04/29/2019	04/29/19 13:30	
1,1,1-Trichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,1,2-Trichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,1-Dichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,1-Dichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,1-Dichloropropene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,2,3-Trichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,2,3-Trichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,2,4-Trichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,2,4-Trimethylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,2-Dibromo-3-chloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,2-Dibromoethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,2-Dichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,2-Dichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,2-Dichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,3,5-Trimethylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,3-Dichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,3-Dichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
1,4-Dichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
2,2-Dichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
2-Chlorotoluene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	

Certificate of Analysis

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Client Sample ID W2

Lab ID: 1901718-02

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	B9D1203	04/29/2019	04/29/19 13:30	
4-Isopropyltoluene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Benzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Bromobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Bromochloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Bromodichloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Bromoform	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Bromomethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Carbon disulfide	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Carbon tetrachloride	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Chlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Chloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Chloroform	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Chloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
cis-1,2-Dichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
cis-1,3-Dichloropropene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Di-isopropyl ether	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Dibromochloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Dibromomethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Dichlorodifluoromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Ethyl Acetate	ND	50	1	B9D1203	04/29/2019	04/29/19 13:30	
Ethyl Ether	ND	50	1	B9D1203	04/29/2019	04/29/19 13:30	
Ethyl tert-butyl ether	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Ethylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Freon-113	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Hexachlorobutadiene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Isopropylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
m,p-Xylene	ND	10	1	B9D1203	04/29/2019	04/29/19 13:30	
Methylene chloride	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
MTBE	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
n-Butylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
n-Propylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Naphthalene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
o-Xylene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
sec-Butylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Styrene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
tert-Amyl methyl ether	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	

Certificate of Analysis

Stantec	Project Number : 185804417
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Client Sample ID W2

Lab ID: 1901718-02

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	B9D1203	04/29/2019	04/29/19 13:30	
tert-Butylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Tetrachloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Toluene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
trans-1,2-Dichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
trans-1,3-Dichloropropene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Trichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Trichlorofluoromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Vinyl acetate	ND	50	1	B9D1203	04/29/2019	04/29/19 13:30	
Vinyl chloride	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:30	
Surrogate: 1,2-Dichloroethane-d4	*130 %*	*57 - 152*		B9D1203	04/29/2019	*04/29/19 13:30*	
Surrogate: 4-Bromofluorobenzene	*97.6 %*	*62 - 134*		B9D1203	04/29/2019	*04/29/19 13:30*	
Surrogate: Dibromofluoromethane	*120 %*	*56 - 167*		B9D1203	04/29/2019	*04/29/19 13:30*	
Surrogate: Toluene-d8	*118 %*	*33 - 170*		B9D1203	04/29/2019	*04/29/19 13:30*	

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Stantec	Project Number : 185804417
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Client Sample ID W3

Lab ID: 1901718-03

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	B9E0029	05/02/2019	05/02/19 04:29	
Surrogate: 4-Bromofluorobenzene	*106 %*		*70 - 130*		B9E0029	05/02/2019	*05/02/19 04:29*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte		Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		ND	0.20	1	B9E0090	05/02/2019	05/02/19 17:58	
ORO		ND	0.20	1	B9E0090	05/02/2019	05/02/19 17:58	
Surrogate: p-Terphenyl	*95.7 %*		*32 - 169*		B9E0090	05/02/2019	*05/02/19 17:58*	

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	B9D1203	04/29/2019	04/29/19 13:54	
1,1,1-Trichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,1,2-Trichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,1-Dichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,1-Dichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,1-Dichloropropene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,2,3-Trichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,2,3-Trichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,2,4-Trichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,2,4-Trimethylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,2-Dibromo-3-chloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,2-Dibromoethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,2-Dichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,2-Dichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,2-Dichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,3,5-Trimethylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,3-Dichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,3-Dichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
1,4-Dichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
2,2-Dichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
2-Chlorotoluene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	

Certificate of Analysis

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Lab ID: 1901718-03

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	B9D1203	04/29/2019	04/29/19 13:54	
4-Isopropyltoluene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Benzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Bromobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Bromochloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Bromodichloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Bromoform	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Bromomethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Carbon disulfide	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Carbon tetrachloride	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Chlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Chloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Chloroform	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Chloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
cis-1,2-Dichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
cis-1,3-Dichloropropene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Di-isopropyl ether	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Dibromochloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Dibromomethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Dichlorodifluoromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Ethyl Acetate	ND	50	1	B9D1203	04/29/2019	04/29/19 13:54	
Ethyl Ether	ND	50	1	B9D1203	04/29/2019	04/29/19 13:54	
Ethyl tert-butyl ether	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Ethylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Freon-113	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Hexachlorobutadiene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Isopropylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
m,p-Xylene	ND	10	1	B9D1203	04/29/2019	04/29/19 13:54	
Methylene chloride	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
MTBE	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
n-Butylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
n-Propylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Naphthalene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
o-Xylene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
sec-Butylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Styrene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
tert-Amyl methyl ether	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	

Certificate of Analysis

Stantec	Project Number : 185804417
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Lab ID: 1901718-03

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	B9D1203	04/29/2019	04/29/19 13:54	
tert-Butylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Tetrachloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Toluene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
trans-1,2-Dichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
trans-1,3-Dichloropropene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Trichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Trichlorofluoromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Vinyl acetate	ND	50	1	B9D1203	04/29/2019	04/29/19 13:54	
Vinyl chloride	ND	5.0	1	B9D1203	04/29/2019	04/29/19 13:54	
Surrogate: 1,2-Dichloroethane-d4	*135 %*	*57 - 152*		B9D1203	04/29/2019	*04/29/19 13:54*	
Surrogate: 4-Bromofluorobenzene	*102 %*	*62 - 134*		B9D1203	04/29/2019	*04/29/19 13:54*	
Surrogate: Dibromofluoromethane	*121 %*	*56 - 167*		B9D1203	04/29/2019	*04/29/19 13:54*	
Surrogate: Toluene-d8	*122 %*	*33 - 170*		B9D1203	04/29/2019	*04/29/19 13:54*	

Certificate of Analysis

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Client Sample ID W4

Lab ID: 1901718-04

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	B9E0029	05/02/2019	05/02/19 04:53	
Surrogate: 4-Bromofluorobenzene	*107 %*		*70 - 130*		B9E0029	05/02/2019	*05/02/19 04:53*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte		Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		ND	0.20	1	B9E0090	05/02/2019	05/02/19 18:16	
ORO		ND	0.20	1	B9E0090	05/02/2019	05/02/19 18:16	
Surrogate: p-Terphenyl	*100 %*		*32 - 169*		B9E0090	05/02/2019	*05/02/19 18:16*	

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	B9D1203	04/29/2019	04/29/19 14:18	
1,1,1-Trichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,1,2-Trichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,1-Dichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,1-Dichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,1-Dichloropropene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,2,3-Trichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,2,3-Trichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,2,4-Trichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,2,4-Trimethylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,2-Dibromo-3-chloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,2-Dibromoethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,2-Dichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,2-Dichloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,2-Dichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,3,5-Trimethylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,3-Dichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,3-Dichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
1,4-Dichlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
2,2-Dichloropropane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
2-Chlorotoluene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	

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Client Sample ID W4

Lab ID: 1901718-04

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	B9D1203	04/29/2019	04/29/19 14:18	
4-Isopropyltoluene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Benzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Bromobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Bromochloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Bromodichloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Bromoform	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Bromomethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Carbon disulfide	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Carbon tetrachloride	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Chlorobenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Chloroethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Chloroform	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Chloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
cis-1,2-Dichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
cis-1,3-Dichloropropene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Di-isopropyl ether	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Dibromochloromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Dibromomethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Dichlorodifluoromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Ethyl Acetate	ND	50	1	B9D1203	04/29/2019	04/29/19 14:18	
Ethyl Ether	ND	50	1	B9D1203	04/29/2019	04/29/19 14:18	
Ethyl tert-butyl ether	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Ethylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Freon-113	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Hexachlorobutadiene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Isopropylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
m,p-Xylene	ND	10	1	B9D1203	04/29/2019	04/29/19 14:18	
Methylene chloride	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
MTBE	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
n-Butylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
n-Propylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Naphthalene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
o-Xylene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
sec-Butylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Styrene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
tert-Amyl methyl ether	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	

Certificate of Analysis

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Client Sample ID W4

Lab ID: 1901718-04

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	B9D1203	04/29/2019	04/29/19 14:18	
tert-Butylbenzene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Tetrachloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Toluene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
trans-1,2-Dichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
trans-1,3-Dichloropropene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Trichloroethene	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Trichlorofluoromethane	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Vinyl acetate	ND	50	1	B9D1203	04/29/2019	04/29/19 14:18	
Vinyl chloride	ND	5.0	1	B9D1203	04/29/2019	04/29/19 14:18	
Surrogate: 1,2-Dichloroethane-d4	*129 %*	*57 - 152*		B9D1203	04/29/2019	*04/29/19 14:18*	
Surrogate: 4-Bromofluorobenzene	*102 %*	*62 - 134*		B9D1203	04/29/2019	*04/29/19 14:18*	
Surrogate: Dibromofluoromethane	*119 %*	*56 - 167*		B9D1203	04/29/2019	*04/29/19 14:18*	
Surrogate: Toluene-d8	*127 %*	*33 - 170*		B9D1203	04/29/2019	*04/29/19 14:18*	

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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 B9E0029 - GCVOA_W										
Blank (B9E0029-BLK1)					Prepared: 5/2/2019 Analyzed: 5/2/2019					
Gasoline Range Organics	ND	0.20	0.05							
Surrogate: 4-Bromofluorobenzene	*0.1121*			*0.100000*		*112*	*70 - 130*			
LCS (B9E0029-BS1)					Prepared: 5/2/2019 Analyzed: 5/2/2019					
Gasoline Range Organics	0.915000	0.20	0.05	1.00000		91.5	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.1074*			*0.100000*		*107*	*70 - 130*			
Matrix Spike (B9E0029-MS1)			**Source: 1901741-02**		Prepared: 5/2/2019 Analyzed: 5/2/2019					
Gasoline Range Organics	3.17500	0.20	0.05	1.00000	1.82300	135	70 - 130			M1
Surrogate: 4-Bromofluorobenzene	*0.1237*			*0.100000*		*124*	*70 - 130*			
Matrix Spike Dup (B9E0029-MSD1)			**Source: 1901741-02**		Prepared: 5/2/2019 Analyzed: 5/2/2019					
Gasoline Range Organics	3.14000	0.20	0.05	1.00000	1.82300	132	70 - 130	1.11	20	M1
Surrogate: 4-Bromofluorobenzene	*0.1232*			*0.100000*		*123*	*70 - 130*			

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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 B9E0090 - GCSEMI_DRO_W										
Blank (B9E0090-BLK1)						Prepared: 5/2/2019 Analyzed: 5/2/2019				
DRO	ND	0.20	0.20							
ORO	ND	0.20	0.20							
Surrogate: p-Terphenyl	*0.06421*			*8.00000E-2*		*80.3*	*32 - 169*			
LCS (B9E0090-BS1)						Prepared: 5/2/2019 Analyzed: 5/2/2019				
DRO	0.905370	0.20	0.20	1.00000		90.5	45 - 161			
Surrogate: p-Terphenyl	*0.06047*			*8.00000E-2*		*75.6*	*32 - 169*			
LCS Dup (B9E0090-BSD1)						Prepared: 5/2/2019 Analyzed: 5/2/2019				
DRO	0.882310	0.20	0.20	1.00000		88.2	45 - 161	2.58	20	
Surrogate: p-Terphenyl	*0.06066*			*8.00000E-2*		*75.8*	*32 - 169*			

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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 B9D1203 - MSVOA_LL_W										
Blank (B9D1203-BLK1)					Prepared: 4/29/2019 Analyzed: 4/29/2019					
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							

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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 B9D1203 - MSVOA_LL_W (continued)										
Blank (B9D1203-BLK1) - Continued					Prepared: 4/29/2019 Analyzed: 4/29/2019					
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	*32.29*			*25.0000*		*129*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*23.66*			*25.0000*		*94.6*	*62 - 134*			
Surrogate: Dibromofluoromethan	*31.58*			*25.0000*		*126*	*56 - 167*			
Surrogate: Toluene-d8	*28.97*			*25.0000*		*116*	*33 - 170*			
LCS (B9D1203-BS1)					Prepared: 4/29/2019 Analyzed: 4/29/2019					
1,1,1,2-Tetrachloroethane	10.8300	5.0	0.11	10.0000		108	80 - 137			
1,1,1-Trichloroethane	9.65000	5.0	0.07	10.0000		96.5	75 - 148			
1,1,2,2-Tetrachloroethane	8.69000	5.0	0.36	10.0000		86.9	64 - 118			
1,1,2-Trichloroethane	9.68000	5.0	0.25	10.0000		96.8	77 - 113			
1,1-Dichloroethane	7.41000	5.0	0.09	10.0000		74.1	72 - 131			
1,1-Dichloroethene	8.71000	5.0	0.13	10.0000		87.1	75 - 132			
1,1-Dichloropropene	11.1600	5.0	0.13	10.0000		112	84 - 141			

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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 B9D1203 - MSVOA_LL_W (continued)										
LCS (B9D1203-BS1) - Continued					Prepared: 4/29/2019 Analyzed: 4/29/2019					
1,2,3-Trichloropropane	9.13000	5.0	0.39	10.0000		91.3	65 - 111			
1,2,3-Trichlorobenzene	10.7800	5.0	0.18	10.0000		108	79 - 117			
1,2,4-Trichlorobenzene	10.1400	5.0	0.16	10.0000		101	78 - 121			
1,2,4-Trimethylbenzene	9.69000	5.0	0.14	10.0000		96.9	83 - 125			
1,2-Dibromo-3-chloropropane	9.97000	5.0	0.41	10.0000		99.7	54 - 116			
1,2-Dibromoethane	10.0200	5.0	0.24	10.0000		100	79 - 118			
1,2-Dichlorobenzene	10.2300	5.0	0.20	10.0000		102	82 - 115			
1,2-Dichloroethane	10.7700	5.0	0.20	10.0000		108	76 - 115			
1,2-Dichloropropane	8.66000	5.0	0.15	10.0000		86.6	74 - 113			
1,3,5-Trimethylbenzene	9.76000	5.0	0.13	10.0000		97.6	83 - 126			
1,3-Dichlorobenzene	10.2700	5.0	0.16	10.0000		103	84 - 118			
1,3-Dichloropropane	9.48000	5.0	0.21	10.0000		94.8	72 - 116			
1,4-Dichlorobenzene	9.86000	5.0	0.17	10.0000		98.6	83 - 112			
2,2-Dichloropropane	9.40000	5.0	0.38	10.0000		94.0	72 - 150			
2-Chlorotoluene	9.61000	5.0	0.11	10.0000		96.1	82 - 120			
4-Chlorotoluene	9.66000	5.0	0.12	10.0000		96.6	81 - 121			
4-Isopropyltoluene	9.46000	5.0	0.11	10.0000		94.6	86 - 124			
Benzene	19.8700	5.0	0.13	20.0000		99.4	81 - 118			
Bromobenzene	10.5000	5.0	0.21	10.0000		105	82 - 117			
Bromochloromethane	8.81000	5.0	0.16	10.0000		88.1	70 - 136			
Bromodichloromethane	10.0100	5.0	0.14	10.0000		100	80 - 122			
Bromoform	10.7500	5.0	0.20	10.0000		108	53 - 145			
Bromomethane	8.89000	5.0	0.17	10.0000		88.9	30 - 204			
Carbon disulfide	7.70000	5.0	0.07	10.0000		77.0	85 - 131			L3
Carbon tetrachloride	11.1500	5.0	0.09	10.0000		112	77 - 157			
Chlorobenzene	10.2900	5.0	0.13	10.0000		103	86 - 113			
Chloroethane	8.29000	5.0	0.15	10.0000		82.9	70 - 160			
Chloroform	9.18000	5.0	0.11	10.0000		91.8	66 - 136			
Chloromethane	15.5200	5.0	0.12	10.0000		155	52 - 138			L5
cis-1,2-Dichloroethene	8.13000	5.0	0.14	10.0000		81.3	71 - 128			
cis-1,3-Dichloropropene	10.2600	5.0	0.13	10.0000		103	71 - 123			
Di-isopropyl ether	8.48000	5.0	0.15	10.0000		84.8	64 - 123			
Dibromochloromethane	10.6500	5.0	0.16	10.0000		106	78 - 140			
Dibromomethane	10.3200	5.0	0.19	10.0000		103	78 - 109			
Dichlorodifluoromethane	21.2300	5.0	0.05	10.0000		212	64 - 144			L5
Ethyl Acetate	84.7000	50	3.1	100.000		84.7	55 - 123			
Ethyl Ether	87.4100	50	2.0	100.000		87.4	74 - 122			
Ethyl tert-butyl ether	8.33000	5.0	0.21	10.0000		83.3	72 - 120			
Ethylbenzene	19.6700	5.0	0.13	20.0000		98.4	90 - 116			
Freon-113	9.71000	5.0	0.13	10.0000		97.1	76 - 143			
Hexachlorobutadiene	9.13000	5.0	0.15	10.0000		91.3	81 - 129			
Isopropylbenzene	10.4900	5.0	0.10	10.0000		105	83 - 129			

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

Project Number : 185804417
Report To : Dion Monge
Reported : 05/03/2019

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 B9D1203 - MSVOA_LL_W (continued)										
LCS (B9D1203-BS1) - Continued					Prepared: 4/29/2019 Analyzed: 4/29/2019					
m,p-Xylene	20.9900	10	0.19	20.0000		105	88 - 124			
Methylene chloride	7.14000	5.0	0.71	10.0000		71.4	76 - 137			L3
MTBE	9.41000	5.0	0.26	10.0000		94.1	67 - 121			
n-Butylbenzene	8.56000	5.0	0.11	10.0000		85.6	83 - 129			
n-Propylbenzene	9.38000	5.0	0.10	10.0000		93.8	85 - 124			
Naphthalene	9.55000	5.0	0.41	10.0000		95.5	67 - 113			
o-Xylene	20.8600	5.0	0.13	20.0000		104	82 - 129			
sec-Butylbenzene	9.23000	5.0	0.09	10.0000		92.3	86 - 127			
Styrene	10.2800	5.0	0.13	10.0000		103	83 - 122			
tert-Amyl methyl ether	9.11000	5.0	0.41	10.0000		91.1	61 - 114			
tert-Butanol	58.6500	100	2.4	50.0000		117	45 - 121			
tert-Butylbenzene	9.82000	5.0	0.09	10.0000		98.2	84 - 130			
Tetrachloroethene	11.0600	5.0	0.10	10.0000		111	87 - 123			
Toluene	20.0500	5.0	0.12	20.0000		100	84 - 115			
trans-1,2-Dichloroethene	8.25000	5.0	0.09	10.0000		82.5	60 - 148			
trans-1,3-Dichloropropene	10.1700	5.0	0.23	10.0000		102	77 - 118			
Trichloroethene	10.8600	5.0	0.10	10.0000		109	79 - 129			
Trichlorofluoromethane	10.0200	5.0	0.10	10.0000		100	68 - 162			
Vinyl acetate	83.4500	50	1.7	100.000		83.4	65 - 134			
Vinyl chloride	9.76000	5.0	0.05	10.0000		97.6	73 - 128			
Surrogate: 1,2-Dichloroethane-d4	*28.84*			*25.0000*		*115*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*25.63*			*25.0000*		*103*	*62 - 134*			
Surrogate: Dibromofluoromethan	*28.72*			*25.0000*		*115*	*56 - 167*			
Surrogate: Toluene-d8	*28.65*			*25.0000*		*115*	*33 - 170*			
LCS Dup (B9D1203-BSD1)					Prepared: 4/29/2019 Analyzed: 4/29/2019					
1,1,1,2-Tetrachloroethane	9.91000	5.0	0.11	10.0000		99.1	80 - 137	8.87	20	
1,1,1-Trichloroethane	8.33000	5.0	0.07	10.0000		83.3	75 - 148	14.7	20	
1,1,2,2-Tetrachloroethane	7.52000	5.0	0.36	10.0000		75.2	64 - 118	14.4	20	
1,1,2-Trichloroethane	9.82000	5.0	0.25	10.0000		98.2	77 - 113	1.44	20	
1,1-Dichloroethane	6.80000	5.0	0.09	10.0000		68.0	72 - 131	8.59	20	L4
1,1-Dichloroethene	8.10000	5.0	0.13	10.0000		81.0	75 - 132	7.26	20	
1,1-Dichloropropene	10.5000	5.0	0.13	10.0000		105	84 - 141	6.09	20	
1,2,3-Trichloropropane	7.78000	5.0	0.39	10.0000		77.8	65 - 111	16.0	20	
1,2,3-Trichlorobenzene	11.4900	5.0	0.18	10.0000		115	79 - 117	6.38	20	
1,2,4-Trichlorobenzene	10.4400	5.0	0.16	10.0000		104	78 - 121	2.92	20	
1,2,4-Trimethylbenzene	9.11000	5.0	0.14	10.0000		91.1	83 - 125	6.17	20	
1,2-Dibromo-3-chloropropane	10.4000	5.0	0.41	10.0000		104	54 - 116	4.22	20	
1,2-Dibromoethane	9.84000	5.0	0.24	10.0000		98.4	79 - 118	1.81	20	
1,2-Dichlorobenzene	10.3400	5.0	0.20	10.0000		103	82 - 115	1.07	20	
1,2-Dichloroethane	9.95000	5.0	0.20	10.0000		99.5	76 - 115	7.92	20	

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 05/03/2019

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 B9D1203 - MSVOA_LL_W (continued)										
LCS Dup (B9D1203-BSD1) - Continued					Prepared: 4/29/2019 Analyzed: 4/29/2019					
1,2-Dichloropropane	8.33000	5.0	0.15	10.0000		83.3	74 - 113	3.88	20	
1,3,5-Trimethylbenzene	9.19000	5.0	0.13	10.0000		91.9	83 - 126	6.02	20	
1,3-Dichlorobenzene	10.1200	5.0	0.16	10.0000		101	84 - 118	1.47	20	
1,3-Dichloropropane	8.58000	5.0	0.21	10.0000		85.8	72 - 116	9.97	20	
1,4-Dichlorobenzene	9.79000	5.0	0.17	10.0000		97.9	83 - 112	0.712	20	
2,2-Dichloropropane	8.19000	5.0	0.38	10.0000		81.9	72 - 150	13.8	20	
2-Chlorotoluene	8.78000	5.0	0.11	10.0000		87.8	82 - 120	9.03	20	
4-Chlorotoluene	9.17000	5.0	0.12	10.0000		91.7	81 - 121	5.20	20	
4-Isopropyltoluene	9.02000	5.0	0.11	10.0000		90.2	86 - 124	4.76	20	
Benzene	19.4000	5.0	0.13	20.0000		97.0	81 - 118	2.39	20	
Bromobenzene	9.45000	5.0	0.21	10.0000		94.5	82 - 117	10.5	20	
Bromochloromethane	8.88000	5.0	0.16	10.0000		88.8	70 - 136	0.791	20	
Bromodichloromethane	9.36000	5.0	0.14	10.0000		93.6	80 - 122	6.71	20	
Bromoform	10.1900	5.0	0.20	10.0000		102	53 - 145	5.35	20	
Bromomethane	10.3200	5.0	0.17	10.0000		103	30 - 204	14.9	20	
Carbon disulfide	8.28000	5.0	0.07	10.0000		82.8	85 - 131	7.26	20	L3
Carbon tetrachloride	9.94000	5.0	0.09	10.0000		99.4	77 - 157	11.5	20	
Chlorobenzene	10.1500	5.0	0.13	10.0000		102	86 - 113	1.37	20	
Chloroethane	10.7700	5.0	0.15	10.0000		108	70 - 160	26.0	20	R
Chloroform	8.13000	5.0	0.11	10.0000		81.3	66 - 136	12.1	20	
Chloromethane	23.0200	5.0	0.12	10.0000		230	52 - 138	38.9	20	L5
cis-1,2-Dichloroethene	7.24000	5.0	0.14	10.0000		72.4	71 - 128	11.6	20	
cis-1,3-Dichloropropene	9.62000	5.0	0.13	10.0000		96.2	71 - 123	6.44	20	
Di-isopropyl ether	8.05000	5.0	0.15	10.0000		80.5	64 - 123	5.20	20	
Dibromochloromethane	9.58000	5.0	0.16	10.0000		95.8	78 - 140	10.6	20	
Dibromomethane	10.0600	5.0	0.19	10.0000		101	78 - 109	2.55	20	
Dichlorodifluoromethane	25.9900	5.0	0.05	10.0000		260	64 - 144	20.2	20	L5
Ethyl Acetate	77.5000	50	3.1	100.000		77.5	55 - 123	8.88	20	
Ethyl Ether	77.3300	50	2.0	100.000		77.3	74 - 122	12.2	20	
Ethyl tert-butyl ether	8.07000	5.0	0.21	10.0000		80.7	72 - 120	3.17	20	
Ethylbenzene	19.6300	5.0	0.13	20.0000		98.2	90 - 116	0.204	20	
Freon-113	7.99000	5.0	0.13	10.0000		79.9	76 - 143	19.4	20	
Hexachlorobutadiene	9.00000	5.0	0.15	10.0000		90.0	81 - 129	1.43	20	
Isopropylbenzene	9.07000	5.0	0.10	10.0000		90.7	83 - 129	14.5	20	
m,p-Xylene	21.2700	10	0.19	20.0000		106	88 - 124	1.33	20	
Methylene chloride	8.77000	5.0	0.71	10.0000		87.7	76 - 137	20.5	20	R
MTBE	8.74000	5.0	0.26	10.0000		87.4	67 - 121	7.38	20	
n-Butylbenzene	8.40000	5.0	0.11	10.0000		84.0	83 - 129	1.89	20	
n-Propylbenzene	8.61000	5.0	0.10	10.0000		86.1	85 - 124	8.56	20	
Naphthalene	9.90000	5.0	0.41	10.0000		99.0	67 - 113	3.60	20	
o-Xylene	21.2200	5.0	0.13	20.0000		106	82 - 129	1.71	20	
sec-Butylbenzene	8.71000	5.0	0.09	10.0000		87.1	86 - 127	5.80	20	

Certificate of Analysis

Stantec	Project Number : 185804417
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San Bernardino , CA 92408	Reported : 05/03/2019

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 B9D1203 - MSVOA_LL_W (continued)										
LCS Dup (B9D1203-BSD1) - Continued					Prepared: 4/29/2019 Analyzed: 4/29/2019					
Styrene	10.6300	5.0	0.13	10.0000		106	83 - 122	3.35	20	
tert-Amyl methyl ether	8.55000	5.0	0.41	10.0000		85.5	61 - 114	6.34	20	
tert-Butanol	50.1600	100	2.4	50.0000		100	45 - 121	15.6	20	
tert-Butylbenzene	9.08000	5.0	0.09	10.0000		90.8	84 - 130	7.83	20	
Tetrachloroethene	10.0800	5.0	0.10	10.0000		101	87 - 123	9.27	20	
Toluene	21.2600	5.0	0.12	20.0000		106	84 - 115	5.86	20	
trans-1,2-Dichloroethene	6.98000	5.0	0.09	10.0000		69.8	60 - 148	16.7	20	
trans-1,3-Dichloropropene	10.0100	5.0	0.23	10.0000		100	77 - 118	1.59	20	
Trichloroethene	10.1900	5.0	0.10	10.0000		102	79 - 129	6.37	20	
Trichlorofluoromethane	9.97000	5.0	0.10	10.0000		99.7	68 - 162	0.500	20	
Vinyl acetate	76.4300	50	1.7	100.000		76.4	65 - 134	8.78	20	
Vinyl chloride	12.5600	5.0	0.05	10.0000		126	73 - 128	25.1	20	R
Surrogate: 1,2-Dichloroethane-d4	*26.61*			*25.0000*		*106*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*26.55*			*25.0000*		*106*	*62 - 134*			
Surrogate: Dibromofluoromethan	*26.31*			*25.0000*		*105*	*56 - 167*			
Surrogate: Toluene-d8	*30.85*			*25.0000*		*123*	*33 - 170*			

Certificate of Analysis

Stantec	Project Number : 185804417
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San Bernardino , CA 92408	Reported : 05/03/2019

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.
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.

Stantec

CHAIN OF CUSTODY FORM

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

1901718

Page 1 of 1

Client Name/Address:
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408

Project/PO Number: 185804417

Laboratory: ATL

Project Manager: Dion Monge
Email Address: Dion.Monge@Stantec.com

Phone Number:909-335-6116

Fax Number:909-335-6120

Sampler: J. Sargent Joshua.Sargent@Stantec.com

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	TPH (g,d,o) 8015	VOC Full 8260	Special Instructions
W1	W	VOA Amber	11	4.26.19	0935	HCL ICE	X	X	
W2			10		1045		X	X	
W3			11		1150		X	X	
W4			9		1315		X	X	

Relinquished By: [signature] Date/Time: 4.26.19 1419 Received By: [signature] Date/Time: 4/26/19 2:27

Relinquished By: [signature] Date/Time: 4/26/19 2255 Received By: MRR Date/Time: 4/26/19 1455

Relinquished By: Date/Time: Received in Lab By: Date/Time:

Turn-Around Time: Same day 72 hours; 24 hour 5 days; 48 hour normal

Sample Integrity: (Check) intact _____ on ice ✓ 5.9

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.

APPENDIX D

Waste Disposal Documentation

May 06, 2019

Dion Monge
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
Tel: (909) 335-6116
Fax:(909) 335-6120

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

Re: ATL Work Order Number : 1901707
Client Reference : 185804417

Enclosed are the results for sample(s) received on April 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,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 05/06/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Profile	1901707-01	Soil	4/26/19 13:45	4/26/19 14:19

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 05/06/2019

Client Sample ID Profile
Lab ID: 1901707-01

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Arsenic	**1.2**	1.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Barium	**50**	1.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Beryllium	ND	1.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Cadmium	ND	1.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Chromium	**17**	1.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Cobalt	**5.0**	1.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Copper	**8.5**	2.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Lead	**2.4**	1.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Molybdenum	ND	1.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Nickel	**7.4**	1.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Selenium	ND	1.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Silver	ND	1.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Thallium	ND	1.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Vanadium	**22**	1.0	1	B9E0043	05/02/2019	05/03/19 13:25	
Zinc	**28**	1.0	1	B9E0043	05/02/2019	05/03/19 13:25	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: VV

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9E0053	05/02/2019	05/03/19 13:07	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9E0121	05/03/2019	05/03/19 19:33	
Surrogate: 4-Bromofluorobenzene	*113 %*	*45 - 149*		B9E0121	05/03/2019	*05/03/19 19:33*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	10	1	B9E0092	05/02/2019	05/03/19 16:55	
ORO	ND	10	1	B9E0092	05/02/2019	05/03/19 16:55	

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 05/06/2019

Client Sample ID Profile
Lab ID: 1901707-01

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*84.1 %*	*58 - 172*		B9E0092	05/02/2019	*05/03/19 16:55*	

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,1,1-Trichloroethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,1,2-Trichloroethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,1-Dichloroethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,1-Dichloroethene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,1-Dichloropropene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,2,3-Trichloropropane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,2,3-Trichlorobenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,2,4-Trichlorobenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,2,4-Trimethylbenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,2-Dibromo-3-chloropropane	ND	10	1	B9E0004	05/01/2019	05/01/19 15:46	
1,2-Dibromoethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,2-Dichlorobenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,2-Dichloroethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,2-Dichloropropane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,3,5-Trimethylbenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,3-Dichlorobenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,3-Dichloropropane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
1,4-Dichlorobenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
2,2-Dichloropropane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
2-Chlorotoluene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
4-Chlorotoluene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
4-Isopropyltoluene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Benzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Bromobenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Bromochloromethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Bromodichloromethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Bromoform	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Bromomethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 05/06/2019

Client Sample ID Profile
Lab ID: 1901707-01

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

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Carbon tetrachloride	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Chlorobenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Chloroethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Chloroform	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Chloromethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
cis-1,2-Dichloroethene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
cis-1,3-Dichloropropene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Di-isopropyl ether	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Dibromochloromethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Dibromomethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Dichlorodifluoromethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Ethyl Acetate	ND	50	1	B9E0004	05/01/2019	05/01/19 15:46	
Ethyl Ether	ND	50	1	B9E0004	05/01/2019	05/01/19 15:46	
Ethyl tert-butyl ether	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Ethylbenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Freon-113	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Hexachlorobutadiene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Isopropylbenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
m,p-Xylene	ND	10	1	B9E0004	05/01/2019	05/01/19 15:46	
Methylene chloride	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
MTBE	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
n-Butylbenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
n-Propylbenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Naphthalene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
o-Xylene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
sec-Butylbenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Styrene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
tert-Amyl methyl ether	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
tert-Butanol	ND	100	1	B9E0004	05/01/2019	05/01/19 15:46	
tert-Butylbenzene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Tetrachloroethene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Toluene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
trans-1,2-Dichloroethene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
trans-1,3-Dichloropropene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Trichloroethene	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	

Certificate of Analysis

Stantec	Project Number : 185804417
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San Bernardino , CA 92408	Reported : 05/06/2019

Client Sample ID Profile
Lab ID: 1901707-01

Volatile Organic Compounds by EPA 8260B — **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Trichlorofluoromethane	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Vinyl acetate	ND	50	1	B9E0004	05/01/2019	05/01/19 15:46	
Vinyl chloride	ND	5.0	1	B9E0004	05/01/2019	05/01/19 15:46	
Surrogate: 1,2-Dichloroethane-d4	*93.1 %*	*60 - 145*		B9E0004	05/01/2019	*05/01/19 15:46*	
Surrogate: 4-Bromofluorobenzene	*93.5 %*	*68 - 121*		B9E0004	05/01/2019	*05/01/19 15:46*	
Surrogate: Dibromofluoromethane	*101 %*	*65 - 137*		B9E0004	05/01/2019	*05/01/19 15:46*	
Surrogate: Toluene-d8	*99.9 %*	*82 - 119*		B9E0004	05/01/2019	*05/01/19 15:46*	

Certificate of Analysis

Stantec	Project Number : 185804417
735 E. Carnegie Drive, Suite 280	Report To : Dion Monge
San Bernardino , CA 92408	Reported : 05/06/2019

QUALITY CONTROL SECTION

Title 22 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 B9E0043 - EPA 3050B_S										
Blank (B9E0043-BLK1)					Prepared: 5/2/2019 Analyzed: 5/3/2019					
Antimony	ND	2.0	0.51							
Arsenic	ND	1.0	0.12							
Barium	ND	1.0	0.12							
Beryllium	ND	1.0	0.03							
Cadmium	ND	1.0	0.14							
Chromium	ND	1.0	0.26							
Cobalt	ND	1.0	0.07							
Copper	ND	2.0	0.19							
Lead	ND	1.0	0.18							
Molybdenum	ND	1.0	0.12							
Nickel	ND	1.0	0.18							
Selenium	ND	1.0	0.40							
Silver	ND	1.0	0.12							
Thallium	ND	1.0	0.38							
Vanadium	ND	1.0	0.06							
Zinc	ND	1.0	0.15							
LCS (B9E0043-BS1)					Prepared: 5/2/2019 Analyzed: 5/3/2019					
Antimony	46.1447	2.0	0.51	50.0000		92.3	80 - 120			
Arsenic	44.9540	1.0	0.12	50.0000		89.9	80 - 120			
Barium	49.7924	1.0	0.12	50.0000		99.6	80 - 120			
Beryllium	45.6496	1.0	0.03	50.0000		91.3	80 - 120			
Cadmium	46.9667	1.0	0.14	50.0000		93.9	80 - 120			
Chromium	49.3349	1.0	0.26	50.0000		98.7	80 - 120			
Cobalt	46.2939	1.0	0.07	50.0000		92.6	80 - 120			
Copper	49.1658	2.0	0.19	50.0000		98.3	80 - 120			
Lead	46.6393	1.0	0.18	50.0000		93.3	80 - 120			
Molybdenum	46.3826	1.0	0.12	50.0000		92.8	80 - 120			
Nickel	48.5331	1.0	0.18	50.0000		97.1	80 - 120			
Selenium	44.0476	1.0	0.40	50.0000		88.1	80 - 120			
Silver	48.4060	1.0	0.12	50.0000		96.8	80 - 120			
Thallium	46.4401	1.0	0.38	50.0000		92.9	80 - 120			
Vanadium	49.6443	1.0	0.06	50.0000		99.3	80 - 120			
Zinc	43.2368	1.0	0.15	50.0000		86.5	80 - 120			
Matrix Spike (B9E0043-MS1)				**Source: 1901709-01**	Prepared: 5/2/2019 Analyzed: 5/3/2019					
Antimony	106.171	2.0	0.51	124.378	ND	85.4	21 - 102			
Arsenic	133.763	1.0	0.12	124.378	13.8074	96.4	49 - 96			M1

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San Bernardino , CA 92408	Reported : 05/06/2019

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0043 - EPA 3050B_S (continued)										
Matrix Spike (B9E0043-MS1) - Continued			**Source: 1901709-01**		Prepared: 5/2/2019 Analyzed: 5/3/2019					
Barium	164.494	1.0	0.12	124.378	31.4268	107	26 - 121			
Beryllium	120.250	1.0	0.03	124.378	ND	96.7	51 - 96			M1
Cadmium	114.879	1.0	0.14	124.378	0.312054	92.1	46 - 93			
Chromium	136.276	1.0	0.26	124.378	12.6788	99.4	44 - 107			
Cobalt	126.465	1.0	0.07	124.378	6.96162	96.1	49 - 100			
Copper	170.462	2.0	0.19	124.378	30.5766	112	46 - 115			
Lead	126.494	1.0	0.18	124.378	8.81465	94.6	29 - 126			
Molybdenum	120.633	1.0	0.12	124.378	ND	97.0	48 - 99			
Nickel	141.826	1.0	0.18	124.378	19.6812	98.2	37 - 108			
Selenium	114.394	1.0	0.40	124.378	ND	92.0	48 - 95			
Silver	122.638	1.0	0.12	124.378	ND	98.6	53 - 99			
Thallium	111.212	1.0	0.38	124.378	ND	89.4	38 - 93			
Vanadium	141.924	1.0	0.06	124.378	14.5825	102	48 - 104			
Zinc	161.488	1.0	0.15	124.378	43.4904	94.9	24 - 111			
Matrix Spike Dup (B9E0043-MSD1)			**Source: 1901709-01**		Prepared: 5/2/2019 Analyzed: 5/3/2019					
Antimony	101.008	4.0	1.0	125.000	ND	80.8	21 - 102	4.98	20	
Arsenic	139.283	2.0	0.24	125.000	13.8074	100	49 - 96	4.04	20	M1
Barium	181.990	2.0	0.23	125.000	31.4268	120	26 - 121	10.1	20	
Beryllium	110.885	2.0	0.06	125.000	ND	88.7	51 - 96	8.10	20	
Cadmium	128.798	2.0	0.28	125.000	0.312054	103	46 - 93	11.4	20	M1
Chromium	131.448	2.0	0.52	125.000	12.6788	95.0	44 - 107	3.61	20	
Cobalt	122.416	2.0	0.13	125.000	6.96162	92.4	49 - 100	3.25	20	
Copper	137.647	4.0	0.38	125.000	30.5766	85.7	46 - 115	21.3	20	R
Lead	135.268	2.0	0.36	125.000	8.81465	101	29 - 126	6.70	20	
Molybdenum	113.842	2.0	0.25	125.000	ND	91.1	48 - 99	5.79	20	
Nickel	143.155	2.0	0.36	125.000	19.6812	98.8	37 - 108	0.933	20	
Selenium	114.225	2.0	0.80	125.000	ND	91.4	48 - 95	0.147	20	
Silver	110.206	2.0	0.23	125.000	ND	88.2	53 - 99	10.7	20	
Thallium	112.189	2.0	0.76	125.000	ND	89.8	38 - 93	0.875	20	
Vanadium	131.459	2.0	0.12	125.000	14.5825	93.5	48 - 104	7.66	20	
Zinc	189.773	2.0	0.30	125.000	43.4904	117	24 - 111	16.1	20	M1

Certificate of Analysis

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San Bernardino , CA 92408	Reported : 05/06/2019

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0053 - EPA 7471_S										
Blank (B9E0053-BLK1)					Prepared: 5/2/2019 Analyzed: 5/3/2019					
Mercury	ND	0.10	0.007							
LCS (B9E0053-BS1)					Prepared: 5/2/2019 Analyzed: 5/3/2019					
Mercury	0.410992	0.10	0.007	0.416667		98.6	80 - 120			
Matrix Spike (B9E0053-MS1)			**Source: 1901709-01**		Prepared: 5/2/2019 Analyzed: 5/3/2019					
Mercury	0.482864	0.10	0.007	0.423729	0.062717	99.2	70 - 130			
Matrix Spike Dup (B9E0053-MSD1)			**Source: 1901709-01**		Prepared: 5/2/2019 Analyzed: 5/3/2019					
Mercury	0.472079	0.10	0.007	0.409836	0.062717	99.9	70 - 130	2.26	20	

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San Bernardino , CA 92408	Reported : 05/06/2019

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0053 - EPA 7471_S									
Post Spike (B9E0053-PS1)			**Source: 1901709-01**		Prepared: 5/2/2019 Analyzed: 5/3/2019				
Mercury	0.003238		2.00000E-3	0.000753	124	85 - 115			M1

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Stantec	Project Number : 185804417
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San Bernardino , CA 92408	Reported : 05/06/2019

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

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0121 - GCVOA_S										
Blank (B9E0121-BLK1)						Prepared: 5/3/2019 Analyzed: 5/3/2019				
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2017*			*0.200000*		*101*	*45 - 149*			
LCS (B9E0121-BS1)						Prepared: 5/3/2019 Analyzed: 5/3/2019				
Gasoline Range Organics	3.90900	1.0	0.20	5.00000		78.2	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2017*			*0.200000*		*101*	*45 - 149*			
Duplicate (B9E0121-DUP1)			**Source: 1901797-01**			Prepared: 5/3/2019 Analyzed: 5/3/2019				
Gasoline Range Organics	0.557000	1.0	0.20		1.56700			95.1	20	R
Surrogate: 4-Bromofluorobenzene	*0.2215*			*0.200000*		*111*	*45 - 149*			
Matrix Spike (B9E0121-MS1)			**Source: 1901797-01**			Prepared: 5/3/2019 Analyzed: 5/3/2019				
Gasoline Range Organics	4.03000	1.0	0.20	5.00000	1.56700	49.3	24 - 129			
Surrogate: 4-Bromofluorobenzene	*0.2093*			*0.200000*		*105*	*45 - 149*			
Matrix Spike Dup (B9E0121-MSD1)			**Source: 1901797-01**			Prepared: 5/3/2019 Analyzed: 5/3/2019				
Gasoline Range Organics	4.02100	1.0	0.20	5.00000	1.56700	49.1	24 - 129	0.224	20	
Surrogate: 4-Bromofluorobenzene	*0.2188*			*0.200000*		*109*	*45 - 149*			

Certificate of Analysis

Stantec	Project Number : 185804417
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San Bernardino , CA 92408	Reported : 05/06/2019

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0092 - GCSEMI_DRO_S										
Blank (B9E0092-BLK1)					Prepared: 5/2/2019 Analyzed: 5/2/2019					
DRO	ND	10	10							
ORO	ND	10	10							
Surrogate: p-Terphenyl	*62.57*			*80.0000*		*78.2*	*58 - 172*			
LCS (B9E0092-BS1)					Prepared: 5/2/2019 Analyzed: 5/2/2019					
DRO	1014.99	10	10	1000.00		101	71 - 165			
Surrogate: p-Terphenyl	*83.92*			*80.0000*		*105*	*58 - 172*			
Duplicate (B9E0092-DUP1)			**Source: 1901719-30**		Prepared: 5/2/2019 Analyzed: 5/2/2019					
DRO	ND	10	10		ND			NR	20	
Surrogate: p-Terphenyl	*73.53*			*80.0000*		*91.9*	*58 - 172*			
Matrix Spike (B9E0092-MS1)			**Source: 1901719-30**		Prepared: 5/2/2019 Analyzed: 5/2/2019					
DRO	847.910	10	10	1000.00	ND	84.8	61 - 171			
Surrogate: p-Terphenyl	*55.12*			*80.0000*		*68.9*	*58 - 172*			
Matrix Spike Dup (B9E0092-MSD1)			**Source: 1901719-30**		Prepared: 5/2/2019 Analyzed: 5/2/2019					
DRO	885.930	10	10	1000.00	ND	88.6	61 - 171	4.39	20	
Surrogate: p-Terphenyl	*52.53*			*80.0000*		*65.7*	*58 - 172*			

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Stantec	Project Number : 185804417
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Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0004 - MSVOA_S										
Blank (B9E0004-BLK1)					Prepared: 5/1/2019 Analyzed: 5/1/2019					
1,1,1,2-Tetrachloroethane	ND	5.0	0.96							
1,1,1-Trichloroethane	ND	5.0	1.1							
1,1,2,2-Tetrachloroethane	ND	5.0	0.62							
1,1,2-Trichloroethane	ND	5.0	1.6							
1,1-Dichloroethane	ND	5.0	0.81							
1,1-Dichloroethene	ND	5.0	2.6							
1,1-Dichloropropene	ND	5.0	2.3							
1,2,3-Trichloropropane	ND	5.0	0.54							
1,2,3-Trichlorobenzene	ND	5.0	1.2							
1,2,4-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trimethylbenzene	ND	5.0	1.5							
1,2-Dibromo-3-chloropropane	ND	10	1.6							
1,2-Dibromoethane	ND	5.0	3.2							
1,2-Dichlorobenzene	ND	5.0	1.1							
1,2-Dichloroethane	ND	5.0	1.2							
1,2-Dichloropropane	ND	5.0	1.8							
1,3,5-Trimethylbenzene	ND	5.0	1.7							
1,3-Dichlorobenzene	ND	5.0	1.3							
1,3-Dichloropropane	ND	5.0	1.1							
1,4-Dichlorobenzene	ND	5.0	1.2							
2,2-Dichloropropane	ND	5.0	1.2							
2-Chlorotoluene	ND	5.0	1.6							
4-Chlorotoluene	ND	5.0	1.5							
4-Isopropyltoluene	ND	5.0	2.3							
Benzene	ND	5.0	0.64							
Bromobenzene	ND	5.0	1.1							
Bromochloromethane	ND	5.0	0.64							
Bromodichloromethane	ND	5.0	1.2							
Bromoform	ND	5.0	0.80							
Bromomethane	ND	5.0	2.5							
Carbon disulfide	ND	5.0	3.5							
Carbon tetrachloride	ND	5.0	1.2							
Chlorobenzene	ND	5.0	1.0							
Chloroethane	ND	5.0	1.1							
Chloroform	ND	5.0	0.82							
Chloromethane	ND	5.0	1.4							
cis-1,2-Dichloroethene	ND	5.0	0.67							
cis-1,3-Dichloropropene	ND	5.0	1.9							
Di-isopropyl ether	ND	5.0	0.55							
Dibromochloromethane	ND	5.0	1.0							

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San Bernardino , CA 92408	Reported : 05/06/2019

Volatile Organic Compounds by EPA 8260B - 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 B9E0004 - MSVOA_S (continued)										
Blank (B9E0004-BLK1) - Continued					Prepared: 5/1/2019 Analyzed: 5/1/2019					
Dibromomethane	ND	5.0	1.6							
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	8.1							
Ethyl Ether	ND	50	6.1							
Ethyl tert-butyl ether	ND	5.0	0.67							
Ethylbenzene	ND	5.0	0.91							
Freon-113	ND	5.0	2.8							
Hexachlorobutadiene	ND	5.0	2.5							
Isopropylbenzene	ND	5.0	1.8							
m,p-Xylene	ND	10	1.5							
Methylene chloride	ND	5.0	2.3							
MTBE	ND	5.0	0.63							
n-Butylbenzene	ND	5.0	2.4							
n-Propylbenzene	ND	5.0	2.2							
Naphthalene	ND	5.0	0.97							
o-Xylene	ND	5.0	0.87							
sec-Butylbenzene	ND	5.0	2.3							
Styrene	ND	5.0	1.5							
tert-Amyl methyl ether	ND	5.0	0.59							
tert-Butanol	ND	100	19							
tert-Butylbenzene	ND	5.0	2.0							
Tetrachloroethene	ND	5.0	1.6							
Toluene	ND	5.0	0.94							
trans-1,2-Dichloroethene	ND	5.0	0.59							
trans-1,3-Dichloropropene	ND	5.0	2.1							
Trichloroethene	ND	5.0	3.1							
Trichlorofluoromethane	ND	5.0	1.4							
Vinyl acetate	ND	50	9.8							
Vinyl chloride	ND	5.0	1.7							
Surrogate: 1,2-Dichloroethane-d4	*42.49*			*50.0000*		*85.0*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*47.75*			*50.0000*		*95.5*	*68 - 121*			
Surrogate: Dibromofluoromethan	*48.65*			*50.0000*		*97.3*	*65 - 137*			
Surrogate: Toluene-d8	*49.61*			*50.0000*		*99.2*	*82 - 119*			
LCS (B9E0004-BS1)					Prepared: 5/1/2019 Analyzed: 5/1/2019					
1,1,1,2-Tetrachloroethane	46.8700	5.0	0.96	50.0000		93.7	82 - 114			
1,1,1-Trichloroethane	39.2900	5.0	1.1	50.0000		78.6	70 - 121			
1,1,2,2-Tetrachloroethane	45.0200	5.0	0.62	50.0000		90.0	65 - 116			
1,1,2-Trichloroethane	44.2100	5.0	1.6	50.0000		88.4	73 - 114			
1,1-Dichloroethane	39.8800	5.0	0.81	50.0000		79.8	69 - 117			

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San Bernardino , CA 92408	Reported : 05/06/2019

Volatile Organic Compounds by EPA 8260B - 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 B9E0004 - MSVOA_S (continued)										
LCS (B9E0004-BS1) - Continued					Prepared: 5/1/2019 Analyzed: 5/1/2019					
1,1-Dichloroethene	37.0400	5.0	2.6	50.0000		74.1	57 - 128			
1,1-Dichloropropene	42.2800	5.0	2.3	50.0000		84.6	76 - 122			
1,2,3-Trichloropropane	44.6900	5.0	0.54	50.0000		89.4	65 - 116			
1,2,3-Trichlorobenzene	52.3400	5.0	1.2	50.0000		105	72 - 130			
1,2,4-Trichlorobenzene	51.5200	5.0	1.1	50.0000		103	74 - 141			
1,2,4-Trimethylbenzene	45.1100	5.0	1.5	50.0000		90.2	81 - 126			
1,2-Dibromo-3-chloropropane	48.0200	10	1.6	50.0000		96.0	63 - 126			
1,2-Dibromoethane	43.9200	5.0	3.2	50.0000		87.8	75 - 113			
1,2-Dichlorobenzene	47.7700	5.0	1.1	50.0000		95.5	83 - 114			
1,2-Dichloroethane	40.8000	5.0	1.2	50.0000		81.6	73 - 115			
1,2-Dichloropropane	43.0900	5.0	1.8	50.0000		86.2	75 - 117			
1,3,5-Trimethylbenzene	44.1800	5.0	1.7	50.0000		88.4	80 - 126			
1,3-Dichlorobenzene	46.6600	5.0	1.3	50.0000		93.3	83 - 113			
1,3-Dichloropropane	44.0400	5.0	1.1	50.0000		88.1	79 - 108			
1,4-Dichlorobenzene	46.5600	5.0	1.2	50.0000		93.1	82 - 114			
2,2-Dichloropropane	42.0500	5.0	1.2	50.0000		84.1	66 - 135			
2-Chlorotoluene	44.9600	5.0	1.6	50.0000		89.9	79 - 117			
4-Chlorotoluene	45.1800	5.0	1.5	50.0000		90.4	77 - 118			
4-Isopropyltoluene	43.8100	5.0	2.3	50.0000		87.6	81 - 129			
Benzene	83.5500	5.0	0.64	100.000		83.6	78 - 112			
Bromobenzene	46.4500	5.0	1.1	50.0000		92.9	79 - 111			
Bromochloromethane	42.0600	5.0	0.64	50.0000		84.1	69 - 116			
Bromodichloromethane	41.7500	5.0	1.2	50.0000		83.5	79 - 111			
Bromoform	44.2300	5.0	0.80	50.0000		88.5	75 - 119			
Bromomethane	40.0900	5.0	2.5	50.0000		80.2	31 - 168			
Carbon disulfide	38.0000	5.0	3.5	50.0000		76.0	54 - 141			
Carbon tetrachloride	39.6800	5.0	1.2	50.0000		79.4	74 - 125			
Chlorobenzene	44.5700	5.0	1.0	50.0000		89.1	83 - 112			
Chloroethane	38.6600	5.0	1.1	50.0000		77.3	53 - 144			
Chloroform	40.6800	5.0	0.82	50.0000		81.4	69 - 118			
Chloromethane	38.4100	5.0	1.4	50.0000		76.8	46 - 137			
cis-1,2-Dichloroethene	40.9500	5.0	0.67	50.0000		81.9	68 - 118			
cis-1,3-Dichloropropene	50.4700	5.0	1.9	50.0000		101	77 - 121			
Di-isopropyl ether	40.1100	5.0	0.55	50.0000		80.2	60 - 129			
Dibromochloromethane	46.9500	5.0	1.0	50.0000		93.9	80 - 111			
Dibromomethane	42.8000	5.0	1.6	50.0000		85.6	78 - 108			
Dichlorodifluoromethane	38.4700	5.0	2.2	50.0000		76.9	41 - 146			
Ethyl Acetate	426.980	50	8.1	500.000		85.4	52 - 130			
Ethyl Ether	402.340	50	6.1	500.000		80.5	54 - 138			
Ethyl tert-butyl ether	43.5900	5.0	0.67	50.0000		87.2	52 - 141			

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Volatile Organic Compounds by EPA 8260B - 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 B9E0004 - MSVOA_S (continued)										
LCS (B9E0004-BS1) - Continued					Prepared: 5/1/2019 Analyzed: 5/1/2019					
Ethylbenzene	86.4000	5.0	0.91	100.000		86.4	82 - 121			
Freon-113	36.5500	5.0	2.8	50.0000		73.1	59 - 139			
Hexachlorobutadiene	46.7900	5.0	2.5	50.0000		93.6	69 - 143			
Isopropylbenzene	48.2900	5.0	1.8	50.0000		96.6	78 - 124			
m,p-Xylene	85.1300	10	1.5	100.000		85.1	85 - 118			
Methylene chloride	37.7100	5.0	2.3	50.0000		75.4	44 - 146			
MTBE	41.5400	5.0	0.63	50.0000		83.1	61 - 122			
n-Butylbenzene	43.9300	5.0	2.4	50.0000		87.9	78 - 135			
n-Propylbenzene	44.0600	5.0	2.2	50.0000		88.1	78 - 127			
Naphthalene	48.1100	5.0	0.97	50.0000		96.2	68 - 129			
o-Xylene	90.0300	5.0	0.87	100.000		90.0	86 - 118			
sec-Butylbenzene	44.4500	5.0	2.3	50.0000		88.9	80 - 127			
Styrene	46.4800	5.0	1.5	50.0000		93.0	85 - 117			
tert-Amyl methyl ether	44.9300	5.0	0.59	50.0000		89.9	48 - 135			
tert-Butanol	229.320	100	19	250.000		91.7	0 - 175			
tert-Butylbenzene	45.0900	5.0	2.0	50.0000		90.2	81 - 122			
Tetrachloroethene	45.6000	5.0	1.6	50.0000		91.2	77 - 122			
Toluene	86.9200	5.0	0.94	100.000		86.9	79 - 114			
trans-1,2-Dichloroethene	38.1200	5.0	0.59	50.0000		76.2	66 - 125			
trans-1,3-Dichloropropene	43.5300	5.0	2.1	50.0000		87.1	76 - 120			
Trichloroethene	43.7600	5.0	3.1	50.0000		87.5	79 - 117			
Trichlorofluoromethane	35.4100	5.0	1.4	50.0000		70.8	55 - 133			
Vinyl acetate	453.500	50	9.8	500.000		90.7	52 - 141			
Vinyl chloride	37.9800	5.0	1.7	50.0000		76.0	58 - 132			
Surrogate: 1,2-Dichloroethane-d4	*42.79*			*50.0000*		*85.6*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*50.02*			*50.0000*		*100*	*68 - 121*			
Surrogate: Dibromofluoromethan	*46.63*			*50.0000*		*93.3*	*65 - 137*			
Surrogate: Toluene-d8	*49.83*			*50.0000*		*99.7*	*82 - 119*			
LCS Dup (B9E0004-BSD1)					Prepared: 5/1/2019 Analyzed: 5/1/2019					
1,1,1,2-Tetrachloroethane	45.2000	5.0	0.96	50.0000		90.4	82 - 114	3.63	20	
1,1,1-Trichloroethane	40.7800	5.0	1.1	50.0000		81.6	70 - 121	3.72	20	
1,1,2,2-Tetrachloroethane	42.7200	5.0	0.62	50.0000		85.4	65 - 116	5.24	20	
1,1,2-Trichloroethane	42.6100	5.0	1.6	50.0000		85.2	73 - 114	3.69	20	
1,1-Dichloroethane	39.7900	5.0	0.81	50.0000		79.6	69 - 117	0.226	20	
1,1-Dichloroethene	38.2300	5.0	2.6	50.0000		76.5	57 - 128	3.16	20	
1,1-Dichloropropene	44.4000	5.0	2.3	50.0000		88.8	76 - 122	4.89	20	
1,2,3-Trichloropropane	42.0800	5.0	0.54	50.0000		84.2	65 - 116	6.02	20	
1,2,3-Trichlorobenzene	51.9700	5.0	1.2	50.0000		104	72 - 130	0.709	20	
1,2,4-Trichlorobenzene	52.3400	5.0	1.1	50.0000		105	74 - 141	1.58	20	

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Volatile Organic Compounds by EPA 8260B - 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 B9E0004 - MSVOA_S (continued)										
LCS Dup (B9E0004-BSD1) - Continued					Prepared: 5/1/2019 Analyzed: 5/1/2019					
1,2,4-Trimethylbenzene	44.8800	5.0	1.5	50.0000		89.8	81 - 126	0.511	20	
1,2-Dibromo-3-chloropropane	45.2200	10	1.6	50.0000		90.4	63 - 126	6.01	20	
1,2-Dibromoethane	41.9200	5.0	3.2	50.0000		83.8	75 - 113	4.66	20	
1,2-Dichlorobenzene	46.3300	5.0	1.1	50.0000		92.7	83 - 114	3.06	20	
1,2-Dichloroethane	39.3600	5.0	1.2	50.0000		78.7	73 - 115	3.59	20	
1,2-Dichloropropane	41.5800	5.0	1.8	50.0000		83.2	75 - 117	3.57	20	
1,3,5-Trimethylbenzene	44.6300	5.0	1.7	50.0000		89.3	80 - 126	1.01	20	
1,3-Dichlorobenzene	45.7200	5.0	1.3	50.0000		91.4	83 - 113	2.04	20	
1,3-Dichloropropane	42.5100	5.0	1.1	50.0000		85.0	79 - 108	3.54	20	
1,4-Dichlorobenzene	45.3700	5.0	1.2	50.0000		90.7	82 - 114	2.59	20	
2,2-Dichloropropane	43.1100	5.0	1.2	50.0000		86.2	66 - 135	2.49	20	
2-Chlorotoluene	44.0900	5.0	1.6	50.0000		88.2	79 - 117	1.95	20	
4-Chlorotoluene	44.4500	5.0	1.5	50.0000		88.9	77 - 118	1.63	20	
4-Isopropyltoluene	45.7600	5.0	2.3	50.0000		91.5	81 - 129	4.35	20	
Benzene	82.4500	5.0	0.64	100.000		82.4	78 - 112	1.33	20	
Bromobenzene	44.7500	5.0	1.1	50.0000		89.5	79 - 111	3.73	20	
Bromochloromethane	40.9000	5.0	0.64	50.0000		81.8	69 - 116	2.80	20	
Bromodichloromethane	40.7100	5.0	1.2	50.0000		81.4	79 - 111	2.52	20	
Bromoform	43.0500	5.0	0.80	50.0000		86.1	75 - 119	2.70	20	
Bromomethane	37.2400	5.0	2.5	50.0000		74.5	31 - 168	7.37	20	
Carbon disulfide	36.4800	5.0	3.5	50.0000		73.0	54 - 141	4.08	20	
Carbon tetrachloride	41.4000	5.0	1.2	50.0000		82.8	74 - 125	4.24	20	
Chlorobenzene	43.8100	5.0	1.0	50.0000		87.6	83 - 112	1.72	20	
Chloroethane	36.8000	5.0	1.1	50.0000		73.6	53 - 144	4.93	20	
Chloroform	40.2000	5.0	0.82	50.0000		80.4	69 - 118	1.19	20	
Chloromethane	34.8300	5.0	1.4	50.0000		69.7	46 - 137	9.78	20	
cis-1,2-Dichloroethene	41.2800	5.0	0.67	50.0000		82.6	68 - 118	0.803	20	
cis-1,3-Dichloropropene	49.0100	5.0	1.9	50.0000		98.0	77 - 121	2.94	20	
Di-isopropyl ether	39.4700	5.0	0.55	50.0000		78.9	60 - 129	1.61	20	
Dibromochloromethane	44.2600	5.0	1.0	50.0000		88.5	80 - 111	5.90	20	
Dibromomethane	40.6000	5.0	1.6	50.0000		81.2	78 - 108	5.28	20	
Dichlorodifluoromethane	40.9600	5.0	2.2	50.0000		81.9	41 - 146	6.27	20	
Ethyl Acetate	410.900	50	8.1	500.000		82.2	52 - 130	3.84	20	
Ethyl Ether	351.850	50	6.1	500.000		70.4	54 - 138	13.4	20	
Ethyl tert-butyl ether	39.5400	5.0	0.67	50.0000		79.1	52 - 141	9.74	20	
Ethylbenzene	86.5800	5.0	0.91	100.000		86.6	82 - 121	0.208	20	
Freon-113	37.7800	5.0	2.8	50.0000		75.6	59 - 139	3.31	20	
Hexachlorobutadiene	52.0300	5.0	2.5	50.0000		104	69 - 143	10.6	20	
Isopropylbenzene	49.2100	5.0	1.8	50.0000		98.4	78 - 124	1.89	20	
m,p-Xylene	85.2200	10	1.5	100.000		85.2	85 - 118	0.106	20	

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Volatile Organic Compounds by EPA 8260B - 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 B9E0004 - MSVOA_S (continued)										
LCS Dup (B9E0004-BSD1) - Continued					Prepared: 5/1/2019 Analyzed: 5/1/2019					
Methylene chloride	41.5400	5.0	2.3	50.0000		83.1	44 - 146	9.67	20	
MTBE	40.3900	5.0	0.63	50.0000		80.8	61 - 122	2.81	20	
n-Butylbenzene	46.6000	5.0	2.4	50.0000		93.2	78 - 135	5.90	20	
n-Propylbenzene	45.0300	5.0	2.2	50.0000		90.1	78 - 127	2.18	20	
Naphthalene	45.9800	5.0	0.97	50.0000		92.0	68 - 129	4.53	20	
o-Xylene	89.2200	5.0	0.87	100.000		89.2	86 - 118	0.904	20	
sec-Butylbenzene	46.9100	5.0	2.3	50.0000		93.8	80 - 127	5.39	20	
Styrene	44.7000	5.0	1.5	50.0000		89.4	85 - 117	3.90	20	
tert-Amyl methyl ether	39.7300	5.0	0.59	50.0000		79.5	48 - 135	12.3	20	
tert-Butanol	232.110	100	19	250.000		92.8	0 - 175	1.21	20	
tert-Butylbenzene	46.4400	5.0	2.0	50.0000		92.9	81 - 122	2.95	20	
Tetrachloroethene	47.2500	5.0	1.6	50.0000		94.5	77 - 122	3.55	20	
Toluene	85.9400	5.0	0.94	100.000		85.9	79 - 114	1.13	20	
trans-1,2-Dichloroethene	40.6200	5.0	0.59	50.0000		81.2	66 - 125	6.35	20	
trans-1,3-Dichloropropene	42.4600	5.0	2.1	50.0000		84.9	76 - 120	2.49	20	
Trichloroethene	44.3800	5.0	3.1	50.0000		88.8	79 - 117	1.41	20	
Trichlorofluoromethane	38.1200	5.0	1.4	50.0000		76.2	55 - 133	7.37	20	
Vinyl acetate	439.970	50	9.8	500.000		88.0	52 - 141	3.03	20	
Vinyl chloride	36.4700	5.0	1.7	50.0000		72.9	58 - 132	4.06	20	
Surrogate: 1,2-Dichloroethane-d4	*42.68*			*50.0000*		*85.4*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*49.92*			*50.0000*		*99.8*	*68 - 121*			
Surrogate: Dibromofluoromethan	*46.90*			*50.0000*		*93.8*	*65 - 137*			
Surrogate: Toluene-d8	*49.85*			*50.0000*		*99.7*	*82 - 119*			
Matrix Spike (B9E0004-MS1)			**Source: 1901740-01**		Prepared: 5/1/2019 Analyzed: 5/1/2019					
1,1,1,2-Tetrachloroethane	34.5600	5.0	0.96	50.0000	ND	69.1	45 - 121			
1,1,1-Trichloroethane	35.5400	5.0	1.1	50.0000	ND	71.1	43 - 127			
1,1,2,2-Tetrachloroethane	34.8700	5.0	0.62	50.0000	ND	69.7	32 - 128			
1,1,2-Trichloroethane	33.9600	5.0	1.6	50.0000	ND	67.9	45 - 121			
1,1-Dichloroethane	35.1200	5.0	0.81	50.0000	ND	70.2	46 - 119			
1,1-Dichloroethene	35.5100	5.0	2.6	50.0000	ND	71.0	40 - 130			
1,1-Dichloropropene	37.1300	5.0	2.3	50.0000	ND	74.3	45 - 130			
1,2,3-Trichloropropane	35.6000	5.0	0.54	50.0000	ND	71.2	42 - 124			
1,2,3-Trichlorobenzene	22.5100	5.0	1.2	50.0000	ND	45.0	4 - 135			
1,2,4-Trichlorobenzene	22.7000	5.0	1.1	50.0000	ND	45.4	8 - 141			
1,2,4-Trimethylbenzene	31.2700	5.0	1.5	50.0000	ND	62.5	30 - 136			
1,2-Dibromo-3-chloropropane	35.7800	10	1.6	50.0000	ND	71.6	38 - 132			
1,2-Dibromoethane	33.4000	5.0	3.2	50.0000	ND	66.8	45 - 121			
1,2-Dichlorobenzene	27.0600	5.0	1.1	50.0000	ND	54.1	30 - 125			
1,2-Dichloroethane	33.3200	5.0	1.2	50.0000	ND	66.6	51 - 115			

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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0004 - MSVOA_S (continued)										
Matrix Spike (B9E0004-MS1) - Continued			**Source: 1901740-01**		Prepared: 5/1/2019 Analyzed: 5/1/2019					
1,2-Dichloropropane	35.4300	5.0	1.8	50.0000	ND	70.9	50 - 118			
1,3,5-Trimethylbenzene	32.0100	5.0	1.7	50.0000	ND	64.0	29 - 137			
1,3-Dichlorobenzene	28.1700	5.0	1.3	50.0000	ND	56.3	30 - 124			
1,3-Dichloropropane	35.4400	5.0	1.1	50.0000	ND	70.9	49 - 116			
1,4-Dichlorobenzene	27.5500	5.0	1.2	50.0000	ND	55.1	31 - 124			
2,2-Dichloropropane	38.4100	5.0	1.2	50.0000	ND	76.8	41 - 134			
2-Chlorotoluene	31.8300	5.0	1.6	50.0000	ND	63.7	32 - 127			
4-Chlorotoluene	31.1500	5.0	1.5	50.0000	ND	62.3	34 - 124			
4-Isopropyltoluene	27.8200	5.0	2.3	50.0000	ND	55.6	26 - 141			
Benzene	71.1900	5.0	0.64	100.000	ND	71.2	48 - 117			
Bromobenzene	33.3100	5.0	1.1	50.0000	ND	66.6	40 - 117			
Bromochloromethane	35.2200	5.0	0.64	50.0000	ND	70.4	48 - 117			
Bromodichloromethane	33.5900	5.0	1.2	50.0000	ND	67.2	49 - 115			
Bromoform	31.7500	5.0	0.80	50.0000	ND	63.5	42 - 127			
Bromomethane	32.6100	5.0	2.5	50.0000	ND	65.2	19 - 157			
Carbon disulfide	32.3900	5.0	3.5	50.0000	ND	64.8	34 - 138			
Carbon tetrachloride	35.3900	5.0	1.2	50.0000	ND	70.8	43 - 130			
Chlorobenzene	33.6800	5.0	1.0	50.0000	ND	67.4	41 - 122			
Chloroethane	32.1900	5.0	1.1	50.0000	ND	64.4	32 - 145			
Chloroform	34.8000	5.0	0.82	50.0000	ND	69.6	46 - 118			
Chloromethane	34.6800	5.0	1.4	50.0000	ND	69.4	34 - 132			
cis-1,2-Dichloroethene	34.9700	5.0	0.67	50.0000	ND	69.9	44 - 119			
cis-1,3-Dichloropropene	37.3800	5.0	1.9	50.0000	ND	74.8	44 - 126			
Di-isopropyl ether	34.5600	5.0	0.55	50.0000	ND	69.1	42 - 126			
Dibromochloromethane	34.6200	5.0	1.0	50.0000	ND	69.2	46 - 119			
Dibromomethane	33.8700	5.0	1.6	50.0000	ND	67.7	52 - 114			
Dichlorodifluoromethane	37.1900	5.0	2.2	50.0000	ND	74.4	22 - 147			
Ethyl Acetate	25.3500	50	8.1	500.000	ND	5.07	9 - 140			M2
Ethyl Ether	348.140	50	6.1	500.000	ND	69.6	45 - 131			
Ethyl tert-butyl ether	36.3000	5.0	0.67	50.0000	ND	72.6	33 - 138			
Ethylbenzene	68.0100	5.0	0.91	100.000	ND	68.0	38 - 131			
Freon-113	32.2400	5.0	2.8	50.0000	ND	64.5	38 - 140			
Hexachlorobutadiene	21.7600	5.0	2.5	50.0000	ND	43.5	4 - 141			
Isopropylbenzene	37.5600	5.0	1.8	50.0000	ND	75.1	35 - 133			
m,p-Xylene	65.6900	10	1.5	100.000	ND	65.7	38 - 130			
Methylene chloride	31.5400	5.0	2.3	50.0000	ND	63.1	26 - 137			
MTBE	35.0000	5.0	0.63	50.0000	ND	70.0	45 - 121			
n-Butylbenzene	24.1400	5.0	2.4	50.0000	ND	48.3	18 - 144			
n-Propylbenzene	32.0600	5.0	2.2	50.0000	ND	64.1	30 - 137			
Naphthalene	25.7600	5.0	0.97	50.0000	ND	51.5	14 - 137			

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San Bernardino , CA 92408	Reported : 05/06/2019

Volatile Organic Compounds by EPA 8260B - 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 B9E0004 - MSVOA_S (continued)										
Matrix Spike (B9E0004-MS1) - Continued			**Source: 1901740-01**			Prepared: 5/1/2019 Analyzed: 5/1/2019				
o-Xylene	67.8300	5.0	0.87	100.000	ND	67.8	41 - 129			
sec-Butylbenzene	28.6600	5.0	2.3	50.0000	ND	57.3	24 - 140			
Styrene	30.6700	5.0	1.5	50.0000	ND	61.3	41 - 125			
tert-Amyl methyl ether	36.2500	5.0	0.59	50.0000	ND	72.5	31 - 133			
tert-Butanol	312.510	100	19	250.000	ND	125	0 - 201			
tert-Butylbenzene	31.8300	5.0	2.0	50.0000	ND	63.7	30 - 134			
Tetrachloroethene	36.5800	5.0	1.6	50.0000	ND	73.2	37 - 130			
Toluene	70.8700	5.0	0.94	100.000	ND	70.9	45 - 122			
trans-1,2-Dichloroethene	34.1000	5.0	0.59	50.0000	ND	68.2	46 - 122			
trans-1,3-Dichloropropene	32.1000	5.0	2.1	50.0000	ND	64.2	44 - 124			
Trichloroethene	36.4300	5.0	3.1	50.0000	ND	72.9	36 - 142			
Trichlorofluoromethane	32.4800	5.0	1.4	50.0000	ND	65.0	37 - 135			
Vinyl acetate	ND	50	9.8	500.000	ND	NR	0 - 136			
Vinyl chloride	36.0300	5.0	1.7	50.0000	ND	72.1	42 - 131			
Surrogate: 1,2-Dichloroethane-d4	*43.51*			*50.0000*		*87.0*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*49.10*			*50.0000*		*98.2*	*68 - 121*			
Surrogate: Dibromofluoromethan	*47.54*			*50.0000*		*95.1*	*65 - 137*			
Surrogate: Toluene-d8	*49.31*			*50.0000*		*98.6*	*82 - 119*			
Matrix Spike Dup (B9E0004-MSD1)			**Source: 1901740-01**			Prepared: 5/1/2019 Analyzed: 5/1/2019				
1,1,1,2-Tetrachloroethane	33.0000	5.0	0.96	50.0000	ND	66.0	45 - 121	4.62	20	
1,1,1-Trichloroethane	33.4400	5.0	1.1	50.0000	ND	66.9	43 - 127	6.09	20	
1,1,2,2-Tetrachloroethane	35.4600	5.0	0.62	50.0000	ND	70.9	32 - 128	1.68	20	
1,1,2-Trichloroethane	32.4500	5.0	1.6	50.0000	ND	64.9	45 - 121	4.55	20	
1,1-Dichloroethane	33.1200	5.0	0.81	50.0000	ND	66.2	46 - 119	5.86	20	
1,1-Dichloroethene	32.8200	5.0	2.6	50.0000	ND	65.6	40 - 130	7.87	20	
1,1-Dichloropropene	36.4800	5.0	2.3	50.0000	ND	73.0	45 - 130	1.77	20	
1,2,3-Trichloropropane	35.7100	5.0	0.54	50.0000	ND	71.4	42 - 124	0.309	20	
1,2,3-Trichlorobenzene	19.8500	5.0	1.2	50.0000	ND	39.7	4 - 135	12.6	20	
1,2,4-Trichlorobenzene	18.8800	5.0	1.1	50.0000	ND	37.8	8 - 141	18.4	20	
1,2,4-Trimethylbenzene	26.8300	5.0	1.5	50.0000	ND	53.7	30 - 136	15.3	20	
1,2-Dibromo-3-chloropropane	36.2900	10	1.6	50.0000	ND	72.6	38 - 132	1.42	20	
1,2-Dibromoethane	32.4800	5.0	3.2	50.0000	ND	65.0	45 - 121	2.79	20	
1,2-Dichlorobenzene	21.9500	5.0	1.1	50.0000	ND	43.9	30 - 125	20.9	20	R
1,2-Dichloroethane	32.6600	5.0	1.2	50.0000	ND	65.3	51 - 115	2.00	20	
1,2-Dichloropropane	32.3000	5.0	1.8	50.0000	ND	64.6	50 - 118	9.24	20	
1,3,5-Trimethylbenzene	27.1600	5.0	1.7	50.0000	ND	54.3	29 - 137	16.4	20	
1,3-Dichlorobenzene	24.0300	5.0	1.3	50.0000	ND	48.1	30 - 124	15.9	20	
1,3-Dichloropropane	33.6400	5.0	1.1	50.0000	ND	67.3	49 - 116	5.21	20	
1,4-Dichlorobenzene	23.1600	5.0	1.2	50.0000	ND	46.3	31 - 124	17.3	20	

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Volatile Organic Compounds by EPA 8260B - 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 B9E0004 - MSVOA_S (continued)										
Matrix Spike Dup (B9E0004-MSD1) - Continued			**Source: 1901740-01**		Prepared: 5/1/2019 Analyzed: 5/1/2019					
2,2-Dichloropropane	35.8700	5.0	1.2	50.0000	ND	71.7	41 - 134	6.84	20	
2-Chlorotoluene	27.1900	5.0	1.6	50.0000	ND	54.4	32 - 127	15.7	20	
4-Chlorotoluene	26.8000	5.0	1.5	50.0000	ND	53.6	34 - 124	15.0	20	
4-Isopropyltoluene	23.0100	5.0	2.3	50.0000	ND	46.0	26 - 141	18.9	20	
Benzene	68.5700	5.0	0.64	100.000	ND	68.6	48 - 117	3.75	20	
Bromobenzene	31.1100	5.0	1.1	50.0000	ND	62.2	40 - 117	6.83	20	
Bromochloromethane	33.7300	5.0	0.64	50.0000	ND	67.5	48 - 117	4.32	20	
Bromodichloromethane	32.0200	5.0	1.2	50.0000	ND	64.0	49 - 115	4.79	20	
Bromoform	31.6600	5.0	0.80	50.0000	ND	63.3	42 - 127	0.284	20	
Bromomethane	30.5800	5.0	2.5	50.0000	ND	61.2	19 - 157	6.43	20	
Carbon disulfide	28.5700	5.0	3.5	50.0000	ND	57.1	34 - 138	12.5	20	
Carbon tetrachloride	34.3500	5.0	1.2	50.0000	ND	68.7	43 - 130	2.98	20	
Chlorobenzene	30.7600	5.0	1.0	50.0000	ND	61.5	41 - 122	9.06	20	
Chloroethane	28.6800	5.0	1.1	50.0000	ND	57.4	32 - 145	11.5	20	
Chloroform	33.3500	5.0	0.82	50.0000	ND	66.7	46 - 118	4.26	20	
Chloromethane	31.3800	5.0	1.4	50.0000	ND	62.8	34 - 132	9.99	20	
cis-1,2-Dichloroethene	32.6200	5.0	0.67	50.0000	ND	65.2	44 - 119	6.95	20	
cis-1,3-Dichloropropene	33.6700	5.0	1.9	50.0000	ND	67.3	44 - 126	10.4	20	
Di-isopropyl ether	33.7700	5.0	0.55	50.0000	ND	67.5	42 - 126	2.31	20	
Dibromochloromethane	34.1100	5.0	1.0	50.0000	ND	68.2	46 - 119	1.48	20	
Dibromomethane	32.5400	5.0	1.6	50.0000	ND	65.1	52 - 114	4.01	20	
Dichlorodifluoromethane	34.0500	5.0	2.2	50.0000	ND	68.1	22 - 147	8.82	20	
Ethyl Acetate	ND	50	8.1	500.000	ND	NR	9 - 140	NR	20	M2
Ethyl Ether	333.920	50	6.1	500.000	ND	66.8	45 - 131	4.17	20	
Ethyl tert-butyl ether	33.1600	5.0	0.67	50.0000	ND	66.3	33 - 138	9.04	20	
Ethylbenzene	60.6700	5.0	0.91	100.000	ND	60.7	38 - 131	11.4	20	
Freon-113	28.7700	5.0	2.8	50.0000	ND	57.5	38 - 140	11.4	20	
Hexachlorobutadiene	18.8200	5.0	2.5	50.0000	ND	37.6	4 - 141	14.5	20	
Isopropylbenzene	33.5600	5.0	1.8	50.0000	ND	67.1	35 - 133	11.2	20	
m,p-Xylene	56.2600	10	1.5	100.000	ND	56.3	38 - 130	15.5	20	
Methylene chloride	33.6100	5.0	2.3	50.0000	ND	67.2	26 - 137	6.35	20	
MTBE	35.2800	5.0	0.63	50.0000	ND	70.6	45 - 121	0.797	20	
n-Butylbenzene	19.4700	5.0	2.4	50.0000	ND	38.9	18 - 144	21.4	20	R
n-Propylbenzene	27.1600	5.0	2.2	50.0000	ND	54.3	30 - 137	16.5	20	
Naphthalene	22.7600	5.0	0.97	50.0000	ND	45.5	14 - 137	12.4	20	
o-Xylene	58.9200	5.0	0.87	100.000	ND	58.9	41 - 129	14.1	20	
sec-Butylbenzene	23.9100	5.0	2.3	50.0000	ND	47.8	24 - 140	18.1	20	
Styrene	25.4200	5.0	1.5	50.0000	ND	50.8	41 - 125	18.7	20	
tert-Amyl methyl ether	31.8900	5.0	0.59	50.0000	ND	63.8	31 - 133	12.8	20	
tert-Butanol	277.640	100	19	250.000	ND	111	0 - 201	11.8	20	

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Volatile Organic Compounds by EPA 8260B - 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 B9E0004 - MSVOA_S (continued)										
Matrix Spike Dup (B9E0004-MSD1) - Continued			**Source: 1901740-01**		Prepared: 5/1/2019 Analyzed: 5/1/2019					
tert-Butylbenzene	27.2100	5.0	2.0	50.0000	ND	54.4	30 - 134	15.7	20	
Tetrachloroethene	33.7100	5.0	1.6	50.0000	ND	67.4	37 - 130	8.17	20	
Toluene	64.6000	5.0	0.94	100.000	ND	64.6	45 - 122	9.26	20	
trans-1,2-Dichloroethene	33.2900	5.0	0.59	50.0000	ND	66.6	46 - 122	2.40	20	
trans-1,3-Dichloropropene	29.9000	5.0	2.1	50.0000	ND	59.8	44 - 124	7.10	20	
Trichloroethene	34.2900	5.0	3.1	50.0000	ND	68.6	36 - 142	6.05	20	
Trichlorofluoromethane	30.4600	5.0	1.4	50.0000	ND	60.9	37 - 135	6.42	20	
Vinyl acetate	ND	50	9.8	500.000	ND	NR	0 - 136		20	
Vinyl chloride	31.4400	5.0	1.7	50.0000	ND	62.9	42 - 131	13.6	20	
Surrogate: 1,2-Dichloroethane-d4	*43.00*			*50.0000*		*86.0*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*48.15*			*50.0000*		*96.3*	*68 - 121*			
Surrogate: Dibromofluoromethan	*47.30*			*50.0000*		*94.6*	*65 - 137*			
Surrogate: Toluene-d8	*47.83*			*50.0000*		*95.7*	*82 - 119*			

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San Bernardino , CA 92408	Reported : 05/06/2019

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
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.
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.

Stantec

CHAIN OF CUSTODY FORM

25864-F-Business Center Dr., Redlands, CA 92374 (909)335-6116, Fax (909) 335-6120

1901707

Page 1 of 1

Client Name/Address:
Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408

Project/PO Number: 185804417

Laboratory: ATL

Project Manager: Dion monge
Email Address: Dion.monge@stantec.com

Phone Number:909-335-6116
Fax Number:909-335-6120

Sampler: J. Sargent Joshua.Sargent@Stantec.com

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	TPH (g.d.o) 8015	VOC Full List 8260	Title 22 metals 6020B							Special Instructions
0' Profile	Soil	8oz	1	4.26.19	1345	ICE	X	X	X							

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	4.26.19 1419	[signature]	4/26/19 2:19
[signature]	4/26/19 2:55	MPR [signature]	~~1412~~ 4/26/19 1455
		Received in Lab By:	Date/Time:

Turn-Around Time: Same day, 72 hours, 24 hour, 5 days, 48 hour, normal

Sample Integrity: (Check) 5.9
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.

Phase I Environmental Site Assessment and Shallow Soil Sampling (Subsurface Investigation)
Rosemead (Willard & Garvey)

May 13, 2019

Prepared for:

The Olson Company
3010 Old Ranch Parkway, Suite 100
Seal Beach, CA 90740-2751

Prepared by:

Stantec Consulting Services Inc.
735 East Carnegie Drive, Suite 280
San Bernardino, CA 92408

Project No.: 185804332

Sign-off Sheet and Signatures of Environmental Professionals

This Phase I Environmental Site Assessment and Shallow Soil Sampling (Subsurface Investigation) 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 is strictly prohibited. The material in it 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.

All information, conclusions, and recommendations provided by Stantec in this document regarding the Phase I ESA have been prepared under the supervision of and reviewed by the professionals whose signatures appear below.

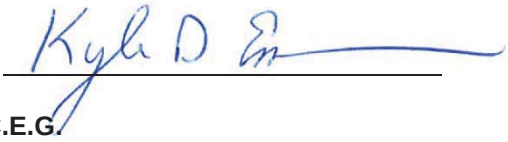
I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in § 312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Property. I have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Author: 

Alicia Jansen
Associate Scientist

Quality Reviewer: 

Joshua Sargent, M.S.
Project Geologist

Independent Reviewer: 

Kyle Emerson, P.G., C.E.G.
Managing Principal Geologist

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APPENDIX F CERTIFIED LABORATORY ANALYTICAL DATA REPORT....F.1

Abbreviations

AAI	All Appropriate Inquiry
ACM	Asbestos-containing material
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulation
CREC	Controlled Recognized Environmental Conditions
EP	Environmental Professional
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
ft msl	Feet above mean sea level
HREC	Historical Recognized Environmental Conditions
LBP	Lead-based paint
LUST	Leaking Underground Storage Tank
NESHAP	National Emissions Standard for Hazardous Air Pollutants
PAHs	Polynuclear Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Conditions
SWMU	Solid Waste Management Unit
TSCA	Toxic Substance Control Act
USGS	United States Geological Survey
UST	Underground Storage Tank
VEC	Vapor Encroachment Condition
VOCs	Volatile Organic Compounds



1.0 SUMMARY

Stantec Consulting Services Inc. (Stantec) has completed a Phase I Environmental Site Assessment (ESA) report of the real property located at 3133, 3141, and 3149 Willard Avenue, City of Rosemead, County of Los Angeles, California (the "Property"), on behalf of The Olson Company (the "Client").

The Phase I ESA was conducted in conformance with the requirements of American Society for Testing and Materials (ASTM) Designation E 1527-13, and All Appropriate Inquiry (AAI) as defined by the US-EPA in Title 40 of the Code of Federal Regulations, Part 312, and the Master Services Agreement between Stantec and Client (the "MSA"), except as may have been modified by the scope of work, and terms and conditions, requested by the Client. Any exceptions to, or deletions from, the ASTM or AAI practice are described in Section 2.3. In the event of any conflict between the terms and conditions of this report and the terms and conditions of the MSA, the MSA shall control.

The Property consists of three parcels totaling approximately 1.47 acres of land developed with three residential structures. Two of the residential structures were occupied and one residential structure was boarded up. No interior access was provided during the site reconnaissance. The majority of the western portion of the Property consists of overgrown weeds. Two concrete foundations for former structures were observed associated with the western portion of 3414 Willard Avenue. Surrounding properties consist of residential and an elementary school. A Property location map is illustrated on Figure 1. A Property map illustrating the main features of the Property is provided as Figure 2. Photographs taken during the site reconnaissance visit are provided in Appendix A.

Stantec's interpretation of historical aerial photographs shows the Property as agricultural land (*i.e.*, walnut trees) prior to circa 1930. Historic agricultural use can be a potential concern due to the possible use of pesticides and herbicides containing heavy metals. Accordingly, Stantec recommended collection of soil samples for chemical analysis to determine if pesticides or heavy metals associated with herbicides were present at levels that represent a Recognized Environmental Condition (REC) or that are of concern to residential development.

Accordingly, Stantec collected shallow soil samples for laboratory analysis. Stantec personnel advanced four (4) borings at the Property using a hand auger on May 8, 2019. Soil samples were collected from each soil boring at a depth of 0.5-1 foot below ground surface (bgs). Each soil sample was submitted for analysis of organochlorine pesticides by EPA Method 8081A and arsenic and lead by EPA Method 6010B. Stantec concludes that this scope of work was sufficient for evaluating the historical agricultural use of the Property.

The results of the analysis of the soil samples reported minor detections of the following organochlorine pesticides at concentrations below their corresponding United States Regional Screening Levels (US EPA RSLs) for residential sites: 4,4'-DDD; 4,4'-DDE; 4,4'-DDT; alpha-Chlordane; Chlordane; and gamma-Chlordane. Additionally, the cumulative total concentration for each shallow soil sample location is below the California Hazardous Waste Level. Therefore, the residual organochlorine pesticide concentrations are not considered an environmental concern to the Property.

Arsenic was also reported in all four samples ranging from 1.7 to 2.0 milligrams per kilogram (mg/kg). While these samples are above the US EPA RSLs for residential sites of 0.68 mg/kg, they are all well within the typical naturally-occurring background levels for California, which range between 0.6 and 11.0 mg/kg. Lead was also detected in all of the four samples collected at concentrations ranging from 14 to 65.0 mg/kg. These detections are below the US EPA RSLs for residential sites of 80 mg/kg. Therefore, the metals associated with herbicide use are not considered an environmental concern to the Property. Certified analytical reports with chain of custody documentation are provided in Appendix F.

Based on the above results, Stantec concludes that the historical agricultural use of the Property does not represent a REC or a human health risk in light of the contemplated residential use of the Property and recommends no further investigation regarding this issue.

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527 of 3133, 3141, and 3149 Willard Avenue, City of Rosemead, County of Los Angeles, California, or the "Property". Any exceptions to, or deletions from, this practice are described in the Data Gaps section of this report. This assessment has revealed no evidence of RECs in connection with the Property. Stantec recommends no further investigation regarding the environmental condition of the Property.

Stantec identified the following non-ASTM issues associated with the Property:

- **ACM and LBP.** Given the age of the existing buildings on the Property (circa 1938), the presence of lead-based paint (LBP) and asbestos containing materials (ACMs) is considered likely. Stantec recommends conducting a comprehensive, pre-demolition LBP and ACM survey in accordance with the sampling protocol of the Asbestos Hazard Emergency Response Act (AHERA) prior to any activities with the potential to disturb building materials to determine whether ACM are present. Further, in the event ACM is detected, Stantec recommends proper removal and disposal of the materials identified prior to any activities with the potential to disturb them. In addition, An LBP survey should be performed and all LBP should be abated in accordance with all applicable laws, including guidelines of the Occupational Safety and Health Administration ("OSHA").

The preceding summary is intended for informational purposes only. Reading of the full body of this report is recommended.

2.0 INTRODUCTION

The objective of this Phase I ESA was to perform All Appropriate Inquiry (AAI) into the past ownership and uses of the Property consistent with good commercial or customary practice as outlined by the ASTM in "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", Designation E1527-13. "All Appropriate Inquiry" (AAI) is the process for evaluating a property's environmental conditions for the purpose of qualifying for landowner liability protections under CERCLA. following final rule of Part 312 of Title 40, Code of Federal Regulations (40 CFR Part 312). The purpose of this Phase I ESA was to identify, to the extent feasible, adverse environmental conditions including recognized environmental conditions ("RECs") of the Property.

The ASTM E1527-13 standard indicates that the purpose of the Phase I ESA is to identify RECs, including historical recognized environmental conditions ("HRECs"), and controlled recognized environmental conditions ("CRECs") that may exist at a property. The term "recognized environmental conditions" means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property:

1. Due to any release to the environment;
2. Under conditions indicative of a release to the environment; or
3. Under conditions that pose a material threat of a future release to the environment.

ASTM defines a "HREC" as a REC that has occurred in connection with a property but has been addressed to the satisfaction of the applicable regulatory authority and meets current unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a HREC, the environmental professional (EP) must determine whether the past release is a REC when the current Phase I ESA is conducted (e.g., if there has been a change in the regulations). If the EP considers the past release to be a REC at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a REC.

ASTM defines a "CREC" as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), but with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., property use restrictions, activity and use limitations, institutional controls, or engineering controls).

As defined by ASTM, RECs can include hazardous substances or petroleum products present under conditions in compliance with laws if that presence represents a material threat of future release. The presence of hazardous substances or petroleum products is, however, not a REC if that presence is a *de minimis* condition. De minimis conditions are minor occurrences of contamination that generally do not present a material risk to human health and would not likely be subject to enforcement action if brought to the attention of governmental agencies.



The scope of work conducted during this Phase I ESA consisted of a visual reconnaissance of the Property, interviews with key individuals, and review of reasonably ascertainable documents. The scope of work did not include an assessment for environmental regulatory compliance of any facility ever operated at the Property (past or present), or sampling and analyzing of environmental media. Stantec was not contracted to perform an independent evaluation of the purchase or lease price of the Property and its relationship to current fair market value. The conclusions presented in this Phase I ESA report are professional opinions based on data described herein. The opinions are subject to the limitations described in Section 2.3.

ASTM E1527-13 notes that the availability of record information varies from source to source. The User or Environmental Professional is not obligated to identify, obtain, or review every possible source that might exist with respect to a property. Instead, ASTM identifies record information that is reasonably ascertainable from standard sources. “Reasonably ascertainable” means:

1. Information that is publicly available;
2. Information that is obtainable from its source within reasonable time and cost constraints; and
3. Information that is practicably reviewable.

2.1 PROPERTY DESCRIPTION

The Property consists of three parcels totaling approximately 1.47 acres of land developed with three residential structures. Two of the residential structures were occupied and one residential structure was boarded up. No interior access was provided during the site reconnaissance. The majority of the western portion of the Property is consists of overgrown weeds. Surrounding properties consist of residential and an elementary school. A Property location map is illustrated on Figure 1. A Property map illustrating the main features of the Property is provided as Figure 2. Photographs taken during the site reconnaissance visit are provided in Appendix A.

The Assessor Parcel Numbers (APNs) associated with the Property are 5288-004-054; 5288-003-046; and 5288-003-047.

2.2 SPECIAL TERMS, CONDITIONS, AND SIGNIFICANT ASSUMPTIONS

There were no special terms, conditions, or significant assumptions associated with this Phase I ESA.

2.3 EXCEPTIONS AND LIMITING CONDITIONS

This report documents work that was performed in accordance with the MSA. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report.

This report provides an evaluation of specified environmental conditions associated with the identified property that was assessed at the time the work was conducted and is based on information obtained by and/or provided to Stantec at that time. 40 CFR 312.20(f)(2) requires that the Environmental Professional

evaluate the thoroughness and reliability of provided information. Stantec can neither warrant nor guarantee such thoroughness or reliability, however.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the preparation of this report, and are based solely on the scope of work described in the report, the limited data available and the results of the work. They are not a certification of the property's environmental condition.

Project Specific limiting conditions are provided in Section 2.2.

The conclusions are based on the site conditions encountered by Stantec at the time of the work. Accordingly, additional studies and actions may be required. The identification of non-environmental risks to structures or people on the Property is beyond the scope of this assessment.

Stantec specifically disclaims any responsibility to update the conclusions in this report if new or different information later becomes available or if the conditions or activities on the property subsequently change.

2.4 PERSONNEL QUALIFICATIONS

This Phase I ESA was conducted by, or under the supervision of, an individual that meets the ASTM definition of an Environmental Professional (EP). The credentials of the EP and other key Stantec personnel involved in conducting this Phase I ESA are provided in Appendix B.

3.0 USER-PROVIDED INFORMATION

ASTM E1527-13 describes responsibilities of the User to complete certain tasks in connection with the performance of "All Appropriate Inquiries" into the Property. The ASTM standard requires that the Environmental Professional request information from the User on the results of those tasks because that information can assist in the identification of RECs, CRECs, HRECs, or *de minimis* conditions in connection with the Property. To accomplish that, Stantec requested that the User provide the following documents and information:

Description of Information	Provided (Yes / No)	Description and/or Key Findings
User Questionnaire and/or Interview	Yes	The user is not aware of any environmental concerns associated with the Property. The Property Owner is Trio Top Real Estate.
Environmental Liens or Activity Use Limitations	N/A	No environmental liens and/or activity use limitations were identified in the Preliminary Title Report dated November 7, 2018. A copy of the Preliminary Title Report is provided in Appendix C.
Previous Environmental Permits or Reports Provided by User	No	The user reportedly does not possess any of these documents.
Purpose of the Phase I ESA	Yes	Due Diligence

Stantec requested information relevant to performance of this Phase I ESA with a written questionnaire submitted to the user of this report. A copy of the Users Questionnaire completed by Mr. Steve Armanino, Director of Development for The Olson Company, and is provided in Appendix C. The significant information provided by Mr. Armanino is summarized below.

1. Information on Environmental Cleanup Liens on the Property? – The Client is not aware of any environmental cleanup liens on the Property.

2. Information on Property Activity or Use Limitations (including Institutional and Engineering Controls)? – The Client is not aware of any activity and land use limitations on the Property.

3. Specialized knowledge or experience of the User: - The Client provided no information indicating any specialized knowledge or experience.

4. Commonly known or reasonably ascertainable information about the Property? – Mr. Armanino is aware the Property was formerly used for residential/agricultural use

5. The degree of obviousness or the presence or likely presence of contamination at the Property, and the ability to detect the contamination by appropriate investigation? -The Client provided no information indicating any obvious or likely present contamination.

3.1 SPECIALIZED KNOWLEDGE OR EXPERIENCE

The Federal AAI rule (40 CFR §312.28) and ASTM E1527-13 require that all appropriate inquiry must take into account relevant and applicable specialized knowledge and experience on the part of the User regarding the Property, the area surrounding the Property, the conditions of adjoining properties, and any other experience relevant to identifying RECs on the Property.

Mr. Armanino is aware the Property was formerly used for residential/agricultural use. Mr. Armanino has no other knowledge or experience related to the Property or nearby properties.

3.2 PURCHASE PRICE VS. PROPERTY VALUE

The Federal AAI rule (40 CFR §312.29) and ASTM E1527-13 require that persons seeking defense to or protection from liability under CERCLA must take into account the relationship of the purchase price to the fair market value of the Property if it were not contaminated to assess whether or not the differential is due to the presence of releases or threatened releases of hazardous substances. This portion of the inquiry is the responsibility of the User, and the User has the option of sharing or not sharing this information with the Environmental Professional performing the Phase I ESA.

Stantec has not performed an independent evaluation of the purchase price of the Property and its relationship to fair market value. Stantec submitted a written questionnaire to the User inquiring about the User's knowledge regarding the relationship of the purchase price to the fair market value of the property if it were not contaminated.

Mr. Armanino believes the purchase price being paid for the Property reasonably reflects the fair market value.

4.0 RECORDS REVIEW

The objective of consulting historical sources of information is to develop the history of the Property and surrounding area and evaluate if past uses may have resulted in RECs. Physical setting records are evaluated to determine if the physical setting may have contributed to adverse environmental conditions in connection with the Property. During the review of historical records, Stantec attempted to identify uses of the Property from the present to the first developed use of the Property. Stantec's research included the reasonably ascertainable and useful records described in this section.

4.1 PHYSICAL SETTING

A summary of the physical setting of the Property is provided in the table below with additional details in the following subsections

Topography:	The Property is relatively flat at an elevation of approximately 273 feet above mean sea level (amsl) with a general topographic gradient to the south-southeast (EDR, 2019).
Soil/Bedrock Data:	The subsurface in the vicinity of the Property is described as silts, sand/silt mixtures, and poorly graded sand to approximately 60 feet below ground surface (bgs).
Estimated Depth to Groundwater/ Estimated Direction of Gradient:	Groundwater has been reported in the vicinity of the Property between 66 and 117 feet bgs with a general flow to the south.
NOTE: Site-specific groundwater flow direction and depth can only be determined by conducting site-specific testing, which Stantec has not conducted.	

4.1.1 Property Topography and Surface Water Flow

The Property is relatively flat at an elevation of approximately 273 feet above mean sea level (amsl) with a general topographic gradient to the south-southeast (EDR, 2019). Based on the topography, surface water on the Property infiltrates the ground surface or flows overland into the curb and gutter system along Willard Avenue. The Rubio Wash is located approximately 0.75-mile east of the Property.

4.1.2 Regional and Property Geology

The Property is located in Los Angeles County. The area is located within the Peninsular Ranges Geomorphic Province, which includes northwest-southeast trending mountain ranges and valleys that have been developed by the San Andreas Fault system (California Geological Survey [CGS], 2002). The stratigraphy underlying the vicinity of the Property consists primarily of recent-age alluvium (CDMG, 1965).

According to The Source Group, Inc's *Additional Site Assessment Report* dated July 14, 2006 for the ALLCO Materials Corporation located at 8650 E. Garvey Boulevard to the southeast, the subsurface in

the vicinity of the Property is described as silts, sand/silt mixtures, and poorly graded sand to approximately 60 feet below ground surface (bgs).

The closest mapped recently active fault is the Rio Hondo Fault located approximately 2 miles southeast (CGS, 2010). According to official maps of California, the Site is not located within an Alquist-Priolo (AP) Earthquake Fault Zone boundary but is within a liquefaction zone (CDMG, 2000).

4.1.3 Regional and Property Hydrogeology

The Property is located within the San Gabriel Valley Groundwater Basin. The basin is located within the eastern portion of Los Angeles County and includes most of San Gabriel Valley and part of the Santa Ana Valley. The basin is constrained by bedrock and faults on all sides. Several aquifers are present in the basin and water-bearing units consist of Holocene alluvium up to 4,100 feet in thickness and Pleistocene marine deposits up to 2,000 feet in thickness (Department of Water Resources [DWR], 2004).

According to The Source Group, Inc's *Additional Site Assessment Report* dated July 14, 2006 for the ALLCO Materials Corporation located at 8650 E. Garvey Boulevard to the southeast, groundwater has been reported in the vicinity of the Property between 66 and 117 feet bgs with a general flow to the south.

4.2 FEDERAL, STATE AND TRIBAL ENVIRONMENTAL RECORDS

A regulatory agency database search report was obtained from Environmental Data Resources, Inc. (EDR), a third-party environmental database search firm. A complete copy of the database search report, including the date the report was prepared, the date the information was last updated, and the definition of databases searched, is provided in Appendix D.

Stantec evaluated the information listed within the database relative to potential impact to the Property, assessing the potential for impacts based in part on the physical setting. As part of this process, inferences have been made regarding the likely groundwater flow direction at or near the Property. As described in 4.1.3, the inferred shallow groundwater flow direction is likely to be in the south direction. Observations about the Property and surrounding properties made during the Property reconnaissance are provided in more detail in Section 5.

4.2.1 Listings for Property

The Property was not identified in the environmental database report.

4.2.2 Listings for Nearby Sites with Potential to Impact Property

Stantec assessed data presented in the environmental agency database search report to evaluate the potential for conditions on adjacent and nearby sites to pose a REC, CREC, or HREC for the Property. The evaluation included an opinion of the potential for contamination by hazardous substances or petroleum products to migrate to the Property from a nearby property, including by vapor migration or encroachment (i.e., potential for a vapor encroachment condition [VEC].

Based on this evaluation, the following individual facilities were identified as the most likely potential sources of impact to the Property. The basis for why each of the following listed databases creates a REC for the property is also provided.

Listed Facility Name/Address	Database Listing	Distance/Direction from Property	REC? (YES / NO)
San Gabriel Valley (Area 1) Peck Road & Real El Monte, CA 91733	NPL; SEMS; US ENG CONTROLS; ROD; PRP; CONSENT; FINDS; ECHO; AOCONCERN	Approximately 292 feet / east-southeast	No
The San Gabriel Valley (Area 1) is a groundwater plume that runs along the axis of the Rio Hondo Wash and the Salt Pit Wash in the San Gabriel ground water basin. The plume also parallels the San Gabriel River to the east and is approximately 4 miles long and 1.5 miles wide. The groundwater is contaminated with trichloroethylene (TCE) and tetrachloroethylene (PCE). The groundwater plume edge is located approximately 300 feet to the east. Given the distance to the Property, the San Gabriel Valley (Area 1) plume does not represent an environmental concern to the Property and Stantec recommends no further investigation regarding this issue.			

The remaining listings in the database search report provided in Appendix D do not constitute a REC for the Property. Stantec recommends no further investigation regarding any of those listings.

4.3 LOCAL/REGIONAL ENVIRONMENTAL RECORDS

Stantec checked the following sources to obtain information pertaining to Property use and/or indications of RECs in connection with the Property:

4.3.1 Division of Oil, Gas, and Geothermal Resources, Division 1

Agency Name Contact Information	Finding
Division of Oil, Gas, and Geothermal Resources, Division 1, Department of Conservation 5816 Corporate Avenue, Suite 200 Cypress, CA 90630 Online database: http://www.conservation.ca.gov/ dog/Pages/WellFinder.aspx	Stantec searched for oil wells on the Division of Oil, Gas, and Geothermal Resources (DOGGR) online database. There are no oil wells on the Property. The nearest oil well is a plugged oil well located approximately 1,676 feet to the west.

4.3.2 Fire Department

Agency Name Contact Information	Finding
County of Los Angeles Fire Department Hazardous Materials Division 1320 N. Eastern Avenue Los Angeles, CA 90063 (323) 881-2411	Stantec submitted a records request for the Property addresses to the County of Los Angeles Fire Department Hazardous Materials Division. At the time of this report no response had been received. Should any pertinent information become available an addendum to this report will be issued. Based on its review of other sources, however, Stantec considers it unlikely that any records from this agency would alter the conclusions or recommendations of this report.

4.3.3 Department of Toxic Substances Control (DTSC)

Agency Name Contact Information	Finding
Department of Toxic Substances Control (DTSC) 5796 Corporate Ave., Cypress, CA 90630	Stantec researched the online database Envirostor managed by this agency (envirostor.dtsc.ca.gov). No records were found on the database website for the Property address or adjacent properties.

4.3.4 California Regional Water Quality Control Board (CRWQCB)

Agency Name, Contact Information	Findings
California State Water Resources Control Board, Los Angeles (RWQCB) 320 W 4th Street, Suite 200 Los Angeles, CA 90013 (213) 576-6600	Stantec researched the online database Geotracker managed by this agency (geotracker.waterbarods.ca.gov). No records were found on the database website for the Property address or adjacent properties.

4.3.6 Local Building and/or Planning Department Records

Agency Name, Contact Information	Findings
Los Angeles County Department of Building and Safety Online database: http://ladpw.org/bsd/content/	Stantec searched for available documents for the Property on the Department of Public Works online building permit viewer. No records were available.

4.3.7 Los Angeles County Department of Public Works

Agency Name Contact Information	Finding
Los Angeles County Department of Public Works (DPW) Environmental Programs Division UST Program 900 South Fremont Avenue, 3rd Floor Alhambra, California Tel: (626) 458-3517 http://ladpw.org/epd/CleanLA/OpenFileReview.aspx	According to an email dated January 2, 2019, from Mr. David Coscia, Program Manager II with the Los Angeles County Department of Public Works, there are no records for the Property. Stantec researched the online database managed by this agency (http://ladpw.org/epd/CleanLA/OpenFileReview.aspx). No records were found on the database website for the Property. Stantec also research the Solid Waste Management System database managed by this agency (https://dpw.lacounty.gov/epd/swims/OnlineServices/search-methane-hazards-esri.aspx) to determine if methane mitigation is required for the Property. According to this database, the Property is not within 300 feet of an oil or gas well or 1,000 feet of a methane producing site.

4.4 HISTORICAL RECORDS REVIEW

4.4.1 Land Title Records/Deeds

No environmental liens and/or activity use limitations were identified in the Preliminary Title Report dated November 7, 2018. No additional land title records, deeds, environmental liens, and activity and use limitation documentation were provided by the User. During the course of this Phase I Environmental Site Assessment, Stantec identified no evidence of any environmental liens or activity and use limitations associated with the Property.



4.4.2 Aerial Photographs

Stantec reviewed historical aerial photographs provided by EDR. The general type of activity on a property and land use changes can often be discerned from the type and layout of structures visible in the photographs. However, specific elements of a facility's operation usually cannot be discerned from aerial photographs alone. The following table summarizes Stantec's observations of the reviewed historical aerial photographs.

Year	Scale	Observations, Property and Adjoining Properties
1928	1=500'	The Property appears to be developed with one residential structure an orchards. Orchards appear on the adjacent properties.
1938 1948	1=500'	The Property has been cleared of orchards and appears to be developed with residential structures and barns. A utility easement appears adjacent to the west. Residential structures appear to the north and south. A school appears to the east beyond a road.
1952 1964	1=500'	The Property and surrounding area appear similar to the previous photograph. An increase in residential development appears throughout the surrounding area.
1972 1977 1981 1989	1=500'	The Property and surrounding area appear similar to the previous photograph. Vegetation appears in the utility easement adjacent to the west which may be associated with a nursery.
1994 2002 2005 2009 2012 2016	1=500'	The Property and surrounding area appear similar to the previous aerial photographs. However, the large trees in the western portion of the Property have reduced visibility of the area.

Name of aerial photograph source: EDR, 2019

4.4.3 City Directories

Stantec retained a third party (EDR) to research available reverse city directories for the Property, in approximately five-year intervals. The following is a summary of Stantec's review of the city directory listings:

Subject/Adjoining Property	Year	Listed Occupants
Property Address – 3133 Willard Avenue	1957 to 2006	Various residential listings
Property Address – 3141 Willard Avenue	1960 to 2006	Various residential listings

Subject/Adjoining Property	Year	Listed Occupants
Property Address – 3149 Willard Avenue	1960 to 2006	Various residential listings
Adjoining N – Various	--	Residential
Adjoining S – Various	--	Residential

Name of city directories and source: EDR, 2019

4.4.4 Historical Fire Insurance Maps

Fire insurance maps were developed for use by insurance companies to depict facilities, properties, and their uses for many locations throughout the United States. These maps provide information on the history of prior land use and are useful in assessing whether there may be potential environmental contamination on or near the Property. These maps, which have been periodically updated since the late 19th century, often provide valuable insight into historical Property uses.

Stantec requested fire insurance maps from EDR; however, no coverage exists for the Property. The Sanborn® Map Search Report indicating "no coverage" is presented in Appendix E.

4.4.5 Historical Topographic Maps

Stantec reviewed historical USGS 7.5-minute Topographic Maps of the El Monte, California Quadrangle (scale 1:24,000) to help identify past Property usage and areas of potential environmental concern.

Stantec identified no RECs in connection with our review of the topographic maps. Copies of the historical maps are provided in Appendix E. The following table summarizes the maps reviewed and our observations.

Year	Scale	Observations, Property and Adjoining Properties
1894 1896 1900	1:62,500	No structures or indicators of potential RECs were depicted on the map.
1923/1924 1926	1:24,000	Small structures appear on the Property. An Edison easement appears adjacent to the west. A road appears adjacent to the east.
1948	1:24,000	No structures or indicators of potential RECs were depicted on the map. Frances E Willard School appears adjacent to the east..
1953 1966 1972 1981 1991 1994	1:24,000	No structures or indicators of potential RECs were depicted on the map. The Property and surrounding area are depicted as urban land.
2012	1:24,000	No details are depicted on the map. Roads appear is the current

Year	Scale	Observations, Property and Adjoining Properties
		configuration.

Name of maps and source: EDR, 2019

4.4.6 Other Historical Sources

No other historical sources were researched.

5.0 SITE RECONNAISSANCE

A visit to the Property and its vicinity was conducted by Ms. Alicia Jansen, Associate Scientist with Stantec, on January 3, 2019. Access to the Property was provided by Ms. Doris Nguyen with The Olson Company. Stantec was accompanied by Ms. Nguyen during the Property visit. Figure 2 provides information about the Property and adjoining properties and the location of potential areas of environmental concern. Photographs collected during the Property visit are included in Appendix A.

5.1 SITE RECONNAISSANCE METHODOLOGY

The site reconnaissance focused on observation of current conditions and observable indications of past uses and conditions of the Property that may indicate the presence of RECs. The reconnaissance of the Property was conducted on foot and Stantec utilized the following methodology to observe the Property:

- Traverse the outer Property boundary.
- Traverse transects across the Property.

Weather conditions during the visit to the Property were clear and sunny. There were no weather-related Property access restrictions encountered during the reconnaissance visit. Two of the residential structures were occupied and one of the residential structures was boarded-up; therefore, no interior observations were made during the site reconnaissance.

5.2 GENERAL DESCRIPTION

Property and Area Description:	The Property is located north of the intersection of Willard Avenue and Garvey in the city of Rosemead, County of Los Angeles, California. The surrounding area consists of residential properties and an elementary school.
Property Operations.	The Property consists of three residential structures and their associated land.
Structures, Roads, Other Improvements:	There were three residential structures (two occupied and one boarded up). The majority of the western portion of the Property consists of overgrown weeds. Two concrete foundations for former structures were observed associated with the western portion of 3414 Willard Avenue.
Property Size (acres):	1.47 acres
Estimated % of Property Covered by Buildings and/or Pavement:	30%
Observed Current Property Use/Operations:	Residential
Observed Evidence of Past Property Use(s):	None

Sewage Disposal Method (and age):	City of Rosemead
Potable Water Source:	City of Rosemead
Electric Utility:	Southern California Edison

5.3 HAZARDOUS SUBSTANCES AND PETROLEUM PRODUCTS

The following table summarizes Stantec's observations during the Property reconnaissance.

Observations	Description/Location
Hazardous Substances and Petroleum Products as Defined by CERCLA 42 U.S.C. § 9601(14):	None observed.
Drums (≥ 5 gallons):	None observed.
Strong, Pungent, or Noxious Odors:	None detected.
Pools of Liquid:	None observed.
Unidentified Substance Containers:	None observed.
PCB-Containing Equipment:	None observed.
Other Observed Evidence of Hazardous Substances or Petroleum Products:	None observed.

5.4 INTERIOR OBSERVATIONS

Two of the residential structures were occupied and one residential structure was boarded up; therefore, no interior access was provided during the site reconnaissance.

5.5 EXTERIOR OBSERVATIONS

Stantec made the following observations during the site reconnaissance of exterior areas of the Property and/or identified the following information during the interview or records review portions of the assessment:

Observations	Description
On-site Pits, Ponds, or Lagoons:	None observed.
Stained Soil or Pavement:	None observed.
Stressed Vegetation:	The majority of the western portion of the Property consists of overgrown weeds.
Waste Streams and Waste Collection Areas:	Miscellaneous household debris was observed scattered in the western portion of the Property.
Solid Waste Disposal:	None observed.

Observations	Description
Potential Areas of Fill Placement:	None observed.
Wastewater:	None observed.
Stormwater:	Surface water on the Property infiltrates the ground surface or flows overland into the curb and gutter system along Willard Avenue.
Wells:	None observed.
Septic Systems:	None observed.
Other Exterior Observations:	None observed.

5.6 UNDERGROUND STORAGE TANKS/STRUCTURES

Existing USTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface patches), which would indicate the presence of USTs, was discovered during the site reconnaissance.
Former USTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface patches), reports, or other evidence of the former presence of USTs was discovered during this Phase I ESA.
Other Underground Structures:	None observed.

5.7 ABOVEGROUND STORAGE TANKS

Existing ASTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface stains), which would indicate the presence of ASTs, was discovered during the site reconnaissance.
Former ASTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface stains), reports, or other evidence of the former presence of ASTs was discovered during this Phase I ESA.

5.8 ADJOINING PROPERTIES

5.8.1 Current Uses of Adjoining Properties

As viewed from the Property and/or from public rights-of-way, Stantec made the following observations about use and activities on adjoining properties:

NORTH	Residential structures.
EAST	Willard Avenue beyond which is an Elementary School.
SOUTH	Residential structures.
WEST	Utility easement and nursery.

5.8.2 Observed Evidence of Past Uses of Adjoining Properties

Observations of adjoining properties providing indications of past use and activities, if any, are described below.

NORTH	None observed.
EAST	None observed.
SOUTH	None observed.
WEST	None observed.

5.8.3 Pits, Ponds or Lagoons on Adjoining Properties

As viewed from the Property and/or from public rights-of-way, Stantec made the following observations about the presence of pits, ponds and lagoons on adjoining properties:

NORTH	None observed.
EAST	None observed.
SOUTH	None observed.
WEST	None observed.

5.9 OBSERVED PHYSICAL SETTING

Topography of the Property and Surrounding Area:	The Property and surrounding area are relatively flat.

6.0 POTENTIAL FOR VAPOR ENCROACHMENT

Additionally, consideration of the migration of hazardous substances and petroleum products in all phases including solid, liquid, or vapor is required by the ASTM E1527-13 standard. As stated in Section 2.1 of ASTM E1527-13:

Vapor migration must be considered no differently than contaminated groundwater migration in the Phase I investigation. While E2600-10 provides and industry consensus methodology to assess vapor migration, use of E2600-10 methodology is not required to achieve compliance with AAI – an EP may use alternative methodology as deemed appropriate, but this must be documented in the Phase I report (i.e., it must be "capable of being reconstructed by an EP other than the EP responsible for the Phase I").

As presented below, analysis of the potential for onsite or offsite releases to have affected the Site via migration through soil, groundwater or soil vapor was performed with consideration given to media affected, distance from the Site, remedial actions taken, type of contaminants, subsurface conditions, and location of the source relative to groundwater gradient.

Based on the site inspection, review of adjacent properties, and available environmental records, the likelihood for vapor intrusion at the Property is considered low based on the following:

- No releases are reported for adjacent sites or sites within a quarter mile up-gradient relative to groundwater flow;
- Depth to groundwater is estimated to be greater than 50 feet bgs;
- Listings for neighboring sites indicate use of hazardous materials that do not pose a vapor intrusion threat, i.e. pesticides and ACM;
- No indication of manufacturing operations or use of hazardous materials was identified for neighboring properties;
- No evidence of potential operations that would impact soil vapor was identified for the Property; and
- Although evidence of agricultural use was identified, pesticides and associated chemicals do not pose a vapor intrusion risk.

Therefore, Stantec recommends no investigation of soil vapor at the Property.

7.0 SHALLOW SOIL SAMPLING

Stantec's interpretation of historical aerial photographs shows the Property as agricultural land (*i.e.*, walnut trees) prior to circa 1930. Historic agricultural use can be a potential concern due to the possible use of pesticides and herbicides containing heavy metals. Accordingly, Stantec recommended collection of soil samples for chemical analysis to determine if pesticides or metals associated with herbicides were present at levels of concern to residential development.

Stantec collected shallow soil samples to determine whether pesticides or heavy metals associated with herbicides were present at concentrations of concern in the shallow soils. Stantec personnel advanced four (4) borings at the Property using a hand auger on May 8, 2019. Soil samples were collected from each soil boring at a depth of 0.5-1 foot below ground surface (bgs). Each soil sample was submitted for analysis of organochlorine pesticides by EPA Method 8081A and arsenic and lead by EPA Method 6010B.

The results of the analysis of the soil samples reported minor detections of the following organochlorine pesticides at concentrations below their corresponding United States Regional Screening Levels (US EPA RSLs) for residential sites: 4,4'-DDD; 4,4'-DDE; 4,4'-DDT; alpha-Chlordane; Chlordane; and gamma-Chlordane. Additionally, the cumulative total for each shallow soil sample location is below the California Hazardous Waste Level. Therefore, the residual organochlorine pesticide concentrations are not considered an environmental concern to the Property.

Arsenic was also reported in all four samples ranging from 1.7 to 2.0 milligrams per kilogram (mg/kg). While these samples are above the US EPA RSLs for residential sites of 0.68 mg/kg, they are all well within the typical naturally-occurring background levels for California which range between 0.6 and 11.0 mg/kg. Lead was also detected in all of the four samples collected at concentrations ranging from 14 to 65.0 mg/kg. These detections are below the US EPA RSLs for residential sites of 80 mg/kg. Therefore, the metals associated with herbicide use are not considered an environmental concern to the Property. Certified analytical reports with chain of custody documentation are provided in Appendix F.

Based on the above results, Stantec concludes that the historical agricultural use of the Property does not represent a REC or a human health risk in light of the contemplated residential use of the Property and recommends no further investigation regarding this issue.

8.0 EVALUATION

This section provides a summary overview of or Findings, Opinions, and Conclusions.

8.1 FINDINGS AND OPINIONS

Information gathered from interviews, reviews of existing data, and a property inspection was evaluated to determine if RECs are present in connection with the Property. Based on this information, Stantec made the following findings and developed the following opinions.

- Stantec's interpretation of historical aerial photographs shows the Property as agricultural land (*i.e.*, walnut trees) prior to circa 1930. Historic agricultural use can be a potential concern due to the possible use of pesticides and herbicides containing heavy metals.

  To evaluate the concern, soil samples were collected at four locations at a depth of 0.5-1 foot bgs and submitted for analysis of organochlorine pesticides by EPA Method 8081A and total arsenic and lead by EPA Method 6010B. The results of the analysis of the soil samples reported minor detections of the following organochlorine pesticides at concentrations below their corresponding United States Regional Screening Levels (US EPA RSLs) for residential sites: 4,4'-DDD; 4,4'-DDE; 4,4'-DDT; alpha-Chlordane; Chlordane; and gamma-Chlordane. Additionally, the cumulative total for each shallow soil sample location is below the California Hazardous Waste Level. Therefore, the residual organochlorine pesticide concentrations are not considered an environmental concern to the Property.

  Arsenic was also reported in all four samples ranging from 1.7 to 2.0 milligrams per kilogram (mg/kg). While these samples are above the US EPA RSLs for residential sites of 0.68 mg/kg, they are all within the typical background levels for California which is between 0.6 and 11.0 mg/kg. Lead was also detected in all of the four samples collected at concentrations ranging from 14 to 65.0 mg/kg. These detections are below the US EPA RSLs for residential sites of 80 mg/kg. Therefore, the metals associated with herbicide use are not considered an environmental concern to the Property.

  Based on the above results, Stantec concludes that the historical agricultural use of the Property does not represent a recognized environmental condition or a human health risk in light of the contemplated residential use of the Property.

- An environmental records search was performed and identified sites within their respective ASTM E 1527-13 search radii of the Property that may represent RECs, HRECs, or de minimis conditions.

  Based on one or more of the following reasons: distance from the Property, position of sites with respect to assumed groundwater flow direction, the native soils, and regulatory status, none of the sites identified in the in the environmental records search report are expected to affect soil or groundwater quality at the Property. The environmental records search identified no RECs, HRECs or de minimis conditions at or near the Property.



8.2 DATA GAPS

The federal AAI final rule [40 CFR 312.10(a)] and ASTM E1527-13 identify a "data gap" as the lack or inability to obtain information required by the standards and practices of the rule despite good faith efforts by the Environmental Professional or the User.

Any data gaps resulting from the Phase I ESA described in this report are listed and discussed below.

Gap	Discussion
Deletions or Exceptions from Scope of Work Referenced in Section 1.4:	None
Weather-Related Restrictions to Site Reconnaissance:	None
Facility Access Restrictions to Site Reconnaissance:	Given the Property consists of occupied residential structures and a boarded-up residential structure no interior access was provided. However, given the use of the buildings and historical documents available the lack of interior reconnaissance is not considered a significant data gap and is unlikely to impact the findings of this report.
Other Site Reconnaissance Restrictions:	None
Data Gaps from Environmental Records Review:	Land title records, deeds, environmental liens, and activity and use limitation documentation was not provided by the User, and public records were not searched by Stantec.
Data Gaps from Historical Records Review:	None
Data Gaps from Interviews:	No on-site interview was conducted during the site reconnaissance. However, given the use of the buildings and historical documents available the lack of an interview is not considered a significant data gap and is unlikely to impact the findings of this report.
Other Data Gaps:	None

8.3 CONCLUSIONS

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527 of 3133, 3141, and 3149 Willard Avenue, City of Rosemead, County of Los Angeles, California, or the "Property". Any exceptions to, or deletions from, this practice are described in the Data Gaps section of this report. This assessment has revealed no evidence of recognized environmental conditions (RECs) in connection with the Property. No further action appears warranted at this time.

Stantec identified the following non-ASTM issues with the Property:

- **ACM and LBP.** Given the age of the existing buildings on the Property (circa 1938), the presence of lead-based paint (LBP) and asbestos containing materials (ACMs) is considered likely. Stantec recommends conducting a comprehensive, pre-demolition LBP and ACM survey in accordance with the sampling protocol of the Asbestos Hazard Emergency Response Act (AHERA) prior to any activities with the potential to disturb building materials to determine whether ACM are present. Further, in the event ACM is detected, Stantec recommends proper removal and disposal of the materials identified prior to any activities with the potential to disturb them. In addition, all LBP should be removed and disposed of, in accordance with all applicable laws, including OSHA guidelines.

9.0 NON-SCOPE CONSIDERATIONS

The following ASTM E1527-13 non-scope services were performed as part of this Phase I ESA:

9.1 LEAD-BASED PAINT

Concern for lead-based paint (LBP) is primarily related to residential structures. The EPA's Final Rule on Disclosure of Lead-Based Paint in Housing (40 CFR Part 745) defines LBP as paint or other surface coatings that contain lead equal to or in excess of 1.0 milligram per square centimeter or 0.5 percent by weight.

The risk of lead toxicity in LBP varies based upon the condition of the paint and the year of its application. The U.S. Department of Housing and Urban Development (HUD) has identified the following risk factors:

- The age of the dwelling as follows: maximum risk is from paint applied before 1950.
- There is severe risk from paint applied before 1960.
- There is moderate risk from deteriorated paint applied before 1970.
- There is slight risk from the paint that is intact but applied before 1977.
- The condition of the painted surfaces.
- The presence of children and certain types of households in the building.
- Previously reported cases of lead poisoning in the building or area.

Construction Date	Residential (Yes/No)	Observed Condition of Painted Surfaces
Variable	No	Given the residential structures were constructed in circa 1938, the presence of LBP is considered possible. An LBP survey should be performed and all LBP should be abated in accordance with all applicable laws, including OSHA guidelines.

9.2 ASBESTOS

Asbestos can be found in many applications, including sprayed-on or blanket-type insulation, pipe wraps, mastics, floor and ceiling tiles, wallboard, mortar, roofing materials, and a variety of other materials commonly used in construction. The greatest asbestos-related human health risks are associated with friable asbestos, which is ACM that can be reduced to powder by hand pressure. Friable asbestos can become airborne and inhaled, which has been associated with specific types of respiratory disease. The manufacturing and use of asbestos in most building products was curtailed during the late 1970s.

Stantec makes no warranty as to the possible existence or absence of inaccessible materials or to their evaluation with respect to asbestos content. Samples of suspect ACM should be collected for laboratory analysis of asbestos prior to any renovation or building demolition to be compliant with, EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations.

Given the age of the existing buildings on the Property (circa 1938), the presence of ACMs is considered possible. Stantec recommends conducting a comprehensive, pre-demolition ACM survey in accordance with the sampling protocol of the Asbestos Hazard Emergency Response Act (AHERA) prior to any activities with the potential to disturb building materials to determine whether ACM are present. Further, in the event ACM is detected, Stantec recommends proper removal and disposal of the materials identified prior to any activities with the potential to disturb them.

9.3 RADON

Radon is a colorless, tasteless radioactive gas with an EPA-specified action level of 4.0 PicoCuries per liter of air (pCi/L) for residential properties. Radon gas has a very short half-life of 3.8 days. The health risk potential of radon is primarily associated with its rate of accumulation within confined areas near or in the ground, such as basements, where vapors can readily transfer to indoor air from the ground through foundation cracks or other pathways. Large, adequately ventilated rooms generally present limited risk for radon exposure. The radon concentrations in buildings and homes depend on many factors, including soil types, temperature, barometric pressure, and building construction (EPA, 1993).

Stantec reviewed regional data published by the EPA on average indoor radon concentrations in the vicinity of the Property (http://www.epa.gov/radon/zonemap.html).

EPA Radon Zones (w/Average Measured Indoor Radon concentrations)		
Zone 1 – High (>4.0 pCi/L)	Zone 2 – Moderate (2 to 4 pCi/L)	Zone 3 – Low (<2 pCi/L)
Normally-occupied sub grade areas present? (i.e., basement apartments, offices, stores, etc.)		
None.		

The Property is located in Zone 2 and is considered to have medium potential for radon. Two of the 11 tests from zip code 91770 (the zip code of the Property) were above 4 pCi/L. To determine Property-specific radon levels, a radon survey would have to be conducted. However, based on the average first floor reading of 0.711 pCi/L for Los Angeles County, radon appears to be unlikely to represent an environmental concern to the Property and Stantec recommends no further investigation regarding this issue.

9.4 FLOOD ZONES

According to the Physical Setting summary portion of the EDR report, the Property is not located within a 500-year or 100-year flood plain. The Rubio Wash is located approximately 0.75-mile east of the Property.

10.0 REFERENCES

American Society for Testing and Materials, 2015, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions, Designation E 2600-15.

American Society for Testing and Materials, 2013, Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process, Designation: E 1527-13.

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____, Division of Oil, Gas, and Geothermal Resources Well Finder database, 2019, website https://maps.conservation.ca.gov/doggr/wellfinder/

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California Geological Survey (CGS), 2002, California Geomorphic Provinces, Note 36.

_____, 2010a, Fault Activity Map of California, adjustable scale, http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html.

_____, 2010b, Alquist-Priolo Earthquake Fault Zones of California, http://www.quake.ca.gov/gmaps/ap/ap_maps.htm.

Department of Water Resources (DWR), 2004, Groundwater Bulletin 118, updated February 27.

Environmental Data Resources, Inc. (EDR), EDR Radius Map with Geocheck, Inquiry Number 5524126.2s, dated January 2, 2019.

_____, Certified Sanborn Map Report, Inquiry Number5524126.3, dated January 2, 2019.

_____, Historical Topographic Map Report, Inquiry Number5524126.4, dated January 2, 2019.

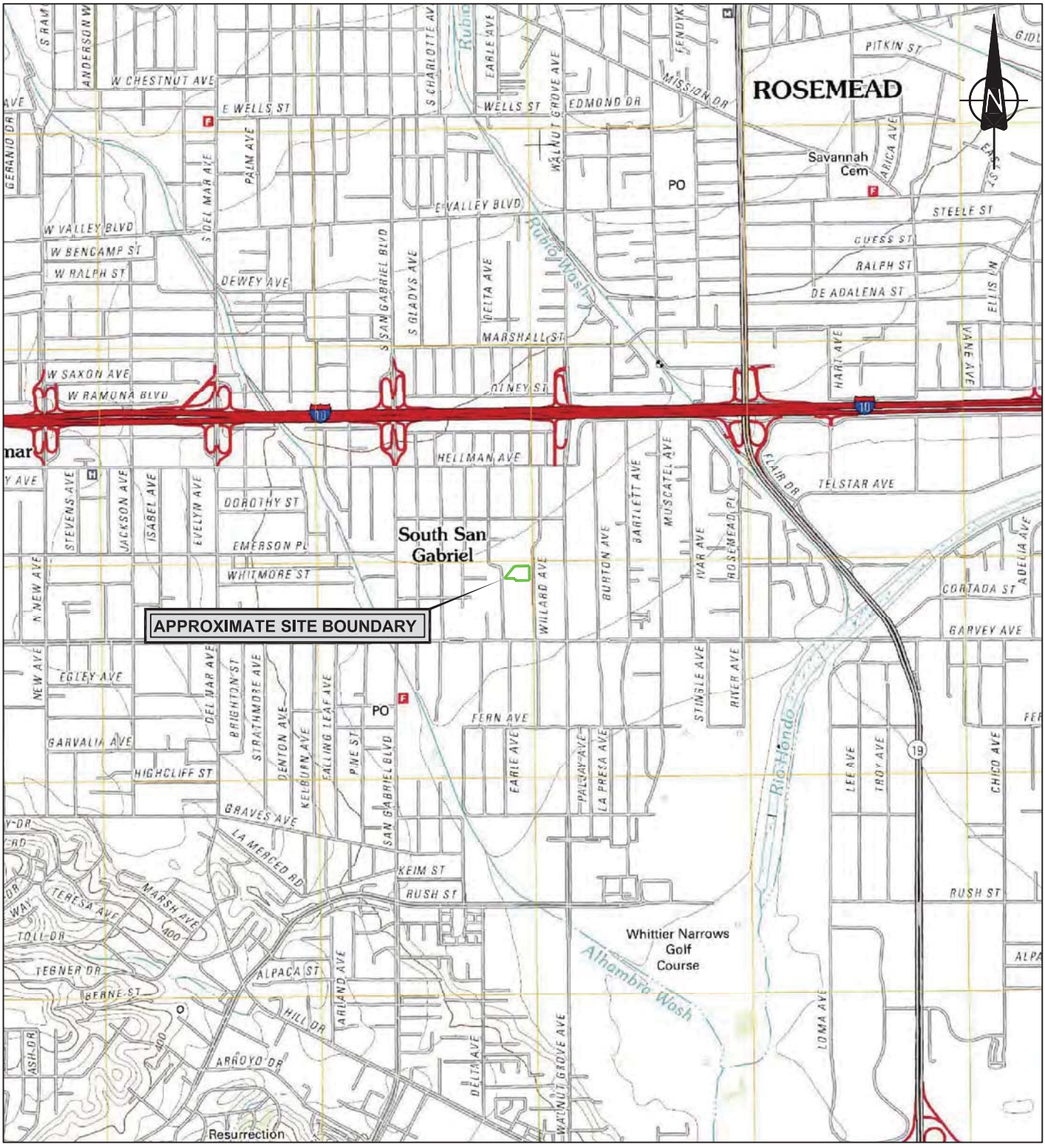
_____, Aerial Photo Decade Package, Inquiry Number5524126.5, dated January 2, 2019

_____, City Directory Abstract, Inquiry Number5524126.6, dated January 2, 2019.

State Water Resource Control Board's Geotracker, 2019, website https://geotracker.waterboards.ca.gov/

United States Geological Survey (USGS), 1966, El Monte Quadrangle, 7.5 Minute Topographic Map, Scale 1 inch = 2,000 feet, photo revised 1994.

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

3133, 3141, AND 3149 WILLARD AVENUE, ROSEMEAD, CA

Client: THE OLSON COMPANY

Project No.:	185804332
Scale:	AS SHOWN
Date:	19/04/20
Dwn. By:	CD VM SC2019040059
App'd By:	KE

Fig. No.: 1

Stantec

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Stantec Consulting Ltd. © 2019





0 50 100 150 FT

SCALE : AS SHOWN

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

PROPERTY DETAILS

PHASE I ESA

3133, 3141, AND 3149 WILLARD AVENUE, ROSEMEAD, CA

Client: THE OLSON COMPANY

Project No.:	185804332
Scale:	AS SHOWN
Date:	19/05/08
Dwn. By:	CD VM SC2019040060
App'd By:	KE

Fig. No.: 2

Stantec

APPENDICES

Appendix A Photographs of the Property and Vicinity

Photographs of the Property and Vicinity
Site Name: **3133, 3141, 3149 Willard Avenue, Rosemead, CA**
Photographer: **Alicia Jansen**
Date: **January 3, 2019**



Photo #1 View of the residential structure located at 3133 Willard Avenue (the Property).



Photo #2 View of the vacant boarded up residential structures located at 3141 Willard Avenue (the Property).



Photo #3 View of the occupied house located at 3149 Willard Avenue (the Property).



Photo #4 View of the RV and shed area associated with 3133 Willard Avenue.



Photo #5 View of the concrete foundation in the southern perimeter of the Property west of 3133 Willard Avenue.



Photo #6 View of the adjacent overhead power lines adjacent to the west.



Photo #7 View of Willard Elementary School located to the east beyond Willard Avenue.