



**Phase II Environmental Site
Assessment**

Northwest Corner of North Palm Avenue
and East Highland Avenue
San Bernardino, California 92408

August 27, 2021

Prepared for:

Warmington Residential
3090 Pullman Street
Costa Mesa, California 92626

Prepared by:

Stantec Consulting Services Inc.
735 E. Carnegie Drive, Suite 280
San Bernardino, California 92408

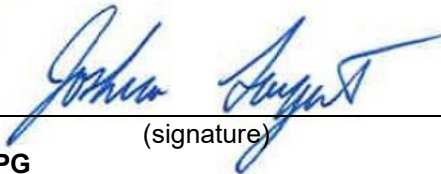
Stantec Project Number: 185805264



PHASE II ENVIRONMENTAL SITE ASSESSMENT

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Prepared by _____



(signature)

Joshua Sargent, PG
Associate Geologist



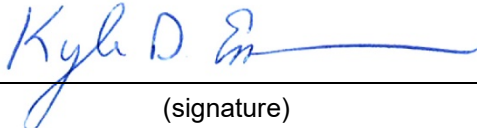
Reviewed by _____



(signature)

Alicia Jansen
Associate Scientist

Approved by _____



(signature)

Kyle Emerson, PG, CEG
Managing Principal Geologist

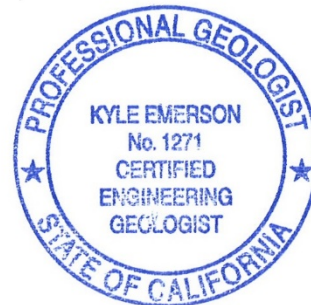


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Executive Summary

This report documents the methodology and results of a Phase II Environmental Site Assessment (ESA) completed by Stantec Consulting Services Inc. (Stantec) for the property located at the northwest corner of North Palm Avenue and East Highland Avenue, City of San Bernardino, County of San Bernardino, California (the “Site” or “Property”). This report was completed for the intended user Warmington Residential.

The Property consists of six (6) contiguous parcels totaling approximately 15.08 acres located at the northwest corner of East Highland Avenue and North Palm Avenue, San Bernardino. The Property Assessor Parcel Numbers (APNs) include 028-521-105, -112, -121-, 122-, 123, and -125. The Property is identified as 2298 North Palm Avenue and 2277 Orange Avenue, San Bernardino. The Property is largely vacant, with a single multi-family residential structure located in the western portion of the Property along Orange Street. Surrounding properties are a mixture of residential and commercial use, with a gasoline service station located adjacent to the southeast of the Property. A Property location map is illustrated on **Figure 1**. A Property map illustrating the main features of the Property is provided as **Figure 2**.

Stantec performed a Phase I ESA and identified the following recognized environmental conditions (REC) in connection with the Property:

- **Historical Agriculture:** The Property was used for agricultural activities (row cropping) from at least 1930 through the early 1970's. Application of pesticide and herbicide is considered likely to have occurred during this time period, potentially resulting in the accumulation of pesticides and metals common with herbicide application in shallow soils at the Property. Therefore, the former Property use as an orchard is considered a REC. Stantec recommends performing a shallow soil investigation on the Property.
- **Adjacent LUST Case:** A service station is located adjacent southeast of the Property. This facility is listed as a leaking underground storage tank (LUST) case, with a closure date of 1990. Limited information was available for review regarding this facility, but it appears the impacts were limited to soil (*i.e.* no groundwater impacts). However, it is unclear if soil vapor assessment has been conducted in connection with the historical release at this facility. Therefore, given the proximity of this facility to the Property, there is potential that soil vapor may encroach onto the Property from this facility. Therefore, this facility is considered a REC to the Property. Stantec recommends evaluating on-site soil vapor conditions near this facility.
- **Adjacent Car Wash:** A car wash facility, identified as Mr. Suds Carwash, has been located adjacent southwest of the Property since at least 2000. Oil-water separators, or clarifiers, are commonly used at these facilities to separate oil from water prior to discharge to the sanitary sewer. These units are known to leak, impacting soil and soil vapor conditions in the immediate area. Therefore, there is potential that soil vapor may encroach onto the Property from this facility. Therefore, this facility is considered a REC to the Property. Stantec recommends evaluating on-site soil vapor conditions near this facility.



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Stantec developed a Phase II ESA scope of work to address the identified REC.

Phase II ESA Investigation

On August 16-18, 2021, Stantec completed a Phase II ESA to evaluate possible impacts to soil at the Site related to previous on-Site operations and potential soil vapor impacts from off-site sources. The assessment activities included the advancement of twenty (20) soil borings and four (4) soil vapor borings. All field work was performed under the supervision of a State of California registered professional geologist. Soils encountered during this investigation consisted primarily of poorly graded sand with silt and gravel to a maximum explored depth of 3 feet bgs. All boring locations advanced during this investigation are depicted on **Figure 2**. Stantec believes the scope of work was sufficient for purposes of evaluating the historical agricultural use of the Site.

Soil Analytical Results

Soil analytical results were compared to the Department of Toxic Substances Control (DTSC) Human and Ecologic Risk Office (HERO) Note 3, dated June 2020. Further, arsenic was compared to the southern California ambient arsenic screening level presented in HERO Note 11, dated December, 2020. The laboratory analytical data reports are attached as **Appendix A**. Laboratory analytical soil sample test results from this assessment are summarized in the attached **Table 1**.

Arsenic was not detected above the laboratory reporting limit of 1.0 milligrams per kilogram (mg/kg) in any soil samples analyzed during this assessment (*i.e.* results were “non-detect” for arsenic). Lead was detected in soil samples up to 24 mg/kg. No detected lead concentrations exceeded the anticipated peak background level of 97.1 mg/kg, or the residential screening level of 80 mg/kg. Low concentrations of the organochlorine pesticides (OCPs) 4,4-Dichlorodiphenyldichloroethylene (DDE) and 4,4-Dichlorodiphenyltrichloroethane (DDT) were detected in soil samples collected during this investigation, but below their respective residential screening levels. Further, cumulative DDD, DDE, and DDT concentrations were well below the California hazardous waste criteria of 1.0 mg/kg.

Soil Vapor Analytical Results

Soil vapor sample analytical results were compared to the more conservative value between the DTSC HERO Note 3 screening level for residential air (DTSC, 2020) and the EPA Regional Screening Levels (RSL), Region 9 for residential ambient air (EPA, 2021) when applying a default attenuation factor of 0.001 (DTSC, 2011) or a default attenuation factor of 0.03, which is proposed in draft DTSC guidance (**Table 2**).

Various volatile organic compounds were detected in soil vapor samples collected proximate to the nearby carwash and service station facilities. A summary of those detected compounds is provided below.

- Acrolein: <1.0 – 3.6 ug/m³
- Benzene: <1.0 – 7.0 ug/m³



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- Carbon Disulfide: $<1.0 - 4.4 \text{ ug/m}^3$
- Methylene Chloride: $5.7 - 6.0 \text{ ug/m}^3$
- PCE: $2.3 - 3.7 \text{ ug/m}^3$
- TCE: $<1.0 - 1.5 \text{ ug/m}^3$
- Toluene: $<1.0 - 17 \text{ ug/m}^3$
- Various other VOCs below residential screening criteria

Conclusions

The detected concentrations of lead are within typical regional background levels and below applicable regulatory thresholds, and the results indicate no releases related to historical site operations. Further, trace concentrations of OCPs were detected above laboratory reporting limits, however at concentrations below residential screening criteria. Therefore, Stantec concludes that the historical agricultural use of the Site does not represent a Recognized Environmental Condition pursuant to ASTM E1527-13, and recommends no further investigation regarding this issue.

Various volatile organic compounds were detected in soil vapor samples collected proximate to the nearby carwash and service station facilities. Specifically, the VOCs acrolein and benzene were detected at concentrations exceeding their respective residential-use screening levels using an attenuation factor of 0.03. However, no compounds, including acrolein or benzene, were detected at concentrations exceeding residential screening levels using an attenuation factor of 0.001, currently used for risk evaluation by various regulatory agencies. Therefore, Stantec recommends no further investigation related to the off-site carwash and automotive service facilities.

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



PHASE II ENVIRONMENTAL SITE ASSESSMENT

Introduction

1.0 INTRODUCTION

This report documents the methodology and results of a Phase II Environmental Site Assessment (ESA) completed by Stantec Consulting Services Inc. (Stantec) for the property located at the northwest corner of North Palm Avenue and East Highland Avenue, City of San Bernardino, County of San Bernardino, California (the “Site” or “Property”). This report was completed for the intended user Warmington Residential. This scope of work was completed in accordance with the proposed entitled *Proposal to Conduct Phase II Environmental Site Assessment*, dated August 4, 2021 addressed to Warmington Residential.

1.1 SITE DESCRIPTION AND OPERATIONS

The Property consists of six (6) contiguous parcels totaling approximately 15.08 acres located at the northwest corner of East Highland Avenue and North Palm Avenue, San Bernardino. The Property Assessor Parcel Numbers (APNs) include 028-521-105, -112, -121-, 122-, 123, and -125. The Property is identified as 2298 North Palm Avenue and 2277 Orange Avenue, San Bernardino. The Property is largely vacant, with a single multi-family residential structure located in the western portion of the Property along Orange Street. Surrounding properties are a mixture of residential and commercial use, with a gasoline service station located adjacent to the southeast of the Property.

A Property location map is illustrated on **Figure 1**. A Property map illustrating the main features of the Property is provided as **Figure 2**.

1.2 SITE GEOLOGY AND HYDROGEOLOGY

The Property is located near the northern boundary of the Peninsular Ranges geomorphic province (California Geologic Survey [CGS], 2002). The Property is located within the San Bernardino Valley, which is bounded on the north by the San Bernardino Mountains and San Gabriel Mountains, on the south and east by the Badlands and Crafton Hills, and on the west by the San Jose Hills. The valley is underlain by several fault-bound structural blocks including the down-dropped San Bernardino Valley Block between the San Andreas and San Jacinto faults, in the area of the Property, and the down-dropped Perris Block between the Elsinore fault to the west, the Cucamonga fault to the north, and the San Jacinto fault to the east.

Quaternary-aged alluvial deposits are located in the area of the Property, and consist of gravels, sands, and silts sourced from the nearby San Bernardino Mountains. The thickness of alluvium within the San Bernardino Valley varies, increasing from 400 feet at the base of the San Bernardino Mountains to as much as 2,100 feet at the center of the valley in the vicinity of the Loma Linda and San Jacinto fault zone. The alluvial deposits in the Newmark and Muscoy areas consist mostly of sand, gravel, boulders, and



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Introduction

occasional discontinuous clay lenses. These clay lenses increase in thickness and number toward the south and the central portion of the basin.

The Property is located within the Bunker Hill Basin of the Santa Ana River watershed. Groundwater in the basin is recharged by streams and creeks that carry surface water from the nearby San Bernardino and San Gabriel Mountains, and from direct infiltration of precipitation into the surface alluvial deposits. Groundwater in the area occurs within the upper and lower alluvial sediments, and within the subjacent Pelona Schist bedrock northeast of the Property. Groundwater elevations fluctuate extensively due to municipal supply and pumping and heavy recharge from the nearby mountains.

Groundwater monitoring data published on the California Water Resources Control Board database website Geotracker (www.geotracker.waterboards.ca.gov) indicates that groundwater within the area of the subject property flows in a southeasterly direction within the sediment units. Groundwater is reported at depths ranging from 120 to over 250 feet below ground surface (bgs) in the vicinity of the Property (Geotracker, 2021). Observed historical fluctuations in local groundwater elevations are on the order of up to 220 feet. The sand and gravelly sands typically found in the area of the Property have excellent water-bearing and water-yielding characteristics.



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Background

2.0 BACKGROUND

Stantec performed a Phase I ESA and identified the following recognized environmental conditions (REC) in connection with the Property:

- **Historical Agriculture:** The Property was used for agricultural activities (row cropping) from at least 1930 through the early 1970's. Application of pesticide and herbicide is considered likely to have occurred during this time period, potentially resulting in the accumulation of pesticides and metals common with herbicide application in shallow soils at the Property. Therefore, the former Property use as an orchard is considered a REC. Stantec recommends performing a shallow soil investigation on the Property.
- **Adjacent LUST Case:** A service station is located adjacent southeast of the Property. This facility is listed as a leaking underground storage tank (LUST) case, with a closure date of 1990. Limited information was available for review regarding this facility, but it appears the impacts were limited to soil (*i.e.* no groundwater impacts). However, it is unclear if soil vapor assessment has been conducted in connection with the historical release at this facility. Therefore, given the proximity of this facility to the Property, there is potential that soil vapor may encroach onto the Property from this facility. Therefore, this facility is considered a REC to the Property. Stantec recommends evaluating on-site soil vapor conditions near this facility.
- **Adjacent Car Wash:** A car wash facility, identified as Mr. Suds Carwash, has been located adjacent southwest of the Property since at least 2000. Oil-water separators, or clarifiers, are commonly used at these facilities to separate oil from water prior to discharge to the sanitary sewer. These units are known to leak, impacting soil and soil vapor conditions in the immediate area. Therefore, there is potential that soil vapor may encroach onto the Property from this facility. Therefore, this facility is considered a REC to the Property. Stantec recommends evaluating on-site soil vapor conditions near this facility.

Stantec developed a Phase II ESA scope of work to address the identified REC.



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Field Investigation Program

3.0 FIELD INVESTIGATION PROGRAM

On August 16-18, 2021, Stantec completed a Phase II ESA to evaluate possible impacts to soil at the Site related to previous on-Site operations and potential soil vapor impacts from off-site sources. The assessment activities included the advancement of twenty (20) soil borings and four (4) soil vapor borings. All field work was performed under the supervision of a State of California registered professional geologist.

3.1 PRE-DRILLING ACTIVITIES

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

- Stantec visited the Property to mark the proposed boring locations. Subsequent to the marking, Stantec notified Underground Service Alert (USA) of Southern California at least 48-hours prior to the commencement of drilling activities.
- In accordance with federal Occupational Safety and Health Administration (OSHA) regulations (29 CFR, Section 1910.120), Stantec developed a 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.

3.2 FIELD INVESTIGATION

On August 16-18, 2021, Stantec supervised and directed the advancement of multiple borings at the Property (HA01 through HA20, and SV-1 through SV-4). All boring locations advanced during this investigation are depicted on **Figure 2**.

3.2.1 Soil Boring and Sampling Procedures

A hand auger was used for the method of drilling. Soil borings SB01 through SB14 were advanced to a final depth of approximately three feet below ground surface (bgs). Soil samples collected within this interval were discharged directly from the hand auger into laboratory-provided pre-cleaned eight-ounce glass jars outfitted with Teflon® -lined lids. All soil samples were labeled with the appropriate identifying information (boring location, depth, sample collection time, sample collection date), logged onto a chain-of-custody, and stored in an ice-filled cooler pending delivery to the analytical laboratory. The soils from each of the borings were visually examined by Stantec field personnel who classified the soils in accordance with the Unified Soil Classification System (USCS).

3.2.1.1 Field Equipment Cleaning Procedures

To maintain quality control during drilling operations, all soil sampling equipment was decontaminated using a triple bucket rinse. Prior to drilling at a given location or sampling interval, all equipment coming



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Field Investigation Program

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.

3.2.2 Soil Vapor Probe Installation and Sampling Procedures

3.2.2.1 Soil Vapor Probe Installation

At the completion of drilling to target depth of five (5) feet bgs, soil vapor points were installed at the 5-foot depth at borings SV1 through SV4. Subsurface soil vapor probe installation was performed in accordance with the July 2015 California Department of Toxic Substances Control (DTSC) "Advisory - Active Soil Gas Investigations" (DTSC Advisory).

Each sample probe was constructed with a 1-inch-long Airstone sampling screen set at the prescribed sampling intervals. Each of the sampling screens was constructed with a permeable Airstone vapor tip connected to ¼-inch outer diameter Nylaflow tubing that was lowered to the bottom of the borehole and backfilled with filter sand, until approximately 12-inches of filter pack was placed. A transition seal consisting of approximately 12-inches of dry bentonite was then placed above the filter pack, followed by an annular seal consisting of hydrated bentonite until the next sampling interval was reached. At the surface, the exposed nylon tubing was capped with tight fitting plastic endcaps and labeled to indicate sampling depth and covered with plastic sheeting to protect against rainfall events.

3.2.2.2 Soil Vapor Probe Sampling

Subsurface conditions were allowed to equilibrate for a period of at least 48-hours prior to sample collection on August 18, 2021. Soil vapor sampling was conducted by Jones Environmental, Inc. (Jones) under Stantec oversight. Subsurface soil vapor sampling was performed in accordance with the DTSC Advisory.

Prior to sample collection, a shut-in test was performed on the above-ground sampling train. The sample tubing was evacuated of air to a measured vacuum of approximately 100 inches of water column and the vacuum was sealed in with closed valves on opposite ends of the sampling train. A vacuum gauge connected to the line was observed for at least one minute for any signs of a loss in vacuum. If vacuum loss was identified during the shut-in test, the sampling technician inspected and adjusted the sampling train fittings until the shut-in test showed no vacuum loss.

As specified in the DTSC Advisory, a default purge of 3 volumes of the sampling system was performed prior to sample collection. This process included purging the sampling system (tubing, sample screen, and void space of sand pack and dry bentonite) using a flow rate of 200 milliliters per minute (mL/min) or less while maintaining a low vacuum of 100 inches of water or less. This purging was performed using a SKC sample pump calibrated to 200 mL/min.

Once purging activities were completed, the fittings were adjusted to connect the sampling tubing to the sample collection container. During soil vapor sampling, a leak check was performed a tracer compound.



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The tracer compound was applied to a clean rag and situated around the monitoring point to evaluate seal integrity. Seal integrity was confirmed by the absence of the tracer compound in the collected samples. All soil vapor samples were collected into individually-certified Summa Canisters. The samples were logged onto a chain-of-custody form with all sample details including collection date and time. All sampling equipment and the chain-of-custody form were submitted to an off-site laboratory for analysis. A copy of the chain-of-custody and sampling logs are included in the Jones laboratory data report provided in **Appendix A**.



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Laboratory Testing Program

4.0 LABORATORY TESTING PROGRAM

All soil samples collected during this investigation were delivered under chain of custody to Environmental Treatment & Technology Inc., dba Advanced Technology Laboratories (ATL), located in Signal Hill, California for potential analyses of arsenic and lead by United States Environmental Protection Agency (USEPA) method 6010B, and organochlorine pesticides (OCPs) by USEPA Method 8081A.

All soil vapor samples collected during this investigation were delivered under chain of custody to Jones Environmental Inc. (JEI) analyzed in Jones's fixed-base laboratory located in Santa Fe Springs, California for VOCs (including the leak check compounds Pentane, Hexane, and Heptane) by USEPA Method TO-15.

ATL and JEI are certified to perform hazardous waste testing by the State of California Department of Health Services, Environmental Laboratory Accreditation Program. Laboratory data sheets with quality assurance / quality control (QA/QC) documentation are attached as **Appendix A**.



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Investigation Results

5.0 INVESTIGATION RESULTS

5.1 FIELD OBSERVATIONS

Soils encountered during this investigation consisted primarily of poorly graded sand with silt and gravel to a maximum explored depth of five feet bgs. No staining or odors were observed in any soils encountered during this assessment.

5.2 ANALYTICAL RESULTS

5.2.1 Soil

Soil analytical results were compared to the Department of Toxic Substances Control (DTSC) Human and Ecologic Risk Office (HERO) Note 3, dated June 2020. Further, arsenic was compared to the southern California ambient arsenic screening level presented in HERO Note 11, dated December, 2020. The laboratory analytical data reports are attached as **Appendix A**. Laboratory analytical soil sample test results from this assessment are summarized in the attached **Table 1**.

Arsenic was not detected above the laboratory reporting limit of 1.0 milligrams per kilogram (mg/kg) in any soil samples analyzed during this assessment (*i.e.* results were “non-detect” for arsenic). Lead was detected in soil samples up to 24 mg/kg. No detected lead concentrations exceeded the anticipated peak background level of 97.1 mg/kg, or the residential screening level of 80 mg/kg. Low concentrations of the organochlorine pesticides (OCPs) 4,4-Dichlorodiphenyldichloroethylene (DDE) and 4,4-Dichlorodiphenyltrichloroethane (DDT) were detected in soil samples collected during this investigation, but below their respective residential screening levels. Further, cumulative DDD, DDE, and DDT concentrations were well below the California hazardous waste criteria of 1.0 mg/kg.

5.2.2 Soil Vapor

Soil vapor sample analytical results were compared to the more conservative value between the DTSC HERO Note 3 screening level for residential air (DTSC, 2020) and the EPA Regional Screening Levels (RSL), Region 9 for residential ambient air (EPA, 2021) when applying a default attenuation factor of 0.001 (DTSC, 2011) or a default attenuation factor of 0.03, which is proposed in draft DTSC guidance (**Table 2**).

Various volatile organic compounds were detected in soil vapor samples collected proximate to the nearby carwash and service station facilities. A summary of those detected compounds is provided below.

- Acrolein: <1.0 – 3.6 ug/m³
- Benzene: <1.0 – 7.0 ug/m³



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- Carbon Disulfide: $<1.0 - 4.4 \text{ ug/m}^3$
- Methylene Chloride: $5.7 - 6.0 \text{ ug/m}^3$
- PCE: $2.3 - 3.7 \text{ ug/m}^3$
- TCE: $<1.0 - 1.5 \text{ ug/m}^3$
- Toluene: $<1.0 - 17 \text{ ug/m}^3$
- Various other VOCs below residential screening criteria



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Conclusions and Recommendations

6.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions were made based on the Phase II ESA results:

The detected concentrations of lead are within typical regional background levels and below applicable regulatory thresholds, and the results indicate no releases related to historical site operations. Further, trace concentrations of OCPs were detected above laboratory reporting limits, however at concentrations below residential screening criteria. Therefore, Stantec concludes that the historical agricultural use of the Site does not represent a Recognized Environmental Condition pursuant to ASTM E1527-13, and recommends no further investigation regarding this issue.

Various volatile organic compounds were detected in soil vapor samples collected proximate to the nearby carwash and service station facilities. Specifically, the VOCs acrolein and benzene were detected at concentrations exceeding their respective residential-use screening levels using an attenuation factor of 0.03. However, no compounds, including acrolein or benzene, were detected at concentrations exceeding residential screening levels using an attenuation factor of 0.001, currently used for risk evaluation by various regulatory agencies. Therefore, Stantec recommends no further investigation related to the off-site carwash and automotive service facilities.



TABLES



Table 1
Summary of Soil Analytical Results - OCPs and Lead/Arsenic
Northwest Corner of North Palm and East Highland Avenue
San Bernardino, California
Stantec Project No.: 185805264

Sample ID	Sample Depth (feet)	Sample Date	Arsenic and Lead by 6010B		OCPs by 8081A			
			Arsenic	Lead	4,4'-DDD	4,4'-DDE	4,4'-DDT	Other OCPs
DTSC HERO Note 3 (Residential)			0.41	80	1.9	23	37	Various
California Background Levels ⁽²⁾			0.6 - 11.0	12.4 - 97.1	NE	NE	NE	Various
HA01-1	1.0	8/16/2021	<1.0	6.6	<0.002	<0.002	<0.002	<varies
HA02-1	1.0	8/16/2021	<1.0	12	<0.002	0.0023	<0.002	<varies
HA03-1	1.0	8/16/2021	<1.0	7.4	<0.002	0.032	0.011	<varies
HA04-1	1.0	8/16/2021	<1.0	14	<0.002	0.043	0.0075	<varies
HA05-1	1.0	8/16/2021	<1.0	6.9	<0.002	0.014	0.0041	<varies
HA06-1	1.0	8/16/2021	<1.0	14	<0.002	0.033	0.0076	<varies
HA07-1	1.0	8/16/2021	<1.0	13	<0.002	0.033	0.0075	<varies
HA08-1	1.0	8/16/2021	<1.0	17	<0.002	<0.002	<0.002	<varies
HA09-1	1.0	8/16/2021	<1.0	8.3	<0.002	0.0021	<0.002	<varies
HA10-1	1.0	8/16/2021	<1.0	13	<0.002	<0.002	<0.002	<varies
HA11-1	1.0	8/16/2021	<1.0	9.2	<0.002	0.021	0.005	<varies
HA12-1	1.0	8/16/2021	<1.0	16	<0.002	0.038	0.010	<varies
HA13-1	1.0	8/16/2021	<1.0	19	<0.002	0.086	0.021	<varies
HA14-1	1.0	8/18/2021	<1.0	24	<0.002	0.120	0.033	<varies
HA15-1	1.0	8/18/2021	<1.0	6.1	<0.002	0.0094	<0.002	<varies
HA16-1	1.0	8/18/2021	<1.0	12	<0.002	<0.002	<0.002	<varies
HA17-1	1.0	8/18/2021	<1.0	15	<0.002	0.0035	<0.002	<varies
HA18-1	1.0	8/18/2021	<1.0	20	<0.002	0.0071	<0.002	<varies
HA19-1	1.0	8/18/2021	<1.0	19	<0.002	0.047	0.011	<varies
HA20-1	1.0	8/18/2021	<1.0	17	<0.002	0.030	0.0064	<varies

Notes:

All concentrations are reported in milligram

(1) - More conservative screening level between USEPA Region 9 RSL (May 2021) and DTSC HERO Note 3 (June, 2020).

BOLD Denotes analyte was detected above the laboratory reporting limit

< - Denotes analyte was not detected above the Practical Quantitation Limit

DTSC - Department of Toxic Substance Control

HERO HHRA - Human and Ecological Risk Office Human Health Risk Assessment

NE - Not Established

OCPs - Organochlorine Pesticides

RSL - Regional Screening Level

USEPA - United States Environmental Protection Agency

Table 2
Summary of Soil Vapor Analytical Results
Northwest Corner of North Palm and East Highland Avenue
San Bernardino, California
Stantec Project No.: 185805264

Sample ID	Sampling Date	Sampling Depth ⁽¹⁾												
			Acetone	Acrolein	Benzene	Ethylbenzene	Isopropanol	Methylene Chloride	PCE	TCE	Toluene	Total Xylenes	1,2,4-TMB	Other VOCs
Residential Screening Level (0.03 AF) ⁽²⁾			1,066,667	0.70	3.2	37	7,000	33	15.3	16	10,333	3,333	2,100	various
Residential Screening Level (0.001 AF) ⁽²⁾			32,000,000	21	97	1,100	210,000	1,000	460	460	310,000	100,000	63,000	various
SV-1	8/18/2021	5	54	3.6	7.0	1.5	7.4	5.7	3.5	1.5	17	4.8	2.0	Carbon Disulfide: 4.4 Cyclohexane: 4.6 Freon 11: 1.1 Freon 12: 2.6 Propylene: 1.7 Tetrahydrofuran: 2.1
SV-2	8/18/2021	5	18.8	2.6	<1.0	1.2	3.3	6.4	3.6	1.3	1.9	4.4	2.9	Carbon Disulfide: 1.1 Freon 12: 2.0 MIBK: 1.0
SV-3	8/18/2021	5	20.8	2.9	<1.0	<1.0	3.0	6.0	3.7	<1.0	<1.0	1.0	3.8	Carbon Disulfide: 1.2 Cyclohexane: 1.0 Freon 12: 2.3 MBK: 4.2 MIBK: 1.8 Tetrahydrofuran: 1.4
SV-4	8/18/2021	5	15.5	<1.0	<1.0	<1.0	3.7	5.9	2.3	<1.0	<1.0	<1.0	1.2	Cyclohexane: 1.9 Freon 12: 2.4 Propylene: 1.5 Tetrahydrofuran: 1.6

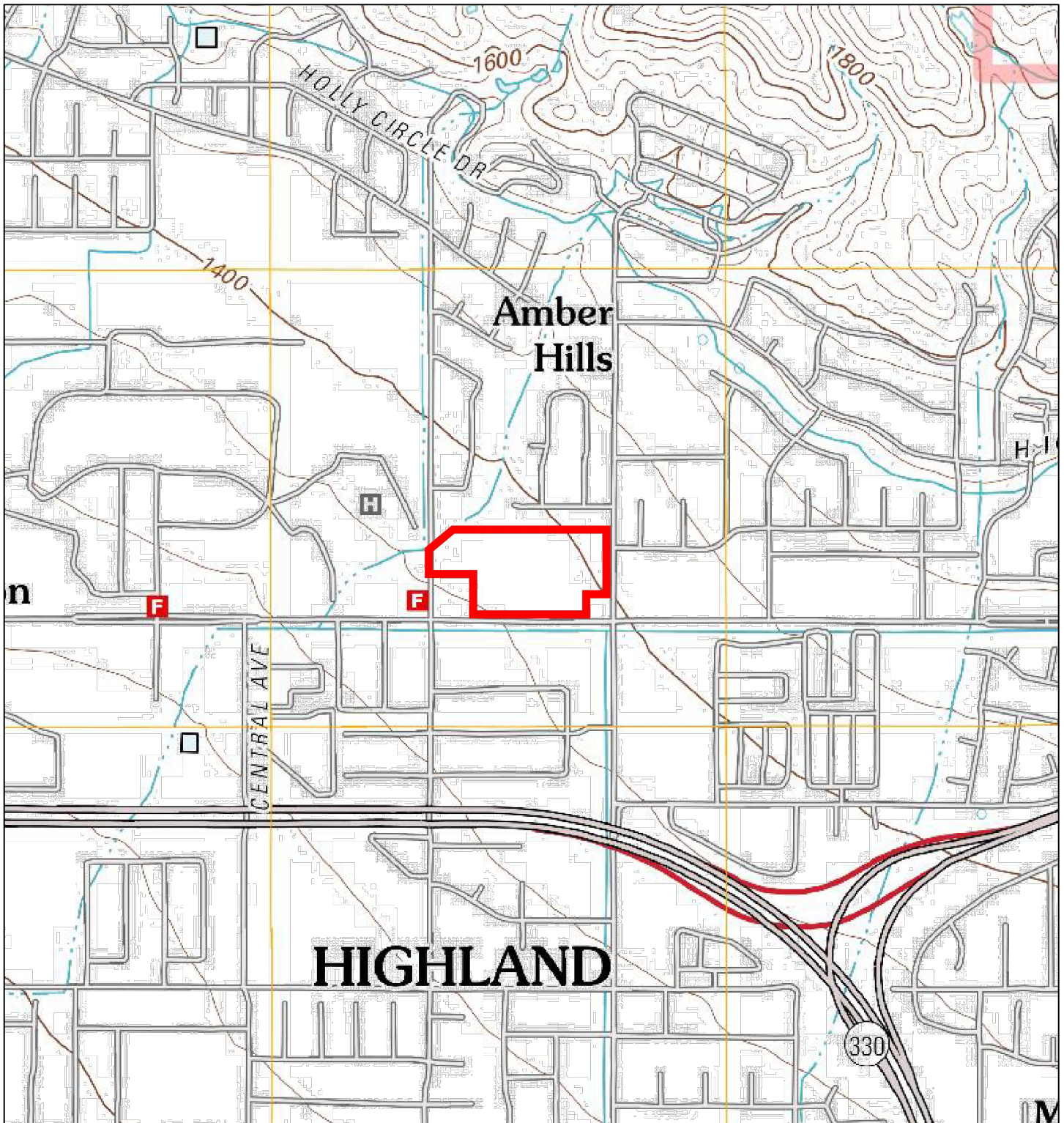
Notes:
All analytes reported in units of micrograms per cubic meter (µg/m³)
(1) Sample depth is reported as feet below ground surface
(2) DTSC HERO NOTE 3 (2020) or USEPA RSL (2021)
< - Indicates the concentration was not detected above the listed laboratory method reporting limit.
BOLD indicates analyte is present above the laboratory practical quantiation limit.

- Indicates the concentration was detected above the 0.03 AF screening level.

- Indicates the concentration was detected above the 0.001 AF screening level.

FIGURES





Map Reference: Harrison Mountain, 2012



Stantec Consulting Services Inc.
735 East Carnegie Drive, Suite 280
San Bernardino, CA 92408
Tel: 909.335.6116
www.stantec.com

Client/Project
Warmington Residential

Northwest Corner of
East Highland Ave and
North Palm Ave,
San Bernardino, CA

185805264

Title
Property Location Map

Figure No.
1

Drawn By
JS

Date
2021.08.11

Approved By
KE

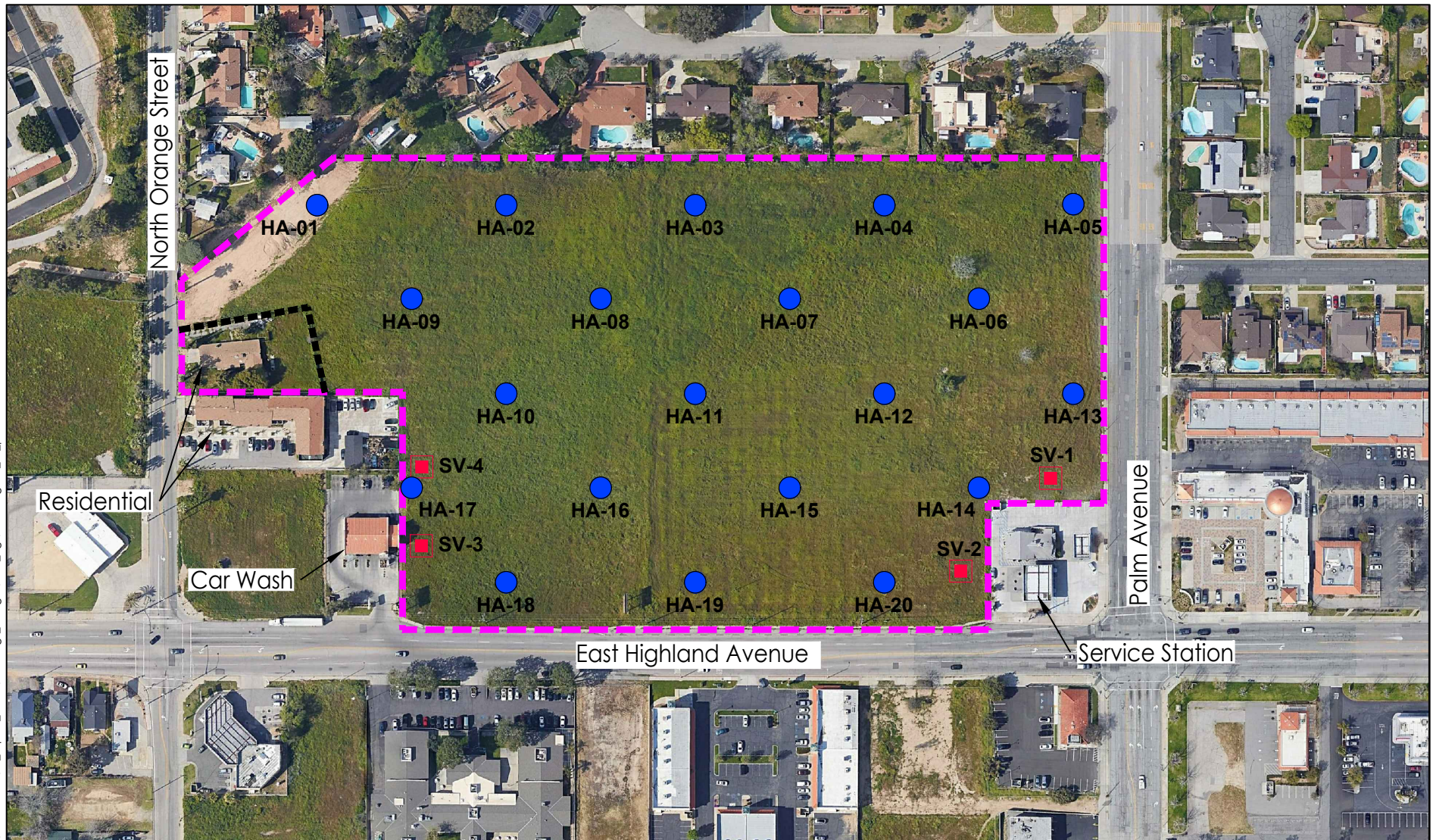


Image Reference: Google Earth Professional, 2021



Legend

- Approximate Property Boundary
- Property Feature
- Soil Boring Location
- Soil Vapor Boring Location



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Client/Project
Warmington Residential

Northwest Corner of
East Highland Ave and
North Palm Ave,
San Bernardino, CA
Project No.
185805264

Title
Property Map

Figure No.
2
Drawn By
JS

Date
2021.08.11
Approved By
KE

APPENDIX A

Laboratory Data Sheets





August 25, 2021

Joshua Sargent
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 : 2101772
Client Reference : 185805264

Enclosed are the results for sample(s) received on August 18, 2021 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,

A handwritten signature in black ink, appearing to read "Amy Leung". Below the signature, the word "For" is written in a small, handwritten font.

Amy Leung
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

735 E. Carnegie Drive, Suite 280

San Bernardino , CA 92408

Project Number : 185805264

Report To : Joshua Sargent

Reported : 08/25/2021

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA01-1	2101772-01	Soil	8/16/21 8:49	8/18/21 16:58
HA02-1	2101772-03	Soil	8/16/21 9:04	8/18/21 16:58
HA03-1	2101772-05	Soil	8/16/21 9:13	8/18/21 16:58
HA04-1	2101772-07	Soil	8/16/21 9:21	8/18/21 16:58
HA05-1	2101772-09	Soil	8/16/21 9:31	8/18/21 16:58
HA06-1	2101772-11	Soil	8/16/21 10:55	8/18/21 16:58
HA07-1	2101772-13	Soil	8/16/21 10:42	8/18/21 16:58
HA08-1	2101772-15	Soil	8/16/21 10:29	8/18/21 16:58
HA09-1	2101772-17	Soil	8/16/21 10:20	8/18/21 16:58
HA10-1	2101772-19	Soil	8/16/21 11:30	8/18/21 16:58
HA11-1	2101772-21	Soil	8/16/21 11:40	8/18/21 16:58
HA12-1	2101772-23	Soil	8/16/21 12:02	8/18/21 16:58
HA13-1	2101772-25	Soil	8/16/21 12:12	8/18/21 16:58
HA14-1	2101772-27	Soil	8/18/21 5:22	8/18/21 16:58
HA15-1	2101772-29	Soil	8/18/21 5:33	8/18/21 16:58
HA16-1	2101772-31	Soil	8/18/21 5:40	8/18/21 16:58
HA17-1	2101772-33	Soil	8/18/21 5:50	8/18/21 16:58
HA18-1	2101772-35	Soil	8/18/21 6:00	8/18/21 16:58
HA19-1	2101772-37	Soil	8/18/21 6:08	8/18/21 16:58
HA20-1	2101772-39	Soil	8/18/21 6:18	8/18/21 16:58



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA01-1

Lab ID: 2101772-01

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 17:55	
Lead	6.6	1.0	1	B1H0454	08/24/2021	08/24/21 17:55	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:44	
4,4'-DDE	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:44	
4,4'-DDT	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:44	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:44	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:44	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:44	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:44	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 11:44	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:44	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:44	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:44	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:44	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:44	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:44	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:44	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:44	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:44	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:44	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:44	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:44	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 11:44	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 11:44	
Surrogate: Decachlorobiphenyl	58.3 %	9 - 80		B1H0483	08/25/2021	08/25/21 11:44	
Surrogate: Tetrachloro-m-xylene	46.4 %	13 - 77		B1H0483	08/25/2021	08/25/21 11:44	



Certificate of Analysis

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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA02-1

Lab ID: 2101772-03

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:02	
Lead	12	1.0	1	B1H0454	08/24/2021	08/24/21 18:02	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:54	
4,4'-DDE	2.3	2.0	1	B1H0483	08/25/2021	08/25/21 11:54	
4,4'-DDT	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:54	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:54	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:54	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:54	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:54	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 11:54	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:54	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:54	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:54	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:54	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:54	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:54	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:54	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 11:54	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:54	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:54	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:54	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 11:54	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 11:54	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 11:54	
Surrogate: Decachlorobiphenyl	37.5 %	9 - 80		B1H0483	08/25/2021	08/25/21 11:54	
Surrogate: Tetrachloro-m-xylene	29.6 %	13 - 77		B1H0483	08/25/2021	08/25/21 11:54	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA03-1

Lab ID: 2101772-05

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:04	
Lead	7.4	1.0	1	B1H0454	08/24/2021	08/24/21 18:04	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:05	
4,4'-DDE [2C]	32	2.0	1	B1H0483	08/25/2021	08/25/21 12:05	
4,4'-DDT [2C]	11	2.0	1	B1H0483	08/25/2021	08/25/21 12:05	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:05	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:05	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:05	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:05	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 12:05	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:05	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:05	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:05	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:05	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:05	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:05	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:05	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:05	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:05	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:05	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:05	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:05	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 12:05	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 12:05	
Surrogate: Decachlorobiphenyl	30.1 %	9 - 80		B1H0483	08/25/2021	08/25/21 12:05	
Surrogate: Tetrachloro-m-xylene	24.0 %	13 - 77		B1H0483	08/25/2021	08/25/21 12:05	



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San Bernardino, CA 92408

Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA04-1

Lab ID: 2101772-07

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:05	
Lead	14	1.0	1	B1H0454	08/24/2021	08/24/21 18:05	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:16	
4,4'-DDE [2C]	43	2.0	1	B1H0483	08/25/2021	08/25/21 12:16	
4,4'-DDT [2C]	7.5	2.0	1	B1H0483	08/25/2021	08/25/21 12:16	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:16	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:16	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:16	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:16	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 12:16	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:16	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:16	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:16	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:16	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:16	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:16	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:16	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:16	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:16	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:16	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:16	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:16	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 12:16	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 12:16	
Surrogate: Decachlorobiphenyl	50.5 %	9 - 80		B1H0483	08/25/2021	08/25/21 12:16	
Surrogate: Tetrachloro-m-xylene	43.4 %	13 - 77		B1H0483	08/25/2021	08/25/21 12:16	



Certificate of Analysis

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San Bernardino, CA 92408

Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA05-1

Lab ID: 2101772-09

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:07	
Lead	6.9	1.0	1	B1H0454	08/24/2021	08/24/21 18:07	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:26	
4,4'-DDE [2C]	14	2.0	1	B1H0483	08/25/2021	08/25/21 12:26	
4,4'-DDT [2C]	4.1	2.0	1	B1H0483	08/25/2021	08/25/21 12:26	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:26	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:26	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:26	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:26	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 12:26	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:26	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:26	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:26	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:26	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:26	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:26	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:26	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:26	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:26	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:26	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:26	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:26	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 12:26	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 12:26	
Surrogate: Decachlorobiphenyl	35.3 %	9 - 80		B1H0483	08/25/2021	08/25/21 12:26	
Surrogate: Tetrachloro-m-xylene	27.4 %	13 - 77		B1H0483	08/25/2021	08/25/21 12:26	



Certificate of Analysis

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

Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA06-1

Lab ID: 2101772-11

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:09	
Lead	14	1.0	1	B1H0454	08/24/2021	08/24/21 18:09	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:37	
4,4'-DDE [2C]	33	2.0	1	B1H0483	08/25/2021	08/25/21 12:37	
4,4'-DDT [2C]	7.6	2.0	1	B1H0483	08/25/2021	08/25/21 12:37	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:37	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:37	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:37	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:37	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 12:37	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:37	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:37	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:37	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:37	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:37	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:37	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:37	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:37	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:37	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:37	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:37	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:37	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 12:37	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 12:37	
Surrogate: Decachlorobiphenyl	41.0 %	9 - 80		B1H0483	08/25/2021	08/25/21 12:37	
Surrogate: Tetrachloro-m-xylene	33.0 %	13 - 77		B1H0483	08/25/2021	08/25/21 12:37	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA07-1

Lab ID: 2101772-13

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:14	
Lead	13	1.0	1	B1H0454	08/24/2021	08/24/21 18:14	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	4.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
4,4'-DDE [2C]	33	4.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
4,4'-DDT [2C]	7.5	4.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
Aldrin	ND	2.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
alpha-BHC	ND	2.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
alpha-Chlordane	ND	2.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
beta-BHC	ND	2.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
Chlordane	ND	17	2	B1H0483	08/25/2021	08/25/21 12:47	D1
delta-BHC	ND	2.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
Dieldrin	ND	4.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
Endosulfan I	ND	2.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
Endosulfan II	ND	4.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
Endosulfan sulfate	ND	4.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
Endrin	ND	4.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
Endrin aldehyde	ND	4.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
Endrin ketone	ND	4.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
gamma-BHC	ND	2.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
gamma-Chlordane	ND	2.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
Heptachlor	ND	2.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
Heptachlor epoxide	ND	2.0	2	B1H0483	08/25/2021	08/25/21 12:47	D1
Methoxychlor	ND	10	2	B1H0483	08/25/2021	08/25/21 12:47	D1
Toxaphene	ND	100	2	B1H0483	08/25/2021	08/25/21 12:47	D1
Surrogate: Decachlorobiphenyl	23.3 %	9 - 80		B1H0483	08/25/2021	08/25/21 12:47	
Surrogate: Tetrachloro-m-xylene	15.8 %	13 - 77		B1H0483	08/25/2021	08/25/21 12:47	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA08-1

Lab ID: 2101772-15

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:16	
Lead	17	1.0	1	B1H0454	08/24/2021	08/24/21 18:16	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:58	
4,4'-DDE	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:58	
4,4'-DDT	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:58	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:58	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:58	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:58	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:58	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 12:58	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:58	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:58	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:58	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:58	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:58	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:58	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:58	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 12:58	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:58	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:58	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:58	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 12:58	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 12:58	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 12:58	
<i>Surrogate: Decachlorobiphenyl</i>	<i>19.3 %</i>	<i>9 - 80</i>		B1H0483	08/25/2021	<i>08/25/21 12:58</i>	
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>13.7 %</i>	<i>13 - 77</i>		B1H0483	08/25/2021	<i>08/25/21 12:58</i>	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA09-1

Lab ID: 2101772-17

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:17	
Lead	8.3	1.0	1	B1H0454	08/24/2021	08/24/21 18:17	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:09	
4,4'-DDE	2.1	2.0	1	B1H0483	08/25/2021	08/25/21 13:09	
4,4'-DDT	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:09	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:09	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:09	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:09	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:09	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 13:09	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:09	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:09	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:09	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:09	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:09	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:09	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:09	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:09	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:09	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:09	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:09	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:09	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 13:09	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 13:09	
Surrogate: Decachlorobiphenyl	25.9 %	9 - 80		B1H0483	08/25/2021	08/25/21 13:09	
Surrogate: Tetrachloro-m-xylene	20.3 %	13 - 77		B1H0483	08/25/2021	08/25/21 13:09	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA10-1

Lab ID: 2101772-19

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:19	
Lead	13	1.0	1	B1H0454	08/24/2021	08/24/21 18:19	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:19	
4,4'-DDE [2C]	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:19	
4,4'-DDT	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:19	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:19	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:19	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:19	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:19	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 13:19	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:19	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:19	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:19	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:19	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:19	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:19	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:19	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:19	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:19	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:19	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:19	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:19	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 13:19	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 13:19	
Surrogate: Decachlorobiphenyl	38.6 %	9 - 80		B1H0483	08/25/2021	08/25/21 13:19	
Surrogate: Tetrachloro-m-xylene	32.2 %	13 - 77		B1H0483	08/25/2021	08/25/21 13:19	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA11-1

Lab ID: 2101772-21

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:21	
Lead	9.2	1.0	1	B1H0454	08/24/2021	08/24/21 18:21	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:30	
4,4'-DDE [2C]	21	2.0	1	B1H0483	08/25/2021	08/25/21 13:30	
4,4'-DDT [2C]	5.0	2.0	1	B1H0483	08/25/2021	08/25/21 13:30	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:30	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:30	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:30	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:30	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 13:30	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:30	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:30	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:30	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:30	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:30	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:30	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:30	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:30	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:30	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:30	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:30	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:30	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 13:30	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 13:30	
Surrogate: Decachlorobiphenyl	35.8 %	9 - 80		B1H0483	08/25/2021	08/25/21 13:30	
Surrogate: Tetrachloro-m-xylene	31.5 %	13 - 77		B1H0483	08/25/2021	08/25/21 13:30	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA12-1

Lab ID: 2101772-23

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:22	
Lead	16	1.0	1	B1H0454	08/24/2021	08/24/21 18:22	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:40	
4,4'-DDE	38	2.0	1	B1H0483	08/25/2021	08/25/21 13:40	
4,4'-DDT [2C]	10	2.0	1	B1H0483	08/25/2021	08/25/21 13:40	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:40	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:40	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:40	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:40	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 13:40	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:40	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:40	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:40	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:40	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:40	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:40	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:40	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 13:40	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:40	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:40	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:40	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 13:40	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 13:40	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 13:40	
Surrogate: Decachlorobiphenyl	30.5 %	9 - 80		B1H0483	08/25/2021	08/25/21 13:40	
Surrogate: Tetrachloro-m-xylene	22.0 %	13 - 77		B1H0483	08/25/2021	08/25/21 13:40	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA13-1

Lab ID: 2101772-25

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:26	
Lead	19	1.0	1	B1H0454	08/24/2021	08/24/21 18:26	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	10	5	B1H0483	08/25/2021	08/25/21 15:27	D6
4,4'-DDE [2C]	86	10	5	B1H0483	08/25/2021	08/25/21 15:27	D6
4,4'-DDT [2C]	21	10	5	B1H0483	08/25/2021	08/25/21 15:27	D6
Aldrin	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:27	D6
alpha-BHC	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:27	D6
alpha-Chlordane	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:27	D6
beta-BHC	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:27	D6
Chlordane	ND	42	5	B1H0483	08/25/2021	08/25/21 15:27	D6
delta-BHC	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:27	D6
Dieldrin	ND	10	5	B1H0483	08/25/2021	08/25/21 15:27	D6
Endosulfan I	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:27	D6
Endosulfan II	ND	10	5	B1H0483	08/25/2021	08/25/21 15:27	D6
Endosulfan sulfate	ND	10	5	B1H0483	08/25/2021	08/25/21 15:27	D6
Endrin	ND	10	5	B1H0483	08/25/2021	08/25/21 15:27	D6
Endrin aldehyde	ND	10	5	B1H0483	08/25/2021	08/25/21 15:27	D6
Endrin ketone	ND	10	5	B1H0483	08/25/2021	08/25/21 15:27	D6
gamma-BHC	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:27	D6
gamma-Chlordane	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:27	D6
Heptachlor	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:27	D6
Heptachlor epoxide	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:27	D6
Methoxychlor	ND	25	5	B1H0483	08/25/2021	08/25/21 15:27	D6
Toxaphene	ND	250	5	B1H0483	08/25/2021	08/25/21 15:27	D6
<i>Surrogate: Decachlorobiphenyl</i>	27.6 %	9 - 80		B1H0483	08/25/2021	08/25/21 15:27	
<i>Surrogate: Tetrachloro-m-xylene</i>	22.8 %	13 - 77		B1H0483	08/25/2021	08/25/21 15:27	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA14-1

Lab ID: 2101772-27

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:28	
Lead	24	1.0	1	B1H0454	08/24/2021	08/24/21 18:28	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	10	5	B1H0483	08/25/2021	08/25/21 15:37	D6
4,4'-DDE [2C]	120	10	5	B1H0483	08/25/2021	08/25/21 15:37	D6
4,4'-DDT [2C]	33	10	5	B1H0483	08/25/2021	08/25/21 15:37	D6
Aldrin	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:37	D6
alpha-BHC	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:37	D6
alpha-Chlordane	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:37	D6
beta-BHC	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:37	D6
Chlordane	ND	42	5	B1H0483	08/25/2021	08/25/21 15:37	D6
delta-BHC	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:37	D6
Dieldrin	ND	10	5	B1H0483	08/25/2021	08/25/21 15:37	D6
Endosulfan I	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:37	D6
Endosulfan II	ND	10	5	B1H0483	08/25/2021	08/25/21 15:37	D6
Endosulfan sulfate	ND	10	5	B1H0483	08/25/2021	08/25/21 15:37	D6
Endrin	ND	10	5	B1H0483	08/25/2021	08/25/21 15:37	D6
Endrin aldehyde	ND	10	5	B1H0483	08/25/2021	08/25/21 15:37	D6
Endrin ketone	ND	10	5	B1H0483	08/25/2021	08/25/21 15:37	D6
gamma-BHC	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:37	D6
gamma-Chlordane	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:37	D6
Heptachlor	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:37	D6
Heptachlor epoxide	ND	5.0	5	B1H0483	08/25/2021	08/25/21 15:37	D6
Methoxychlor	ND	25	5	B1H0483	08/25/2021	08/25/21 15:37	D6
Toxaphene	ND	250	5	B1H0483	08/25/2021	08/25/21 15:37	D6
<i>Surrogate: Decachlorobiphenyl</i>	<i>44.7 %</i>	<i>9 - 80</i>		B1H0483	08/25/2021	<i>08/25/21 15:37</i>	
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>34.9 %</i>	<i>13 - 77</i>		B1H0483	08/25/2021	<i>08/25/21 15:37</i>	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA15-1

Lab ID: 2101772-29

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:29	
Lead	6.1	1.0	1	B1H0454	08/24/2021	08/24/21 18:29	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:12	
4,4'-DDE	9.4	2.0	1	B1H0483	08/25/2021	08/25/21 14:12	
4,4'-DDT	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:12	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:12	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:12	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:12	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:12	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 14:12	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:12	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:12	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:12	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:12	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:12	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:12	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:12	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:12	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:12	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:12	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:12	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:12	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 14:12	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 14:12	
Surrogate: Decachlorobiphenyl	41.7 %	9 - 80		B1H0483	08/25/2021	08/25/21 14:12	
Surrogate: Tetrachloro-m-xylene	32.1 %	13 - 77		B1H0483	08/25/2021	08/25/21 14:12	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA16-1

Lab ID: 2101772-31

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:31	
Lead	12	1.0	1	B1H0454	08/24/2021	08/24/21 18:31	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:23	
4,4'-DDE	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:23	
4,4'-DDT	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:23	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:23	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:23	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:23	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:23	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 14:23	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:23	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:23	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:23	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:23	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:23	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:23	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:23	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:23	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:23	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:23	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:23	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:23	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 14:23	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 14:23	
Surrogate: Decachlorobiphenyl	32.5 %	9 - 80		B1H0483	08/25/2021	08/25/21 14:23	
Surrogate: Tetrachloro-m-xylene	26.8 %	13 - 77		B1H0483	08/25/2021	08/25/21 14:23	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA17-1

Lab ID: 2101772-33

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:36	
Lead	15	1.0	1	B1H0454	08/24/2021	08/24/21 18:36	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:33	
4,4'-DDE [2C]	3.5	2.0	1	B1H0483	08/25/2021	08/25/21 14:33	
4,4'-DDT	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:33	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:33	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:33	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:33	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:33	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 14:33	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:33	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:33	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:33	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:33	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:33	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:33	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:33	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:33	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:33	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:33	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:33	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:33	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 14:33	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 14:33	
Surrogate: Decachlorobiphenyl	41.0 %	9 - 80		B1H0483	08/25/2021	08/25/21 14:33	
Surrogate: Tetrachloro-m-xylene	36.0 %	13 - 77		B1H0483	08/25/2021	08/25/21 14:33	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA18-1

Lab ID: 2101772-35

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:38	
Lead	20	1.0	1	B1H0454	08/24/2021	08/24/21 18:38	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:44	
4,4'-DDE	7.1	2.0	1	B1H0483	08/25/2021	08/25/21 14:44	
4,4'-DDT	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:44	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:44	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:44	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:44	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:44	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 14:44	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:44	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:44	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:44	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:44	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:44	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:44	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:44	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 14:44	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:44	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:44	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:44	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 14:44	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 14:44	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 14:44	
Surrogate: Decachlorobiphenyl	37.6 %	9 - 80		B1H0483	08/25/2021	08/25/21 14:44	
Surrogate: Tetrachloro-m-xylene	27.8 %	13 - 77		B1H0483	08/25/2021	08/25/21 14:44	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA19-1

Lab ID: 2101772-37

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:40	
Lead	19	1.0	1	B1H0454	08/24/2021	08/24/21 18:40	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	10	5	B1H0483	08/25/2021	08/25/21 14:54	D1
4,4'-DDE [2C]	47	10	5	B1H0483	08/25/2021	08/25/21 14:54	D1
4,4'-DDT [2C]	11	10	5	B1H0483	08/25/2021	08/25/21 14:54	D1
Aldrin	ND	5.0	5	B1H0483	08/25/2021	08/25/21 14:54	D1
alpha-BHC	ND	5.0	5	B1H0483	08/25/2021	08/25/21 14:54	D1
alpha-Chlordane	ND	5.0	5	B1H0483	08/25/2021	08/25/21 14:54	D1
beta-BHC	ND	5.0	5	B1H0483	08/25/2021	08/25/21 14:54	D1
Chlordane	ND	42	5	B1H0483	08/25/2021	08/25/21 14:54	D1
delta-BHC	ND	5.0	5	B1H0483	08/25/2021	08/25/21 14:54	D1
Dieldrin	ND	10	5	B1H0483	08/25/2021	08/25/21 14:54	D1
Endosulfan I	ND	5.0	5	B1H0483	08/25/2021	08/25/21 14:54	D1
Endosulfan II	ND	10	5	B1H0483	08/25/2021	08/25/21 14:54	D1
Endosulfan sulfate	ND	10	5	B1H0483	08/25/2021	08/25/21 14:54	D1
Endrin	ND	10	5	B1H0483	08/25/2021	08/25/21 14:54	D1
Endrin aldehyde	ND	10	5	B1H0483	08/25/2021	08/25/21 14:54	D1
Endrin ketone	ND	10	5	B1H0483	08/25/2021	08/25/21 14:54	D1
gamma-BHC	ND	5.0	5	B1H0483	08/25/2021	08/25/21 14:54	D1
gamma-Chlordane	ND	5.0	5	B1H0483	08/25/2021	08/25/21 14:54	D1
Heptachlor	ND	5.0	5	B1H0483	08/25/2021	08/25/21 14:54	D1
Heptachlor epoxide	ND	5.0	5	B1H0483	08/25/2021	08/25/21 14:54	D1
Methoxychlor	ND	25	5	B1H0483	08/25/2021	08/25/21 14:54	D1
Toxaphene	ND	250	5	B1H0483	08/25/2021	08/25/21 14:54	D1
Surrogate: Decachlorobiphenyl	40.9 %	9 - 80		B1H0483	08/25/2021	08/25/21 14:54	
Surrogate: Tetrachloro-m-xylene	30.4 %	13 - 77		B1H0483	08/25/2021	08/25/21 14:54	



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Client Sample ID: HA20-1

Lab ID: 2101772-39

Total Metals by ICP-AES EPA 6010B

Analyst: AEG

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Arsenic	ND	1.0	1	B1H0454	08/24/2021	08/24/21 18:41	
Lead	17	1.0	1	B1H0454	08/24/2021	08/24/21 18:41	

Organochlorine Pesticides by EPA 8081A

Analyst: RM

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4,4'-DDD	ND	2.0	1	B1H0483	08/25/2021	08/25/21 15:05	
4,4'-DDE [2C]	30	2.0	1	B1H0483	08/25/2021	08/25/21 15:05	
4,4'-DDT [2C]	6.4	2.0	1	B1H0483	08/25/2021	08/25/21 15:05	
Aldrin	ND	1.0	1	B1H0483	08/25/2021	08/25/21 15:05	
alpha-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 15:05	
alpha-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 15:05	
beta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 15:05	
Chlordane	ND	8.5	1	B1H0483	08/25/2021	08/25/21 15:05	
delta-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 15:05	
Dieldrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 15:05	
Endosulfan I	ND	1.0	1	B1H0483	08/25/2021	08/25/21 15:05	
Endosulfan II	ND	2.0	1	B1H0483	08/25/2021	08/25/21 15:05	
Endosulfan sulfate	ND	2.0	1	B1H0483	08/25/2021	08/25/21 15:05	
Endrin	ND	2.0	1	B1H0483	08/25/2021	08/25/21 15:05	
Endrin aldehyde	ND	2.0	1	B1H0483	08/25/2021	08/25/21 15:05	
Endrin ketone	ND	2.0	1	B1H0483	08/25/2021	08/25/21 15:05	
gamma-BHC	ND	1.0	1	B1H0483	08/25/2021	08/25/21 15:05	
gamma-Chlordane	ND	1.0	1	B1H0483	08/25/2021	08/25/21 15:05	
Heptachlor	ND	1.0	1	B1H0483	08/25/2021	08/25/21 15:05	
Heptachlor epoxide	ND	1.0	1	B1H0483	08/25/2021	08/25/21 15:05	
Methoxychlor	ND	5.0	1	B1H0483	08/25/2021	08/25/21 15:05	
Toxaphene	ND	50	1	B1H0483	08/25/2021	08/25/21 15:05	
Surrogate: Decachlorobiphenyl	37.6 %	9 - 80		B1H0483	08/25/2021	08/25/21 15:05	
Surrogate: Tetrachloro-m-xylene	24.0 %	13 - 77		B1H0483	08/25/2021	08/25/21 15:05	



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Project Number : 185805264
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Reported : 08/25/2021

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
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Batch B1H0454 - EPA 3050B_S

Blank (B1H0454-BLK1)

Prepared: 8/24/2021 Analyzed: 8/24/2021

Arsenic	ND	1.0	0.12							
Lead	ND	1.0	0.18							

LCS (B1H0454-BS1)

Prepared: 8/24/2021 Analyzed: 8/24/2021

Arsenic	24.9854	1.0	0.12	25.0000		99.9	80 - 120			
Lead	27.2102	1.0	0.18	25.0000		109	80 - 120			

Duplicate (B1H0454-DUP1)

Source: 2101772-01

Prepared: 8/24/2021 Analyzed: 8/24/2021

Arsenic	ND	1.0	0.12		ND			NR	20	
Lead	6.60240	1.0	0.18		6.56483			0.571	20	

Matrix Spike (B1H0454-MS1)

Source: 2101772-01

Prepared: 8/24/2021 Analyzed: 8/24/2021

Arsenic	24.8464	1.0	0.12	25.0000	ND	99.4	55 - 117			
Lead	31.3903	1.0	0.18	25.0000	6.56483	99.3	26 - 161			

Matrix Spike Dup (B1H0454-MSD1)

Source: 2101772-01

Prepared: 8/24/2021 Analyzed: 8/24/2021

Arsenic	24.9909	1.0	0.12	25.0000	ND	100	55 - 117	0.580	20	
Lead	32.1636	1.0	0.18	25.0000	6.56483	102	26 - 161	2.43	20	



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Project Number : 185805264
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Organochlorine Pesticides by EPA 8081A - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B1H0483 - GCSEMI_PCB/PEST_S

Blank (B1H0483-BLK1)

Prepared: 8/25/2021 Analyzed: 8/25/2021

4,4'-DDD	ND	2.0	0.08
4,4'-DDD [2C]	ND	2.0	0.08
4,4'-DDE	ND	2.0	0.09
4,4'-DDE [2C]	ND	2.0	0.09
4,4'-DDT	ND	2.0	0.10
4,4'-DDT [2C]	ND	2.0	0.10
Aldrin	ND	1.0	0.09
Aldrin [2C]	ND	1.0	0.09
alpha-BHC	ND	1.0	0.11
alpha-BHC [2C]	ND	1.0	0.11
alpha-Chlordane	ND	1.0	0.10
alpha-Chlordane [2C]	ND	1.0	0.10
beta-BHC	ND	1.0	0.15
beta-BHC [2C]	ND	1.0	0.15
Chlordane	ND	8.5	1.1
Chlordane [2C]	ND	8.5	1.1
delta-BHC	ND	1.0	0.11
delta-BHC [2C]	ND	1.0	0.11
Dieldrin	ND	2.0	0.09
Dieldrin [2C]	ND	2.0	0.09
Endosulfan I	ND	1.0	0.09
Endosulfan I [2C]	ND	1.0	0.09
Endosulfan II	ND	2.0	0.09
Endosulfan II [2C]	ND	2.0	0.09
Endosulfan sulfate	ND	2.0	0.11
Endosulfan Sulfate [2C]	ND	2.0	0.11
Endrin	ND	2.0	0.07
Endrin [2C]	ND	2.0	0.07
Endrin aldehyde	ND	2.0	0.18
Endrin aldehyde [2C]	ND	2.0	0.18
Endrin ketone	ND	2.0	0.06
Endrin ketone [2C]	ND	2.0	0.06
gamma-BHC	ND	1.0	0.12
gamma-BHC [2C]	ND	1.0	0.12
gamma-Chlordane	ND	1.0	0.11
gamma-Chlordane [2C]	ND	1.0	0.11
Heptachlor	ND	1.0	0.10
Heptachlor [2C]	ND	1.0	0.10
Heptachlor epoxide	ND	1.0	0.09
Heptachlor epoxide [2C]	ND	1.0	0.09
Methoxychlor	ND	5.0	0.14



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Organochlorine Pesticides by EPA 8081A - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes
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Batch B1H0483 - GCSEMI_PCB/PEST_S (continued)

Blank (B1H0483-BLK1) - Continued

Prepared: 8/25/2021 Analyzed: 8/25/2021

Methoxychlor [2C]	ND	5.0	0.14						
Toxaphene	ND	50	3.6						
Toxaphene [2C]	ND	50	3.6						
Surrogate: Decachlorobiphenyl	12.21			16.6667		73.3	9 - 80		
Surrogate: Decachlorobiphenyl [	14.62			16.6667		87.7	5 - 74		S12
Surrogate: Tetrachloro-m-xylene	8.932			16.6667		53.6	13 - 77		
Surrogate: Tetrachloro-m-xylene	11.22			16.6667		67.3	14 - 79		

LCS (B1H0483-BS1)

Prepared: 8/25/2021 Analyzed: 8/25/2021

4,4'-DDD	9.89717	2.0	0.08	16.6667		59.4	33 - 88		
4,4'-DDD [2C]	11.2140	2.0	0.08	16.6667		67.3	29 - 100		
4,4'-DDE	9.36617	2.0	0.09	16.6667		56.2	35 - 87		
4,4'-DDE [2C]	10.9473	2.0	0.09	16.6667		65.7	38 - 91		
4,4'-DDT	8.32883	2.0	0.10	16.6667		50.0	41 - 94		
4,4'-DDT [2C]	9.82050	2.0	0.10	16.6667		58.9	31 - 110		
Aldrin	9.04500	1.0	0.09	16.6667		54.3	35 - 85		
Aldrin [2C]	10.1690	1.0	0.09	16.6667		61.0	38 - 92		
alpha-BHC	9.29733	1.0	0.11	16.6667		55.8	37 - 86		
alpha-BHC [2C]	10.0002	1.0	0.11	16.6667		60.0	39 - 92		
alpha-Chlordane	9.84967	1.0	0.10	16.6667		59.1	36 - 97		
alpha-Chlordane [2C]	11.5570	1.0	0.10	16.6667		69.3	44 - 102		
beta-BHC	9.36667	1.0	0.15	16.6667		56.2	38 - 75		
beta-BHC [2C]	10.3923	1.0	0.15	16.6667		62.4	39 - 85		
delta-BHC	9.90250	1.0	0.11	16.6667		59.4	35 - 90		
delta-BHC [2C]	10.8948	1.0	0.11	16.6667		65.4	37 - 98		
Dieldrin	9.58417	2.0	0.09	16.6667		57.5	37 - 87		
Dieldrin [2C]	10.5910	2.0	0.09	16.6667		63.5	40 - 91		
Endosulfan I	8.56117	1.0	0.09	16.6667		51.4	32 - 84		
Endosulfan I [2C]	9.88517	1.0	0.09	16.6667		59.3	33 - 94		
Endosulfan II	10.3285	2.0	0.09	16.6667		62.0	40 - 90		
Endosulfan II [2C]	11.2417	2.0	0.09	16.6667		67.5	33 - 109		
Endosulfan sulfate	9.07567	2.0	0.11	16.6667		54.5	37 - 82		
Endosulfan Sulfate [2C]	10.5488	2.0	0.11	16.6667		63.3	29 - 95		
Endrin	10.9487	2.0	0.07	16.6667		65.7	38 - 95		
Endrin [2C]	12.5123	2.0	0.07	16.6667		75.1	36 - 106		
Endrin aldehyde	8.69033	2.0	0.18	16.6667		52.1	44 - 88		
Endrin aldehyde [2C]	10.0347	2.0	0.18	16.6667		60.2	33 - 107		
Endrin ketone	9.22617	2.0	0.06	16.6667		55.4	43 - 84		
Endrin ketone [2C]	10.6563	2.0	0.06	16.6667		63.9	30 - 97		
gamma-BHC	9.60533	1.0	0.12	16.6667		57.6	40 - 88		
gamma-BHC [2C]	10.6495	1.0	0.12	16.6667		63.9	41 - 95		



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Organochlorine Pesticides by EPA 8081A - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes
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Batch B1H0483 - GCSEMI_PCB/PEST_S (continued)

LCS (B1H0483-BS1) - Continued

Prepared: 8/25/2021 Analyzed: 8/25/2021

gamma-Chlordane	9.72150	1.0	0.11	16.6667		58.3	40 - 86		
gamma-Chlordane [2C]	10.7485	1.0	0.11	16.6667		64.5	41 - 96		
Heptachlor	9.44817	1.0	0.10	16.6667		56.7	37 - 93		
Heptachlor [2C]	10.9893	1.0	0.10	16.6667		65.9	36 - 99		
Heptachlor epoxide	8.84117	1.0	0.09	16.6667		53.0	40 - 82		
Heptachlor epoxide [2C]	10.0990	1.0	0.09	16.6667		60.6	42 - 88		
Methoxychlor	9.16983	5.0	0.14	16.6667		55.0	43 - 96		
Methoxychlor [2C]	10.5358	5.0	0.14	16.6667		63.2	32 - 108		
Surrogate: Decachlorobiphenyl	9.027			16.6667		54.2	9 - 80		
Surrogate: Decachlorobiphenyl [	10.45			16.6667		62.7	5 - 74		
Surrogate: Tetrachloro-m-xylene	8.375			16.6667		50.2	13 - 77		
Surrogate: Tetrachloro-m-xylene	10.40			16.6667		62.4	14 - 79		

Matrix Spike (B1H0483-MS1)

Source: 2101772-21

Prepared: 8/25/2021 Analyzed: 8/25/2021

4,4'-DDD	9.45217	2.0	0.08	16.6667	ND	56.7	12 - 92		
4,4'-DDD [2C]	10.5082	2.0	0.08	16.6667	ND	63.0	13 - 93		
4,4'-DDE	30.2103	2.0	0.09	16.6667	18.0990	72.7	18 - 92		
4,4'-DDE [2C]	33.1610	2.0	0.09	16.6667	20.5865	75.4	12 - 97		
4,4'-DDT	13.1348	2.0	0.10	16.6667	4.64717	50.9	21 - 90		
4,4'-DDT [2C]	14.5580	2.0	0.10	16.6667	5.03100	57.2	20 - 99		
Aldrin	7.17550	1.0	0.09	16.6667	ND	43.1	19 - 93		
Aldrin [2C]	7.82783	1.0	0.09	16.6667	ND	47.0	19 - 97		
alpha-BHC	7.36750	1.0	0.11	16.6667	ND	44.2	22 - 96		
alpha-BHC [2C]	7.77267	1.0	0.11	16.6667	ND	46.6	18 - 108		
alpha-Chlordane	8.91167	1.0	0.10	16.6667	ND	53.5	32 - 99		
alpha-Chlordane [2C]	11.2145	1.0	0.10	16.6667	ND	67.3	30 - 114		
beta-BHC	8.47167	1.0	0.15	16.6667	ND	50.8	9 - 95		
beta-BHC [2C]	9.18300	1.0	0.15	16.6667	ND	55.1	14 - 99		
delta-BHC	9.18350	1.0	0.11	16.6667	ND	55.1	16 - 100		
delta-BHC [2C]	10.2815	1.0	0.11	16.6667	ND	61.7	11 - 112		
Dieldrin	8.85883	2.0	0.09	16.6667	ND	53.2	24 - 92		
Dieldrin [2C]	9.39467	2.0	0.09	16.6667	ND	56.4	21 - 98		
Endosulfan I	7.68817	1.0	0.09	16.6667	ND	46.1	21 - 89		
Endosulfan I [2C]	8.60150	1.0	0.09	16.6667	ND	51.6	21 - 103		
Endosulfan II	9.71933	2.0	0.09	16.6667	ND	58.3	17 - 97		
Endosulfan II [2C]	9.85533	2.0	0.09	16.6667	ND	59.1	30 - 95		
Endosulfan sulfate	8.68267	2.0	0.11	16.6667	ND	52.1	15 - 88		
Endosulfan Sulfate [2C]	8.91217	2.0	0.11	16.6667	ND	53.5	15 - 93		
Endrin	11.1545	2.0	0.07	16.6667	ND	66.9	21 - 99		
Endrin [2C]	16.0968	2.0	0.07	16.6667	ND	96.6	3 - 115		
Endrin aldehyde	8.40933	2.0	0.18	16.6667	ND	50.5	0 - 115		



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Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Organochlorine Pesticides by EPA 8081A - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B1H0483 - GCSEMI_PCB/PEST_S (continued)

Matrix Spike (B1H0483-MS1) - Continued

Source: 2101772-21

Prepared: 8/25/2021 Analyzed: 8/25/2021

Endrin aldehyde [2C]	8.51517	2.0	0.18	16.6667	ND	51.1	15 - 106			
Endrin ketone	8.43533	2.0	0.06	16.6667	ND	50.6	17 - 91			
Endrin ketone [2C]	9.22000	2.0	0.06	16.6667	ND	55.3	16 - 92			
gamma-BHC	7.79383	1.0	0.12	16.6667	ND	46.8	22 - 100			
gamma-BHC [2C]	8.47967	1.0	0.12	16.6667	ND	50.9	22 - 106			
gamma-Chlordane	8.81933	1.0	0.11	16.6667	ND	52.9	29 - 101			
gamma-Chlordane [2C]	9.34567	1.0	0.11	16.6667	ND	56.1	24 - 104			
Heptachlor	7.94950	1.0	0.10	16.6667	ND	47.7	18 - 98			
Heptachlor [2C]	9.18883	1.0	0.10	16.6667	ND	55.1	20 - 104			
Heptachlor epoxide	7.58217	1.0	0.09	16.6667	ND	45.5	17 - 92			
Heptachlor epoxide [2C]	8.91633	1.0	0.09	16.6667	ND	53.5	19 - 100			
Methoxychlor	8.81417	5.0	0.14	16.6667	ND	52.9	0 - 117			
Methoxychlor [2C]	10.8350	5.0	0.14	16.6667	ND	65.0	28 - 104			
Surrogate: Decachlorobiphenyl	10.10			16.6667		60.6	9 - 80			
Surrogate: Decachlorobiphenyl [	10.80			16.6667		64.8	5 - 74			
Surrogate: Tetrachloro-m-xylene	7.679			16.6667		46.1	13 - 77			
Surrogate: Tetrachloro-m-xylene	9.256			16.6667		55.5	14 - 79			

Matrix Spike Dup (B1H0483-MSD1)

Source: 2101772-21

Prepared: 8/25/2021 Analyzed: 8/25/2021

4,4'-DDD	13.9160	2.0	0.08	16.6667	ND	83.5	12 - 92	38.2	20	R2
4,4'-DDD [2C]	15.5018	2.0	0.08	16.6667	ND	93.0	13 - 93	38.4	20	M2, R2
4,4'-DDE	31.9338	2.0	0.09	16.6667	18.0990	83.0	18 - 92	5.55	20	
4,4'-DDE [2C]	36.7662	2.0	0.09	16.6667	20.5865	97.1	12 - 97	10.3	20	M2
4,4'-DDT	17.0992	2.0	0.10	16.6667	4.64717	74.7	21 - 90	26.2	20	R2
4,4'-DDT [2C]	20.0848	2.0	0.10	16.6667	5.03100	90.3	20 - 99	31.9	20	R2
Aldrin	11.0525	1.0	0.09	16.6667	ND	66.3	19 - 93	42.5	20	R2
Aldrin [2C]	12.7013	1.0	0.09	16.6667	ND	76.2	19 - 97	47.5	20	R2
alpha-BHC	11.2800	1.0	0.11	16.6667	ND	67.7	22 - 96	42.0	20	R2
alpha-BHC [2C]	12.3010	1.0	0.11	16.6667	ND	73.8	18 - 108	45.1	20	R2
alpha-Chlordane	13.1728	1.0	0.10	16.6667	ND	79.0	32 - 99	38.6	20	R2
alpha-Chlordane [2C]	16.2653	1.0	0.10	16.6667	ND	97.6	30 - 114	36.8	20	R2
beta-BHC	12.3383	1.0	0.15	16.6667	ND	74.0	9 - 95	37.2	20	R2
beta-BHC [2C]	13.9395	1.0	0.15	16.6667	ND	83.6	14 - 99	41.1	20	R2
delta-BHC	13.6977	1.0	0.11	16.6667	ND	82.2	16 - 100	39.5	20	R2
delta-BHC [2C]	15.9607	1.0	0.11	16.6667	ND	95.8	11 - 112	43.3	20	R2
Dieldrin	13.0922	2.0	0.09	16.6667	ND	78.6	24 - 92	38.6	20	R2
Dieldrin [2C]	14.3155	2.0	0.09	16.6667	ND	85.9	21 - 98	41.5	20	R2
Endosulfan I	11.5402	1.0	0.09	16.6667	ND	69.2	21 - 89	40.1	20	R2
Endosulfan I [2C]	13.1903	1.0	0.09	16.6667	ND	79.1	21 - 103	42.1	20	R2
Endosulfan II	14.0868	2.0	0.09	16.6667	ND	84.5	17 - 97	36.7	20	R2
Endosulfan II [2C]	14.9422	2.0	0.09	16.6667	ND	89.7	30 - 95	41.0	20	R2



Certificate of Analysis

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

Project Number : 185805264
Report To : Joshua Sargent
Reported : 08/25/2021

Organochlorine Pesticides by EPA 8081A - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD	RPD Limit	Notes
---------	-------------------	----------------	----------------	----------------	------------------	----------------	-----------------	-----	--------------	-------

Batch B1H0483 - GCSEMI_PCB/PEST_S (continued)

Matrix Spike Dup (B1H0483-MSD1) - Continued

Source: 2101772-21

Prepared: 8/25/2021 Analyzed: 8/25/2021

Endosulfan sulfate	12.8953	2.0	0.11	16.6667	ND	77.4	15 - 88	39.0	20	R2
Endosulfan Sulfate [2C]	15.0908	2.0	0.11	16.6667	ND	90.5	15 - 93	51.5	20	R2
Endrin	16.6027	2.0	0.07	16.6667	ND	99.6	21 - 99	39.3	20	M2, R2
Endrin [2C]	21.6950	2.0	0.07	16.6667	ND	130	3 - 115	29.6	20	M2, R2
Endrin aldehyde	12.6638	2.0	0.18	16.6667	ND	76.0	0 - 115	40.4	20	R2
Endrin aldehyde [2C]	13.4252	2.0	0.18	16.6667	ND	80.6	15 - 106	44.8	20	R2
Endrin ketone	12.8240	2.0	0.06	16.6667	ND	76.9	17 - 91	41.3	20	R2
Endrin ketone [2C]	14.5550	2.0	0.06	16.6667	ND	87.3	16 - 92	44.9	20	R2
gamma-BHC	12.0297	1.0	0.12	16.6667	ND	72.2	22 - 100	42.7	20	R2
gamma-BHC [2C]	13.4010	1.0	0.12	16.6667	ND	80.4	22 - 106	45.0	20	R2
gamma-Chlordane	12.9507	1.0	0.11	16.6667	ND	77.7	29 - 101	38.0	20	R2
gamma-Chlordane [2C]	13.9703	1.0	0.11	16.6667	ND	83.8	24 - 104	39.7	20	R2
Heptachlor	11.8997	1.0	0.10	16.6667	ND	71.4	18 - 98	39.8	20	R2
Heptachlor [2C]	14.4900	1.0	0.10	16.6667	ND	86.9	20 - 104	44.8	20	R2
Heptachlor epoxide	11.2560	1.0	0.09	16.6667	ND	67.5	17 - 92	39.0	20	R2
Heptachlor epoxide [2C]	13.8715	1.0	0.09	16.6667	ND	83.2	19 - 100	43.5	20	R2
Methoxychlor	13.0927	5.0	0.14	16.6667	ND	78.6	0 - 117	39.1	20	R2
Methoxychlor [2C]	16.7512	5.0	0.14	16.6667	ND	101	28 - 104	42.9	20	R2
Surrogate: Decachlorobiphenyl	7.156			16.6667		42.9	9 - 80			
Surrogate: Decachlorobiphenyl [	7.580			16.6667		45.5	5 - 74			
Surrogate: Tetrachloro-m-xylene	5.618			16.6667		33.7	13 - 77			
Surrogate: Tetrachloro-m-xylene	7.057			16.6667		42.3	14 - 79			



Certificate of Analysis

Stantec

735 E. Carnegie Drive, Suite 280

San Bernardino , CA 92408

Project Number : 185805264

Report To : Joshua Sargent

Reported : 08/25/2021

Notes and Definitions

S12	Surrogate recovery outside in-house established limit but within method default criteria.
R2	RPD value outside acceptance criteria due to possible matrix interference.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
D6	Sample required dilution due to high concentration of target analyte.
D1	Sample required dilution due to possible matrix interference.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:

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



CHAIN OF CUSTODY

Laboratory Project Number:

Page 4 of 3[illegible]



CHAIN OF CUSTODY

Laboratory Project Number:

Page 1 of 3

2101772

Client Name/Address: Stantec Consulting Services Inc. 735 E. Carnegie Drive, Suite 280 San Bernardino, CA 92408 909-335-6116		Project Manager: Josh Sargent E-Mail Address: joshua.sargent@stantec.com Sampler Name: Mitchell Bohn Stantec Project Number: 185805264 Project: Warmington - E. Highland		Analysis Required					Turn Around Time:					
Laboratory: ATL 3275 Walnut Ave. Signal Hill, CA 800-499-4388		Sample Matrix		Preservative (see below)		# of Cont.	Sample Date	Sample Time	Filtered Sample	OCP - 8081A	As/Pb - 6010B	HOLD	Normal <input checked="" type="checkbox"/> X	
		SOIL		1		1	8/16/21	0849					72 Hour:	
		HA01-1		1		1	8/16/21	0856					48 Hour	
		HA01-3		1		1	8/16/21	0904					24 Hour	
		HA02-1		1		1	8/16/21	0907					Same Day:	
		HA02-3		1		1	8/16/21	0913					Other:	
		HA03-1		1		1	8/16/21	0916					Sample Temp °C:	
		HA03-3		1		1	8/16/21	0921						
		HA04-1		1		1	8/16/21	0925					Special Instructions	
		HA04-3		1		1	8/16/21	0931						
		HA05-1		1		1	8/16/21	0934						
		HA05-3		1		1	8/16/21	1055						
		HA06-1		1		1	8/16/21	1107						
		HA06-3		1		1	8/16/21	1042						
		HA07-1		1		1	8/16/21	1049						
		HA07-3		1		1	8/16/21	1029						
		HA08-1		1		1	8/16/21							
Sample Preservative: 1=ICE - 2=HCl - 3=H ₂ SO ₄ - 4=HNO ₃ - 5=NaOH - 6=Other: _____														
Special Instruction: _____														
Relinquished By:		Date: 8/18/2021		Time: 12:03pm.		Received By + Company Name: Tullman Ware		Date: 8-18-21		Time: 12:03				
Relinquished By:		Date: 8-18-21		Time: 16:58		Received By + Company Name: Tullman Ware		Date: 8/18/21		Time: 16:58				
Relinquished By: _____		Date: _____		Time: _____		Received By + Company Name: _____		Date: _____		Time: _____				



CHAIN OF CUSTODY

Laboratory Project Number:

Page 2 of 3

2101772

Client Name/Address: Stantec Consulting Services Inc. 735 E. Carnegie Drive, Suite 280 San Bernardino, CA 92408 909-335-6116		Project Manager: Josh Sargent E-Mail Address: joshua.sargent@stantec.com Sampler Name: Mitchell Bohn		Analysis Required		Turn Around Time:	
Laboratory: ATL 3275 Walnut Ave. Signal Hill, CA 800-499-4388		Stantec Project Number: 185805264		Filtered Sample		Normal <input checked="" type="checkbox"/> X	
Project: Warrington - E. Highland		Project: Warrington - E. Highland		As/Pb - 6010B		72 Hour:	
Sample Description/Identification		Sample Matrix		OCP - 8081A		48 Hour	
Preservative (see below)		# of Cont.		HOLD		24 Hour	
Sample Time		Sample Date				Same Day:	
1		1				Other:	
SOIL		1				Sample Temp °C: 61.1	
HA083		1		X		Special Instructions	
HA09-1		1		X			
HA09-3		1		X			
HA10-1		1		X			
HA10-3		1		X			
HA11-1		1		X			
HA11-3		1		X			
HA12-1		1		X			
HA12-3		1		X			
HA13-1		1		X			
HA13-3		1		X			
HA14-1		1		X			
HA14-3		1		X			
HA15-1		1		X			
HA15-3		1		X		0533	

Sample Preservative: 1=ICE - 2=HCl - 3=H₂SO₄ - 4=HNO₃ - 5=NaOH - 6=Other:

Special Instruction:

Relinquished By:	Date	Time	Received By + Company Name:	Date	Time
	8/18/21	12:03pm	Josh Sargent	8-18-21	12:03
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time
Joshua Sargent	8-18-21	16:58	Mitchell Bohn	8/18/21	16:58
Relinquished By + Company Name:	Date	Time	Received By + Company Name:	Date	Time



714-449-9937
562-646-1611

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

JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Stantec Consulting Services, Inc.	Report Date:	8/20/2021
Client Address:	735 East Carnegie Drive, Suite 280 San Bernardino, CA 92408	Jones Ref. No.:	ST-18019
		Client Ref. No.:	185805264
Attn:	Josh Sargent	Date Sampled:	8/18/2021
		Date Received:	8/18/2021
Project Name:	Warmington Residential	Date Analyzed:	8/19/2021
Project Address:	Northwest Corner of East Highland Ave and North Palm Ave San Bernardino, CA	Physical State:	Soil Gas

ANALYSES REQUESTED

1. EPA TO-15 – Volatile Organics by GC/MS

Analytical – Soil Gas samples were analyzed using EPA Method TO-15. Instrument Continuing Calibration Verification (CCV) and Instrument Blanks were analyzed every 24 hours as prescribed by the method. In addition, a Continuing Calibration Verification Duplicate (CCVD) was analyzed with each batch of Soil Gas samples.

Approval:

Colby Wakeman
QA/QC Manager



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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Stantec Consulting Services, Inc.	Report Date:	8/20/2021
Client Address:	735 East Carnegie Drive, Suite 280 San Bernardino, CA 92408	Jones Ref. No.:	ST-18019
		Client Ref. No.:	185805264
Attn:	Josh Sargent	Date Sampled:	8/18/2021
		Date Received:	8/18/2021
Project Name:	Warmington Residential	Date Analyzed:	8/19/2021
Project Address:	Northwest Cornerr of East Highland Ave and North Palm Ave San Bernardino, CA	Physical State:	Soil Gas

EPA TO-15 – Volatile Organics by GC/MS

<u>Sample ID:</u>	SV-1	SV-2	SV-3	SV-4		
<u>Jones ID:</u>	ST-18019-01	ST-18019-02	ST-18019-03	ST-18019-04	<u>Reporting Limit</u>	<u>Units</u>
Analytes:						
Acetone	54.0	18.8	20.8	15.5	1.0	µg/m ³
Acrolein	3.6	2.6	2.9	ND	1.0	µg/m ³
Benzene	7.0	ND	ND	ND	1.0	µg/m ³
Bromodichloromethane	ND	ND	ND	ND	1.0	µg/m ³
Bromoform	ND	ND	ND	ND	1.0	µg/m ³
1,3-Butadiene	ND	ND	ND	ND	1.0	µg/m ³
2-Butanone (MEK)	ND	ND	ND	ND	1.0	µg/m ³
n-Butylbenzene	ND	ND	ND	ND	1.0	µg/m ³
sec-Butylbenzene	ND	ND	ND	ND	1.0	µg/m ³
tert-Butylbenzene	ND	ND	ND	ND	1.0	µg/m ³
Carbon tetrachloride	ND	ND	ND	ND	1.0	µg/m ³
Chlorobenzene	ND	ND	ND	ND	1.0	µg/m ³
Chloroform	ND	ND	ND	ND	1.0	µg/m ³
Carbon Disulfide	4.4	1.1	1.2	ND	1.0	µg/m ³
Cyclohexane	4.6	ND	1.0	1.9	1.0	µg/m ³
Dibromochloromethane	ND	ND	ND	ND	1.0	µg/m ³
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	1.0	µg/m ³
1,4-Dioxane	ND	ND	ND	ND	1.0	µg/m ³
1,2- Dichlorobenzene	ND	ND	ND	ND	1.0	µg/m ³
1,3-Dichlorobenzene	ND	ND	ND	ND	1.0	µg/m ³
1,4-Dichlorobenzene	ND	ND	ND	ND	1.0	µg/m ³
1,1-Dichloroethane	ND	ND	ND	ND	1.0	µg/m ³
1,2-Dichloroethane	ND	ND	ND	ND	1.0	µg/m ³
1,1-Dichloroethene	ND	ND	ND	ND	1.0	µg/m ³
cis-1,2-Dichloroethene	ND	ND	ND	ND	1.0	µg/m ³
trans-1,2-Dichloroethene	ND	ND	ND	ND	1.0	µg/m ³

JONES ENVIRONMENTAL LABORATORY RESULTS

EPA TO-15 – Volatile Organics by GC/MS

<u>Sample ID:</u>	SV-1	SV-2	SV-3	SV-4		
<u>Jones ID:</u>	ST-18019-01	ST-18019-02	ST-18019-03	ST-18019-04	<u>Reporting Limit</u>	<u>Units</u>
Analytes:						
Ethyl Acetate	ND	ND	ND	ND	1.0	µg/m ³
Ethylbenzene	1.5	1.2	ND	ND	1.0	µg/m ³
4-Ethyltoluene	ND	ND	ND	ND	1.0	µg/m ³
Freon 11	1.1	ND	ND	ND	1.0	µg/m ³
Freon 12	2.6	2.0	2.3	2.4	1.0	µg/m ³
Freon 113	ND	ND	ND	ND	1.0	µg/m ³
Freon 114	ND	ND	ND	ND	1.0	µg/m ³
2-Hexanone (MBK)	ND	4.2	ND	ND	1.0	µg/m ³
Isopropanol	7.4	3.3	3.0	3.7	1.0	µg/m ³
Isopropylbenzene	ND	ND	ND	ND	1.0	µg/m ³
4-Isopropyltoluene	ND	ND	ND	ND	2.5	µg/m ³
4-Methyl-2-pentanone (MIBK)	ND	1.0	1.8	ND	1.0	µg/m ³
Methylene chloride	5.7	6.4	6.0	5.9	1.0	µg/m ³
Methylmethacrylate	ND	ND	ND	ND	1.0	µg/m ³
Naphthalene	ND	ND	ND	ND	1.0	µg/m ³
n-Propylbenzene	ND	ND	ND	ND	1.0	µg/m ³
Propylene	1.7	ND	ND	1.5	1.0	µg/m ³
Styrene	ND	ND	ND	ND	1.0	µg/m ³
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	1.0	µg/m ³
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	1.0	µg/m ³
Tetrachloroethene	3.5	3.6	3.7	2.3	1.0	µg/m ³
Toluene	17.0	1.9	ND	ND	1.0	µg/m ³
Tetrahydrofuran	2.1	ND	1.4	1.6	1.0	µg/m ³
1,1,1-Trichloroethane	ND	ND	ND	ND	1.0	µg/m ³
1,1,2-Trichloroethane	ND	ND	ND	ND	1.0	µg/m ³
Trichloroethene	1.5	1.3	ND	ND	1.0	µg/m ³
1,2,4-Trimethylbenzene	2.0	2.9	3.8	1.2	1.0	µg/m ³
1,3,5-Trimethylbenzene	ND	ND	ND	ND	1.0	µg/m ³
Vinyl Chloride	ND	ND	ND	ND	1.0	µg/m ³
Vinyl Acetate	ND	ND	ND	ND	1.0	µg/m ³
m+p-Xylene	3.3	2.5	1.0	ND	1.0	µg/m ³
o-Xylene	1.5	1.9	ND	ND	1.0	µg/m ³
MTBE	ND	ND	ND	ND	1.0	µg/m ³
Ethyl-tert-butylether	ND	ND	ND	ND	1.0	µg/m ³
Di-isopropylether	ND	ND	ND	ND	1.0	µg/m ³
tert-amylmethylether	ND	ND	ND	ND	1.0	µg/m ³
Tracer:						
n-Pentane	ND	ND	ND	ND	10	µg/m ³
n-Hexane	ND	ND	ND	ND	10	µg/m ³
n-Heptane	ND	ND	ND	ND	10	µg/m ³
<u>Dilution Factor</u>	1	1	1	1		
<u>Surrogate Recoveries:</u>					<u>QC Limits</u>	
4-Bromofluorobenzene	97%	98%	97%	97%	60 - 140	
<u>Batch ID:</u>	TO1-081921-01	TO1-081921-01	TO1-081921-01	TO1-081921-01		

ND = Value below reporting limit



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562-646-1611

11007 FOREST PLACE
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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Stantec Consulting Services, Inc.	Report Date:	8/20/2021
Client Address:	735 East Carnegie Drive, Suite 280 San Bernardino, CA 92408	Jones Ref. No.:	ST-18019
		Client Ref. No.:	185805264
Attn:	Josh Sargent	Date Sampled:	8/18/2021
		Date Received:	8/18/2021
Project Name:	Warmington Residential	Date Analyzed:	8/19/2021
Project Address:	Northwest Cornerr of East Highland Ave and North Palm Ave San Bernardino, CA	Physical State:	Soil Gas

EPA TO-15 – Volatile Organics by GC/MS

<u>Sample ID:</u>	METHOD		
	BLANK		
Jones ID:	081921-TO1MB1	Reporting Limit	Units
Analytes:			
Acetone	ND	1.0	µg/m ³
Acrolein	ND	1.0	µg/m ³
Benzene	ND	1.0	µg/m ³
Bromodichloromethane	ND	1.0	µg/m ³
Bromoform	ND	1.0	µg/m ³
1,3-Butadiene	ND	1.0	µg/m ³
2-Butanone (MEK)	ND	1.0	µg/m ³
n-Butylbenzene	ND	1.0	µg/m ³
sec-Butylbenzene	ND	1.0	µg/m ³
tert-Butylbenzene	ND	1.0	µg/m ³
Carbon tetrachloride	ND	1.0	µg/m ³
Chlorobenzene	ND	1.0	µg/m ³
Chloroform	ND	1.0	µg/m ³
Carbon Disulfide	ND	1.0	µg/m ³
Cyclohexane	ND	1.0	µg/m ³
Dibromochloromethane	ND	1.0	µg/m ³
1,2-Dibromoethane (EDB)	ND	1.0	µg/m ³
1,4-Dioxane	ND	1.0	µg/m ³
1,2- Dichlorobenzene	ND	1.0	µg/m ³
1,3-Dichlorobenzene	ND	1.0	µg/m ³
1,4-Dichlorobenzene	ND	1.0	µg/m ³
1,1-Dichloroethane	ND	1.0	µg/m ³
1,2-Dichloroethane	ND	1.0	µg/m ³
1,1-Dichloroethene	ND	1.0	µg/m ³
cis-1,2-Dichloroethene	ND	1.0	µg/m ³
trans-1,2-Dichloroethene	ND	1.0	µg/m ³

JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

EPA TO-15 – Volatile Organics by GC/MS

<u>Sample ID:</u>	METHOD		
	BLANK		
<u>Jones ID:</u>	081921-TO1MB1	<u>Reporting Limit</u>	<u>Units</u>
Analytes:			
Ethyl Acetate	ND	1.0	µg/m ³
Ethylbenzene	ND	1.0	µg/m ³
Ethylbenzene	ND	1.0	µg/m ³
Freon 11	ND	1.0	µg/m ³
Freon 12	ND	1.0	µg/m ³
Freon 113	ND	1.0	µg/m ³
Freon 114	ND	1.0	µg/m ³
2-Hexanone (MBK)	ND	1.0	µg/m ³
Isopropanol	ND	1.0	µg/m ³
Isopropylbenzene	ND	1.0	µg/m ³
4-Isopropyltoluene	ND	2.5	µg/m ³
4-Methyl-2-pentanone (MIBK)	ND	1.0	µg/m ³
Methylene chloride	ND	1.0	µg/m ³
Methylmethacrylate	ND	1.0	µg/m ³
Naphthalene	ND	1.0	µg/m ³
n-Propylbenzene	ND	1.0	µg/m ³
Styrene	ND	1.0	µg/m ³
1,1,1,2-Tetrachloroethane	ND	1.0	µg/m ³
1,1,2,2-Tetrachloroethane	ND	1.0	µg/m ³
Tetrachloroethene	ND	1.0	µg/m ³
Toluene	ND	1.0	µg/m ³
Tetrahydrofuran	ND	1.0	µg/m ³
Propylene	ND	1.0	µg/m ³
1,1,1-Trichloroethane	ND	1.0	µg/m ³
1,1,2-Trichloroethane	ND	1.0	µg/m ³
Trichloroethene	ND	1.0	µg/m ³
1,2,4-Trimethylbenzene	ND	1.0	µg/m ³
1,3,5-Trimethylbenzene	ND	1.0	µg/m ³
Vinyl Chloride	ND	1.0	µg/m ³
Vinyl Acetate	ND	1.0	µg/m ³
m+p-Xylene	ND	1.0	µg/m ³
o-Xylene	ND	1.0	µg/m ³
MTBE	ND	1.0	µg/m ³
Ethyl-tert-butylether	ND	1.0	µg/m ³
Di-isopropylether	ND	1.0	µg/m ³
tert-amylmethylether	ND	1.0	µg/m ³
Tracer:			
n-Pentane	ND	10	µg/m ³
n-Hexane	ND	10	µg/m ³
n-Heptane	ND	10	µg/m ³
<u>Dilution Factor</u>	1		
<u>Surrogate Recoveries:</u>		<u>QC Limits</u>	
4-Bromofluorobenzene	96%	60 - 140	
<u>Batch ID:</u>	TO1-081921-01		

ND = Value below reporting limit



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11007 FOREST PLACE
SANTA FE SPRINGS, CA 90671
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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Stantec Consulting Services, Inc.	Report date:	8/20/2021
Client Address:	735 East Carnegie Drive, Suite 280 San Bernardino, CA 92408	Jones Ref. No.:	ST-18019
		Client Ref. No.:	185805264
Attn:	Josh Sargent	Date Sampled:	8/18/2021
		Date Received:	8/18/2021
Project Name:	Warmington Residential	Date Analyzed:	8/19/2021
Project Address:	Northwest Corner of East Highland Ave and North Pa San Bernardino, CA	Physical State:	Soil Gas

EPA TO-15 – Volatile Organics by GC/MS

Batch ID: TO1-081921-01

Jones ID: 081921-TO1CCV1 081921-TO1CCVD1

<u>Parameter</u>	CCV Recovery (%)	CCVD Recovery (%)	<u>RPD</u>	Acceptability Range (%)
Vinyl chloride	104%	96%	8.0%	70 - 130
1,1-Dichloroethene	106%	90%	16.3%	70 - 130
Cis-1,2-Dichloroethene	116%	106%	9.0%	70 - 130
1,1,1-Trichloroethane	98%	92%	6.3%	70 - 130
Benzene	116%	100%	14.8%	70 - 130
Trichloroethene	94%	98%	4.2%	70 - 130
Toluene	110%	102%	7.5%	70 - 130
Tetrachloroethene	98%	96%	2.1%	70 - 130
Chlorobenzene	100%	94%	6.2%	70 - 130
Ethylbenzene	96%	92%	4.3%	70 - 130
1,2,4 Trimethylbenzene	104%	92%	12.2%	70 - 130
<u>Surrogate Recovery:</u>				
4-Bromofluorobenzene	93%	95%		60 - 140

CCV = Continuing Calibration Verification

CCV = Continuing Calibration Verification Duplicate

RPD = Relative Percent Difference; Acceptability range for RPD is $\leq 20\%$

Air Chain-of-Custody Record

Client	Stanley Consulting Services, Inc.	Date	8/18/2001
Client Address	735 East Camino Drive, Suite 280, San Bernardino, CA 92408	Client Project #	105805264
Project Name	Wilmington Residential	Purge Rate:	200 cc/min
Project Address	Northwest Corner of East Highland Ave and North Palm Ave	Shut In Test:	Y / N
San Bernardino, CA	Report To	Turn Around Requested	Tracer
Josh Sargent		<input type="checkbox"/> Immediate Attention - 200%	<input checked="" type="checkbox"/> n-pentane
		<input type="checkbox"/> Rush 24 Hours - 100%	<input checked="" type="checkbox"/> n-hexane
		<input type="checkbox"/> Rush 48 Hours - 50%	<input checked="" type="checkbox"/> n-heptane
		<input type="checkbox"/> Rush 72 Hours - 25%	<input type="checkbox"/> Helium
		<input type="checkbox"/> Rush 96 Hours - 10%	<input type="checkbox"/> 1,1-DFA
		<input checked="" type="checkbox"/> Normal - No Surcharge	<input type="checkbox"/> _____
		Summa Canister Size	Units Requested
		<input checked="" type="checkbox"/> 1L <input type="checkbox"/> 6L	<input checked="" type="checkbox"/> ug/m3 <input type="checkbox"/> ug/L <input type="checkbox"/> ppmV
			Report Options
			EDD _____
			EDF - 10% Surcharge _____
			*Global ID _____
			Gasoline Range Organics
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			Page
			1 of 1
			Analysis Requested
			Reading (inV %O)
			Containers

[illegible]