SUPPLEMENTAL PHASE II ENVIRONMENTAL SITE ASSESSMENT
9790 FINCH AVENUE
FOUNTAIN VALLEY, CALIFORNIA
SITE CODE: 401893

Prepared for

BROOKFIELD HOMES SOUTHERN CALIFORNIA LLC

3200 Park Center Drive, Suite 100
Costa Mesa, California 92626

Project No. 12418.001

January 14, 2020
(Revised from November 21, 2019)

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A LEIGHTON GROUP COMPANY

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Brookfield Homes Southern California LLC
3200 Park Center Drive, Suite 100
Costa Mesa, California 92626

Attention: Mr. John O'Brien

Subject: Supplemental Phase II Environmental Site Assessment
9790 Finch Avenue
Fountain Valley, California
Site code: 401893

INTRODUCTION

Leighton and Associates, Inc. (Leighton) is pleased to present this report summarizing the supplemental Phase II Environmental Site Assessment (ESA) activities completed for the proposed residential development located at 9790 Finch Avenue in the city of Fountain Valley, California (i.e. "Site", Figure 1, Site Location Map). The purpose of the assessment is to further assess chlorinated solvent impacts to the Site from an offsite drycleaners. The scope of work was prepared following a meeting that was held with Brookfield Homes Southern California LLC (Brookfield), Leighton, and the Department of Toxic Substances Control (DTSC) on September 20, 2019. DTSC commented during this meeting that a second round of soil vapor testing throughout the area of concern should be conducted to assess temporal variation, as well as potentially conducting additional groundwater sampling. Brookfield has entered into an agreement with DTSC under the California Land Reuse and Revitalization Act of 2004 (CLRRA) for the Site. This report has been revised to incorporate DTSC comments in a review letter dated December 20, 2019.

BACKGROUND

The Site is a 13-acre lot, located southwest of Brookhurst Street and Ellis Avenue and is currently occupied by the former Moiola Elementary School, which is vacant and no longer in use.

Leighton prepared a Phase I and Phase II ESA for the Site dated August 30, 2019 (Leighton, 2019). The Site appears to have been used for agricultural purposes from at least 1938 through the 1960s. The present school campus was constructed in 1972 and was vacated in 2013. The structures are not utilized at this time. The western portion of the Site is developed with 40,073 square feet of buildings including four classroom buildings each with six classrooms, a central multipurpose room, one administrative building, three restroom/custodial pods, three modular classrooms, an asphalt paved play area, and an asphalt paved parking lot. The eastern portion of the Site is developed as an asphalt paved parking lot, an asphalt paved play area, and a grassy field area.

Crown Cleaners is located approximately 140 feet north of the Site at the address of 18583 Brookhurst Street and has operated from at least 1990 to present day. A release of volatile organic compounds (VOCs) associated with the cleaners was assessed starting in 1996 and in 2002 approximately 55 cubic yards of tetrachloroethylene (PCE) impacted soil was excavated from inside the cleaners. It was estimated that less than 1.5 cubic yards of impacted soil containing PCE concentrations greater than the Environmental Protection Agency (EPA) Regional Screening Level (RSL) of 5.7 milligrams per kilogram (mg/kg) were left behind once the soil removal was complete (Converse Consultants, 2002). The Orange County Health Care Agency (OCHCA) consulted with the Regional Water Quality Control Board (RWQCB) regarding the presence of contamination in shallow groundwater located at a depth of approximately 10 feet below ground surface (bgs). The highest concentration of PCE at 1,000 micrograms per liter (µg/L) and trichloroethylene (TCE) at 160 µg/L was reported to be confined to groundwater beneath the western half/back doors of Crown Cleaners and the commercial unit to the south. It was concluded that because the source of contamination had been removed and that a future release was not likely due to the presence of a secondary containment beneath the machine, that additional groundwater contamination was not anticipated. Because of this and the expected natural attenuation of existing groundwater contamination over time, the RWQCB decided to not require further groundwater investigation or remedial action for the facility. The OCHCA case closure rational dated May 15, 2003, stated that: “Based on the low concentrations of PCE, trichloroethylene (TCE), and dichloroethene (DCE) beneath the dry cleaner and adjacent tenant sites that do not pose any serious threat to health or safety, as well as the Regional Board’s position

that no further groundwater investigation is required, it is recommended that this case be closed". The cleaners reportedly ceased utilizing PCE in 2005.

Leighton conducted a Phase II ESA in July and August 2019 to assess the Site for potential impacts associated with the former agricultural use and from the adjacent Crown Cleaners property.

Organochlorine pesticides (OCPs) and arsenic, chemicals associated with former agricultural use, were not identified at concentrations in soil that exceeded screening levels, with the exception of one soil sample that contained toxaphene at a concentration of 680 µg/kg, exceeding the DTSC-SL of 450 µg/kg. Toxaphene was not detected above laboratory detection limits in step-out or step-down samples and the area where toxaphene exceeded the screening criteria appears to be very limited laterally and vertically. VOCs were not detected in soil samples at concentrations exceeding screening criteria

Soil gas samples were collected from 15 locations (ENV1 through ENV15) at 5 feet bgs from the northeastern portion of the Site (closest to the dry cleaners) and analyzed for VOCs. Soil and groundwater samples were collected from five borings (B7, B10, B11, B13, and B14) across the Site in the down-gradient location from the drycleaners and analyzed for VOCs. Groundwater was measured at depths between 8.8 and 11.4 feet bgs. The soil gas sampling locations are depicted on Figure 3 and the soil and groundwater sample locations are depicted on Figure 4.

VOCs were detected in soil vapor at the following maximum concentrations, all from soil vapor boring ENV4 located nearest the drycleaners:

- PCE: 11.43 µg/L
- TCE: 9.15 µg/L
- cis-1,2-dichloroethene (cis-1,2-DCE): 6.73 µg/L
- trans-1,2-dichloroethene (trans-1,2-DCE): 1.04 µg/L
- Chloroform: 0.03 µg/L

PCE was detected in two soil gas samples (ENV-4 and ENV-5) at concentrations exceeding the residential DTSC Screening Level (DTSC-SL) of 0.46 µg/L and TCE was detected in one soil gas sample (ENV-4) at a concentration exceeding the residential EPA RSL of 0.48 µg/L (attenuation factor of 0.001). Soil vapor locations ENV4 and ENV5 are located adjacent to the property border nearest Crown Cleaners (ENV4) and immediately downgradient (ENV5). Utilizing the more conservative EPA attenuation factor of 0.03

results in concentrations of TCE exceeding the RSL in two additional soil gas samples (ENV-5 and ENV-7), cis-1,2-DCE in three samples (ENV-4, ENV-7, and ENV-8) and chloroform in one sample (ENV-4). The VOC analytical results are summarized in Table 1.

VOCs were not detected in soil above applicable residential screening levels. One soil sample, B14-10.0, contained chlorinated solvents above the laboratory detection limits. The soil sample was closest to the drycleaners and at the depth where groundwater was encountered; therefore, the chlorinated solvents appear to have migrated to the soil through the contaminated groundwater. VOCs in soil are summarized in Table 2.

Chlorinated solvents were detected in two of five groundwater sampling locations including B14 located nearest the drycleaners, and B13 located downgradient of B14. Cis-1,2-DCE was detected in two of the five groundwater locations, including the duplicate sample collected (B13-GW, B13-GWD, and B14-GW). The concentrations of each of these samples (13 µg/L, 13 µg/L, and 120 µg/L, respectively) exceeded the California Maximum Concentration Limit (MCL) of 6 µg/L. Trichloroethene was detected in one of the five groundwater locations collected (B14-GW – 12 µg/L). The concentration of this sample exceeded the MCL of 5 µg/L. The VOC analytical results are summarized in Table 3.

A Human Health Risk Assessment was conducted utilizing the data collected during the Phase II ESA (EHD, 2019). A summary of the results of the potential risks from vapor intrusion are presented in the following table, and indicate that the risk slightly exceeds the DTSC risk management range of $1x10^{-5}$ and $1x10^{-6}$ using the maximum detected concentrations and falls within the DTSC risk management range when considering the 95% UCL of the dataset:

Media / Representative Concentrations	Cancer Risk	Noncancer Hazard
Soil Vapor - Maximum Concentrations	4E-05	6
Soil Vapor - 95% UCL Concentrations	1E-05	2
Groundwater - Maximum Concentrations	9E-06	4

The HHRA calculated a soil cancer risk of 3E-06 using the maximum concentrations of all detected chemicals and 1E-06 using the 95% Upper Confidence Limit (UCL) for chemicals that were driving the cancer risk. The grading that will occur before homes are built warrants the use of the 95% UCL results of the assessment. The noncancer hazard indices using the maximum detected concentrations and the 95% UCL concentrations were less than 1.

At this time, there are two proposed development plans. Plan 1 (Figures 3a and 4a) includes a park on the western portion of the subject site and residential dwellings within the area where VOCs have been detected in soil vapor and groundwater at concentrations exceeding screening levels (ENV-4, ENV-5 [Lot 28], and potentially ENV-7 and ENV-8 [Lots 26 and 27]). Plan 2 (Figures 3b and 4b) includes a park (and not residences) in the northeast corner of the Site in the vicinity of the area where elevated concentrations of chlorinated solvents have been detected in soil vapor and groundwater.

OBJECTIVE

The purpose of the supplemental Phase II ESA was to assess Site for the presence of contaminants of concern (VOCs) associated with the offsite drycleaners and to consider temporal variability in accordance with the DTSC Vapor Intrusion Guidance (DTSC, 2011a).

SCOPE OF WORK

The scope of work included the following:

- Conduct a Supplemental Phase II ESA that included collecting soil, soil vapor, and groundwater samples for analysis of VOCs and;
- Prepare this report summarizing our findings and conclusions, including tables, illustrations, and appendices.

SUPPLEMENTAL PHASE II ESA

Health and Safety Plan

Prior to starting work, Leighton prepared a site-specific Health and Safety Plan (HSP) to include safety aspects of the work performed at the site. The HSP was in compliance with the Occupational Safety and Health and Administration (OSHA) regulation 29 CFR 1910.120. The HSP was onsite with Leighton personnel at all times. The HSP outlined site procedures, potential hazards, and contains a hospital location map. All onsite Leighton personnel signed the HSP acknowledging acceptance.

Utility Clearance

Underground Service Alert (USA) was contacted at least 48 hours prior to the commencement of fieldwork to mark underground utility locations originating off-site from

public utilities. Each proposed boring location was clearly marked in white paint prior to contacting USA.

Permit

The investigation was conducted under the City of Fountain Valley Well Permit Number 1036.

Field Activities

Soil Gas Sampling

On October 28, 2019, a supplemental soil gas survey was performed at the Site to evaluate subsurface conditions for the presence of VOCs in soil gas. A total of 10 soil gas probes were advanced at the northeast portion of the subject property to a depth of 5 feet bgs (Figure 3). Deeper soil gas probes were not installed due to the presence of groundwater at the Site between approximately 8 and 11 feet bgs. The soil gas survey was performed in general conformance with the California Environmental Protection Agency – DTSC and California Regional Water Quality Control Board – Los Angeles and San Francisco Region's (LARWQCB and SFRWQCB) Advisory – Active Soil Gas Investigations, July 2015.

Soil gas sampling was performed by hydraulically pushing dedicated stainless steel soil gas probes to a depth of 5 feet bgs. An electric rotary hammer drill was used to drill a 1.0-inch diameter hole through the overlying surface to allow probe placement when required. The same electric hammer drill was used to push probes in areas of resistance during placement.

At each sampling location, an electric vacuum pump set to draw 0.2 liters per minute (L/min) of soil vapor was attached to the probe and purged prior to sample collection. Vapor samples were obtained in SGE gas-tight syringes by drawing the sample through a luer-lock connection which connects the sampling probe and the vacuum pump. Samples were immediately injected into the gas chromatograph/purge and trap after collection. New tubing was used at each sampling point to prevent cross contamination.

A tracer gas was applied to the soil gas probes at each point of connection in which ambient air could enter the sampling system. These points include the top of the sampling probe where the tubing meets the probe connection and the surface bentonite seals. Isobutane was used as the tracer gas. No isobutane was found in any of the samples

collected. A shut-in test was conducted prior to purging or sampling each location to check for leaks in the above-ground sampling system, and leaks were not detected. A replicate analysis (duplicate) was run to evaluate the reproducibility of the sampling system and instrument. The difference between samples did not vary more than 20%.

Soil Sampling

On October 28, 2019, Leighton directed the advancement of six borings (ENV4 through ENV7, ENV14, and ENV16), in the northeastern portion of the site. The borings were advanced using hand auger equipment operated by Millennium Environmental, Inc. Soil samples were collected at depths of 5 and 10 feet bgs. Two duplicate soil samples were collected. Groundwater was also collected from each boring at depths between 9.70 to 10.77 feet bgs, as described in the following section. Soil samples were logged and described under direct supervision of a licensed California Professional Geologist (PG) and boring logs are included in Appendix B. Soil samples were retained in 8-ounce laboratory-supplied glass jars or acetate sleeves covered with a Teflon sheet and plastic cap. Samples were sub-sampled directly from the sleeve or tube in the field using a laboratory-supplied Terra Core® and transferred into three laboratory-supplied 40-mL glass vials preserved with sodium bisulfate (2 vials) and methanol (1 vial, to be used if dilution required) (EPA 5035 methodology). The containers were clearly marked with sample identification, placed in an ice-cooled chest for temporary storage, and transported to Advanced Technology Laboratories (ATL) for chemical analysis. ATL is accredited by the Environmental Laboratory Accreditation Program (No. 1838). Chain-of-custody protocol was followed throughout all phases of the sample handling process.

Each soil sample was field screened using a photoionization detector (PID) to evaluate the soil sample for the presence of volatile organic hydrocarbon vapors and the results are included on the boring logs (Appendix B). All PID readings were zero.

Grab Groundwater Sampling

Grab groundwater samples were collected from borings ENV4 through ENV7, ENV14, and ENV16. Groundwater was encountered at depths between 9.70 and 10.77 feet bgs. Approximately 5 feet of slotted polyvinyl chloride (PVC) pipe was installed within the open borehole from 10 to 15 feet bgs. Grab groundwater samples were collected using new dedicated tubing lowered through the PVC. A peristaltic pump was used to bring the groundwater samples to the surface through the tubing and into laboratory-supplied containers with proper preservative. One duplicate sample was collected.

Laboratory Analysis

Soil gas samples collected on October 28, 2019 were immediately injected into an onsite mobile laboratory gas chromatograph/purge and trap system, operated by Optimal Technology of Thousand Oaks, California, after collection. Each soil gas sample was analyzed for the tracer gas and VOCs by modified EPA Method 8260B.

Soil and groundwater samples collected on October 28, 2019 were analyzed for VOCs by EPA Method 8260B at ATL.

Copies of the chain of custody forms and complete analytical reports are included in Appendix C.

RESULTS

Soil Gas Analytical Results

Results of the chemical analyses of the soil gas samples are compared to the following adjusted screening levels for indoor air in a residential setting assuming a slab attenuation factor of 0.03 (EPA RSL; EPA, 2015) and 0.001 (DTSC-SL, DTSC, 2011b):

- DTSC-SLs, (DTSC, April 2019)
- EPA RSLs (EPA, April 2019)

Ten soil gas probe samples (ENV4A though ENV9A and ENV14A through ENV17A) were collected on October 28, 2019 and four VOCs were detected above the laboratory reporting limits in one or more soil gas samples analyzed. The concentrations of the four VOCs detected during this investigation are presented below:

Sample ID	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Chloroform (µg/L)
RSL	0.37	0.02	N/A	0.04
DTSC-SL	0.46	0.48	8.3	N/A
ENV-4A	**11.21**	**8.87**	**6.5**	**0.02**
ENV-5A	**9.65**	**0.07**	<0.20	<0.001
ENV-6A	**0.2**	<0.01	<0.20	<0.004
ENV-7A	**0.16**	<0.01	**3.82**	<0.001
ENV-8A	**0.12**	<0.01	**0.38**	<0.001
ENV-9A	<0.01	<0.01	<0.20	<0.001

Sample ID	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Chloroform (µg/L)
ENV-14A	**0.07**	<0.01	<0.20	<0.001
ENV-15A	<0.01	<0.01	<0.20	<0.001
ENV-16A	<0.01	<0.01	<0.20	<0.001
ENV-17A	<0.01	<0.01	<0.20	<0.001
ENV-17A Dup	<0.01	<0.01	<0.20	<0.001
ENV-18A	<0.01	<0.01	<0.20	<0.001

Note: **Bold** indicates detection above laboratory detection limit, RED indicates detection above screening level referenced (RSL attenuation factor = 0.03, DTSC-SL attenuation factor = 0.001).

PCE was detected in two soil gas samples (ENV-4A and ENV-5A) at concentrations exceeding the DTSC-SL of 0.46 µg/L and TCE was detected in one soil gas sample (ENV-4A) at a concentration exceeding the DTSC-SL of 0.48 µg/L. These samples are highlighted on Figures 3a and 3b and show soil vapor impacts above DTSC-SLs in ENV-4 and ENV-5, using the documented attenuation factor of 0.001 which is the prevailing guidance document at this time. However, it is Leighton's understanding that a new guidance is being prepared and that in the meantime, DTSC is recommending an evaluation utilizing the EPA attenuation factor of 0.03. Utilizing the EPA RSLs and an attenuation factor of 0.03 results in TCE exceeding the RSL in one additional soil gas sample (ENV-5A). It is not certain that an attenuation factor of 0.03 could be applied to the DTSC-SLs; however, this consideration is also depicted in Table 1. Considering the most conservative scenario, PCE and TCE exceeds a screening level in soil gas probe locations ENV-4, ENV-5, ENV-6, ENV-7, ENV-8, and ENV-14 (Table 1).

Soil Analytical Results

The soil analytical results were compared to one or more of the following regulatory screening criteria:

- The EPA Residential RSLs (April 2019)
- The DTSC Office of Human and Ecological Risk (HERO) Note Number 3 Screening Levels (DTSC-SL) (April 2019)

VOCs were detected in six of the 12 soil samples that were analyzed, including benzene, toluene, carbon disulfide, and cis-1,2-DCE and PCE (last two are chlorinated solvents, associated with drycleaners). The concentrations detected were well below the residential screening levels. The only soil samples that contained chlorinated solvents were ENV5A-5.0, ENV5A-10, and ENV7A-10, from the borings closest to the drycleaners.

Both locations contained chlorinated solvents at 10 feet bgs, the approximate depth where groundwater was encountered. Boring location ENV5 also contained chlorinated solvents at 5 feet bgs. It is likely that the depth to groundwater has fluctuated since the release was identified in 1996 and may have been at a higher elevation before later drought conditions. Chlorinated solvents appear to have migrated to the soil through the contaminated groundwater. The soil VOC analytical results are summarized in Table 2.

Groundwater Analytical Results

Groundwater analytical results were compared to the MCLs for drinking water. The results of the laboratory analyses of groundwater samples collected during this investigation are summarized in Table 3 and below:

Eleven VOCs were detected in one or more of the seven groundwater samples (six locations and one duplicate) analyzed during this investigation. Maximum concentrations were detected as follows:

Analyte	Maximum Concentration (µg/L)	MCL (ug/L)	Boring ID
Bromoform	10	80	ENV16
Bromodichloromethane	0.86	--	ENV16
Benzene	**2.7**	1.0	ENV7
cis-1,2-DCE	**170**	6	ENV4A
trans-1,2-DCE	4.3	10	ENV7
Dibromomethane	1.3	--	ENV16
TCE	**10**	5	ENV4
Dibromochloromethane	3.6	80	ENV16
Naphthalene	0.5	--	ENV4
Vinyl chloride	**1.5**	0.5	ENV7
Toluene	2.8	150	ENV7

Note: **RED** indicates detection above MCL

Cis-1,2-DCE was detected in five of the six groundwater locations, including the duplicate sample collected at concentrations ranging from 14 µg/L to 170 µg/L. The concentrations of each of these samples exceeded the MCL of 6 µg/L.

Trichloroethene was detected in three of the six groundwater locations collected at concentrations ranging from 1.0 µg/L to 10 µg/L. One sample concentration exceeded the MCL of 5 µg/L.

Vinyl Chloride was detected in one of the six groundwater locations collected at a concentration of 1.5 µg/L (ENV7A-GW). The concentration exceeded the MCL of 0.5 µg/L.

Benzene was detected in two of the six groundwater locations collected at concentrations of 1.7 µg/L (ENV4A-GW) and 2.7 µg/L (ENV7A-GW). The concentration of these samples exceeded the MCL of 1.0 µg/L. The source of the elevated benzene in groundwater is unknown; however, it is noted that it is located adjacent to the northern property boundary and downgradient to the south, and is collocated in the area most impacted with chlorinated solvents.

It should be noted that the shallow groundwater is not used as drinking water. The groundwater VOC analytical results are summarized in Table 3.

PRELIMINARY CONCEPTUAL SITE MODEL (CSM)

Based on the Site assessments, the chlorinated solvents detected in soil vapor are the result of the offsite Crown Cleaners to the north. VOC vapors may migrate up to the surface onsite and enter a building through cracks in its foundation; therefore, inhalation of vapors is considered to be a potential exposure pathway.

Based on boring logs from the Phase II ESA conducted at the Site, subsurface soils within the upper fifteen feet are comprised primarily of interbedded silty sand, sandy silt, silty clay, and sandy clay. Silty sand and/or sandy silt were located within the upper five to ten feet of each of the five soil borings advanced during this assessment.

It is likely that the PCE and the chlorinated solvents migrated along preferential sandier pathways both in soil vapor and shallow groundwater. Drycleaning related chlorinated solvents were detected in low concentrations in two soil borings located nearest the drycleaners and they appear to have migrated to the soil through the contaminated groundwater.

The current development plan for the Site involves the construction of an at-grade residential complex with living spaces on the ground level. Future onsite residents will not be in contact with contaminated soil and soil ingestion and dermal contact exposure pathways are considered incomplete. Future residential occupants will receive their

drinking water from municipal sources and will not depend on onsite groundwater wells for their water needs. Therefore, the groundwater pathway is considered to be incomplete.

CONCLUSIONS

The results from the Phase II ESA indicate that the presence of chlorinated solvents in soil gas and groundwater samples in the northeast corner of the site originate offsite from the adjacent Crown Cleaners. Crown Cleaners was issued regulatory closure by OCHCA with concurrence from the RWQCB in 2003 and the facility was reported to cease using PCE in 2005. PCE was not detected in groundwater onsite which would indicate that natural attenuation has been occurring. Two soil vapor locations (ENV4 and ENV5) associated with one residential parcel, Lot 28, contained concentrations of PCE and TCE above the DTSC recommended screening level utilizing an attenuation factor of 0.001 for future residential development (DTSC, 2011b). With respect to the lateral distribution of PCE, concentrations detected in the lots adjacent and surrounding Lot 28 decreased significantly. The health risk associated with the maximum VOCs detected onsite (associated with Lot 28) was calculated to be 4E-05, slightly above the risk management range of 1E-05 to 1E-06 where DTSC may not require mitigation to be implemented.

The concentrations detected in soil vapor were generally slightly decreased from the previous July sampling event, but were typically within approximately ten percent variation; therefore, a significant temporal variation was not observed.

RECOMMENDATIONS

The risks associated with the remaining chlorinated solvent contamination originating from the offsite Crown Cleaners that was issued regulatory closure in 2003 appears to be relatively limited in extent onsite, to be naturally attenuating, and close to or within the acceptable risk management range. Based on the consistency of the data results, an additional round of sampling does not appear to be warranted. However, the maximum cancer risk calculated at 4E-5 with a Hazard Quotient of 6, associated with the elevated vapor concentrations detected on Lot 28, indicate that additional soil vapor monitoring or mitigation may be warranted.

If Plan 1 is utilized at the subject site (Figures 3a and 4a), or any other development plan that includes residential development over the area impacted with VOCs above screening levels, it is recommended that vapor mitigation be implemented at Lot 28, including a vapor barrier and passive venting system, and that a long-term monitoring program be

established with DTSC by submittal of an Operation, Maintenance, and Monitoring (OM&M) Manual. Leighton understands that DTSC may be adopting a more conservative attenuation factor for vapor intrusion of 0.03, which if implemented could increase the number of lots requiring mitigation. As a conservative measure, Leighton also recommends that vapor barriers be installed at the lots where vapor concentrations exceed more conservative screening criteria being considered by DTSC, including Lots 26, 27, 29, and 37. The lots where vapor mitigation is recommended may be altered in consultation with DTSC prior to construction as new regulatory updates are provided with respect to vapor intrusion assessment and mitigation. If mitigation does not appear to be warranted on one or more of the lots listed above based on new regulatory updates, this will be documented in a memorandum to DTSC.

If Plan 2 is utilized that consists of an open-air park located over the area impacted with VOCs above regulatory screening levels (Figures 3b and 4b), DTSC has recommended continued monitoring in the park for soil gas and groundwater to ensure that the plume is not migrating and will not impact homes in the future, for such time that it can be adequately demonstrated that natural attenuation is occurring.

LIMITATIONS

This investigation was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions.

The observations and conclusions presented in this report are professional opinions based on the scope of activities, work schedule, and information obtained through the activities described herein, and are limited to the portion of the site investigated. Opinions presented herein apply to property conditions existing at the time of our study and cannot necessarily be taken to apply to property conditions outside of the area investigated or changes that we are not aware of or have not had the opportunity to evaluate. It must be recognized that conclusions drawn from these data are limited to the portion of the site investigated, and the amount, type, distribution, and integrity of the information collected at the time of the investigation, and the methods utilized to collect and evaluate the data. Although Leighton has taken steps to obtain true copies of available information, we make no representation or warranty with respect to the accuracy or completeness of the information provided by others.

CLOSING

We appreciate the opportunity to work with you on this project. If you have any questions regarding this report, please call us at your convenience.

Respectfully submitted,

LEIGHTON AND ASSOCIATES, INC.

Meredith Church, PG
Principal Geologist

MDC/lr

Attachments: Table 1 – Soil Gas Analytical Results for VOCs
Table 2 – Soil Analytical Results for VOCs
Table 3 – Groundwater Analytical Results for VOCs

Figure 1 – Site Location Map
Figure 2 – Site Plan
Figure 3a – Soil Vapor Location and Data Map – Plan 1
Figure 3b – Soil Vapor Location and Data Map – Plan 2
Figure 4a – Groundwater Data Map – Chlorinated Solvents – Plan 1
Figure 4b – Groundwater Data Map – Chlorinated Solvents – Plan 2

Appendix A – References
Appendix B – Boring Logs
Appendix C – Laboratory Reports

Distribution: (1) Addressee

TABLES

Leighton

TABLE 1
Soil Vapor Analytical Results for VOCs
9790 Finch Avenue, Fountain Valley, California

Boring ID	Sample ID	Sample Depth (feet)	Date Sampled	Volatile Organic Compounds (VOCs) EPA Method 8260B, micrograms per liter (µg/L)					
				PCE	TCE	Cis-1,2-DCE	Trans-1,2-DCE	Chloroform	Other VOCs Analyzed
USEPA RSL - Residential Air with 0.03 AF				**0.37**	**0.02**	**N/A**	**N/A**	**0.04**	**Various**
DSTC-SL - Residential Air with 0.001 AF				**0.46**	**0.48***	**8.3**	**83**	**0.12**	**Various**
DSTC-SL - Residential Air with 0.03 AF**				**0.02**	**0.02***	0.28	**2.77**	**0.004**	**Various**
ENV1	ENV-1	5.0	7/11/2019	<0.01	<0.01	<0.20	<1.0	<0.004	ND
ENV2	ENV-2	5.0	7/11/2019	<0.01	<0.01	<0.20	<1.0	<0.004	ND
ENV3	ENV-3	5.0	7/11/2019	<0.01	<0.01	<0.20	<1.0	<0.004	ND
ENV4	ENV-4	5.0	7/11/2019	**11.43**	**9.15**	**6.73**	**1.04**	**0.03**	ND
	ENV-4A	5.0	10/28/2019	**11.21**	**8.87**	**6.5**	<1.0	**0.02**	ND
ENV5	ENV-5	5.0	7/11/2019	**10.27**	**0.1**	<0.20	<1.0	<0.004	ND
	ENV-5A	5.0	10/28/2019	**9.65**	**0.07**	<0.20	<1.0	<0.001	ND
ENV6	ENV-6	5.0	7/11/2019	**0.01**	<0.01	<0.20	<1.0	<0.004	ND
	ENV-6A	5.0	10/28/2019	**0.2**	<0.01	<0.20	<1.0	<0.001	ND
ENV7	ENV-7	5.0	7/11/2019	<0.01	**0.15**	**4.31**	<1.0	<0.004	ND
	ENV-7A	5.0	10/28/2019	**0.16**	<0.01	**3.82**	<1.0	<0.001	ND
ENV8	ENV-8	5.0	7/11/2019	<0.01	<0.01	**0.46**	<1.0	<0.004	ND
	ENV-8A	5.0	10/28/2019	**0.12**	<0.01	**0.38**	<1.0	<0.001	ND
ENV9	ENV-9	5.0	7/11/2019	<0.01	<0.01	<0.20	<1.0	<0.004	ND
	ENV-9A	5.0	10/28/2019	<0.01	<0.01	<0.20	<1.0	<0.001	ND
ENV10	ENV-10	5.0	7/11/2019	<0.01	<0.01	<0.20	<1.0	<0.004	ND
	ENV-10 Dup	5.0	7/11/2019	<0.01	<0.01	<0.20	<1.0	<0.004	ND
ENV11	ENV-11	5.0	8/22/2019	<0.01	<0.01	<0.20	<1.0	<0.001	ND
	ENV-11 Dup	5.0	8/22/2019	<0.01	<0.01	<0.20	<1.0	<0.001	ND
ENV12	ENV-12	5.0	8/22/2019	<0.01	<0.01	<0.20	<1.0	<0.001	ND
ENV13	ENV-13	5.0	8/22/2019	<0.01	<0.01	<0.20	<1.0	<0.001	ND
ENV14	ENV-14	5.0	8/22/2019	<0.01	<0.01	<0.20	<1.0	<0.001	ND
	ENV-14A	5.0	10/28/2019	**0.07**	<0.01	<0.20	<1.0	<0.001	ND
ENV15	ENV-15	5.0	8/22/2019	<0.01	<0.01	<0.20	<1.0	<0.001	ND
	ENV-15A	5.0	10/28/2019	<0.01	<0.01	<0.20	<1.0	<0.001	ND
ENV16	ENV-16A	5.0	10/28/2019	<0.01	<0.01	<0.20	<1.0	<0.001	ND
ENV17	ENV-17A	5.0	10/28/2019	<0.01	<0.01	<0.20	<1.0	<0.001	ND
	ENV-17A Dup	5.0	10/28/2019	<0.01	<0.01	<0.20	<1.0	<0.001	ND
ENV18	ENV-18A	5.0	10/28/2019	<0.01	<0.01	<0.20	<1.0	<0.001	ND

NOTES
PCE = Tetrrachloroethylene; TCE = Trichloroethylene; Cis-1,2-dichloroethene = Cis-1,2-DCE; Trans-1,2-dichloroethene =Trans-1,2-DCE
RSL = USEPA Regional Screening Levels (RSLs) (April 2019)
DTSC-SL= Department of Toxic Substances Control (DTSC) Screening Level (SL), HERO Note Number 3 (April 2019)
AF= Attenuation Factor
<1.0 = Not Detected Above Laboratory Reporting Limits
RED Red values exceed one or more potential screening level listed
Highlighted concentrations exceed the DTSC-SL & 0.001 AF and are highlighted on Figure 3a and 3b
* There is not a DTSC-SL for TCE, this is the EPA RSL for TCE with an AF applied of 0.001 and 0.03, as indicated
** It is noted that threre is not a guidance document at this time recommending a 0.03 attenuation factor for the DTSC-SLs

TABLE 2

Soil Analytical Results for VOCs

9790 Finch Avenue, Fountain Valley, California

Boring ID	Sample ID	Sample Depth (feet)	Date Sampled	Volatile Organic Compounds (VOCs) EPA Method 8260B, (µg/kg)							
				Benzene	Carbon Disulfide	Ethylbenzene	Toluene	cis-1,2-Dichloroethene	Trichloroethene	Tetrachloroethene	Xylenes (total)
USEPA RSL - Residential Soil				**1,200**	**770,000**	**5,800**	**4,900,000**	**160,000**	**940**	**24,000**	**580,000**
DSTC-SL - Residential Soil				**330**	**--**	**--**	**1,100,000**	**18,000**	**--**	**590**	**--**
B10/ENV16	**B10-5.0**	5.0	7/16/2019	**82**	**11**	**5.7**	**47**	<4.7	<4.7	<4.7	<4.7
	B10-10	10	7/16/2019	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3
	ENV16A-5	5.0	10/28/2019	**12**	<4.3	<4.3	**8.2**	<4.3	<4.3	<4.3	<4.3
	ENV16A-10	10	10/28/2019	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1
B13/ENV6	**B13-1.0**	1.0	7/16/2019	**6.3**	<4.0	<4.0	**4.3**	<4.0	<4.0	<4.0	<4.0
	B13-2.5	2.5	7/16/2019	**37**	**5.0**	<4.8	**21**	<4.8	<4.8	<4.8	<4.8
	B13-5.0	5.0	7/16/2019	**57**	**6.1**	<4.4	**32**	<4.4	<4.4	<4.4	<4.4
	B13-10	10	7/16/2019	**92**	<4.8	**7.7**	**56**	<4.8	<4.8	<4.8	**10**
	ENV6A-5.0	5.0	10/28/2019	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2
	ENV6A-10	10	10/28/2019	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5
B14/ENV4	**B14-1.0**	1.0	7/16/2019	**20**	<4.8	<4.8	**11**	<4.8	<4.8	<4.8	<4.8
	B14-2.5	2.5	7/16/2019	**65**	**6.1**	**6.4**	**47**	<5.7	<5.7	<5.7	<5.7
	B14-2.5D	2.5	7/16/2019	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2
	B14-5.0	5.0	7/16/2019	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1
	B14-10	10	7/16/2019	<3.7	<3.7	<3.7	<3.7	**52**	**7.1**	<3.7	<3.7
	ENV4A-5.0	5.0	10/28/2019	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9
	ENV4AD-5.0	5.0	10/28/2019	**18**	<5.5	<5.5	**15**	<5.5	<5.5	<5.5	<5.5
	ENV4A-10	10	10/28/2019	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6
	ENV4AD-10	10	10/28/2019	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2
ENV5	**ENV5A-5.0**	5.0	10/28/2019	**43**	**7.0**	<4.6	**28**	<4.6	<4.6	**5.3**	<4.6
	ENV5A-10	10	10/28/2019	**49**	<4.4	<4.4	**24**	<4.4	<4.4	**5.9**	<4.4
ENV7	**ENV7A-5.0**	5.0	10/28/2019	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9
	ENV7A-10	10	10/28/2019	**5.0**	<3.7	<3.7	<3.7	**5.8**	<3.7	<3.7	<3.7
ENV14	**ENV14A-5.0**	5.0	10/28/2019	**41**	**4.9**	<4.8	**23**	<4.8	<4.8	<4.8	<4.8
	ENV14A-10	10	10/28/2019	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5

Notes:

RSL = USEPA Regional Screening Levels (RSLs) (April 2019)

DTSC-SL Department of Toxic Substances Control (DTSC) Screening Level (SL), Office of Human and Ecological Risk (HERO) Note Number 3 (April 2019)

µg/kg = Micrograms per Kilogram

-- = Not Analyzed or Not Applicable

TABLE 3
Groundwater Analytical Results for VOCs
9790 Finch Avenue, Fountain Valley, California

Boring ID	Sample ID	GW Measure Date	Depth to Water (DTW)	Volatile Organic Compounds (VOCs) EPA Method 8260B, (ug/L)										
				Bromoform	Bromodichloromethane	Benzene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Dibromomethane	Trichloroethene	Dibromochloromethane	Napththalene	Vinyl chloride	Toluene
		California MCLs		**80**	**--**	**1.0**	**6**	**10**	**--**	**5**	**80**	**--**	**0.5**	**150**
B7	**B7-GW**	07/16/19	10.00	**16**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**6.2**	<0.50	<0.50	**0.51**
B10/ENV16	**B10-GW**	07/16/19	10.85	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	ENV16A-GW	10/28/19	9.90	**10**	**0.86**	<0.50	<0.50	<0.50	**1.3**	<0.50	**3.6**	<0.50	<0.50	<0.50
B11	**B11-GW**	07/16/19	11.40	**1.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B13/ENV6	**B13-GW**	07/16/19	8.80	**16**	<0.50	**0.77**	**13**	<0.50	<0.50	<0.50	**5.9**	<0.50	<0.50	**0.80**
	B13-GWD	07/16/19	8.80	**16**	<0.50	<0.50	**13**	<0.50	<0.50	<0.50	**5.5**	<0.50	<0.50	<0.50
	ENV6A-GW	10/28/19	10.20	<0.50	<0.50	<0.50	**19**	**0.83**	<0.50	<0.50	**2.2**	<0.50	<0.50	<0.50
	ENV6A-GWD	10/28/19	10.20	**2.9**	<0.50	<0.50	**26**	**1.1**	**0.75**	<0.50	**1.0**	<0.50	<0.50	<0.50
B14/ENV4	**B14-GW**	07/16/19	10.00	<0.50	<0.50	<0.50	**120**	**5.2**	<0.50	**12**	<0.50	<0.50	<0.50	<0.50
	ENV4A-GW	10/28/19	10.50	**0.75**	<0.50	**1.7**	**170**	**3.8**	<0.50	**10**	<0.50	**0.50**	<0.50	**1.3**
ENV5	**ENV5A-GW**	10/28/19	10.60	**1.5**	<0.50	<0.50	**35**	**1.0**	<0.50	**1.0**	**0.66**	<0.50	<0.50	<0.50
ENV7	**ENV7A-GW**	10/28/19	10.77	<0.50	<0.50	**2.7**	**130**	**4.3**	<0.50	**1.6**	<0.50	<0.50	**1.5**	**2.8**
ENV14	**ENV14A-GW**	10/28/19	9.70	<0.50	<0.50	<0.50	**14**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Notes:

MCL= California Maxiumum Contaminant Levels for Regulated Drinking Water
ug/l= micrograms per liter
<0.50 = Not detected above laboratory reporting limit as shown
Bold concentrations were detected above laboratory reporting limit
Highlighted concentrations exceed regulatory limits for drinking water

FIGURES

Project: 12418.001	Eng/Geol: MC
Scale:1 " = 2,000 '	Date: July 2019

Base Map: ESRI ArcGIS Online 2019
Thematic Information: Leighton
Author: Leighton Geomatics (btran)

SITE LOCATION MAP

9790 Finch Avenue,
Fountain Valley, California

Figure 1

Leighton

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LEGEND

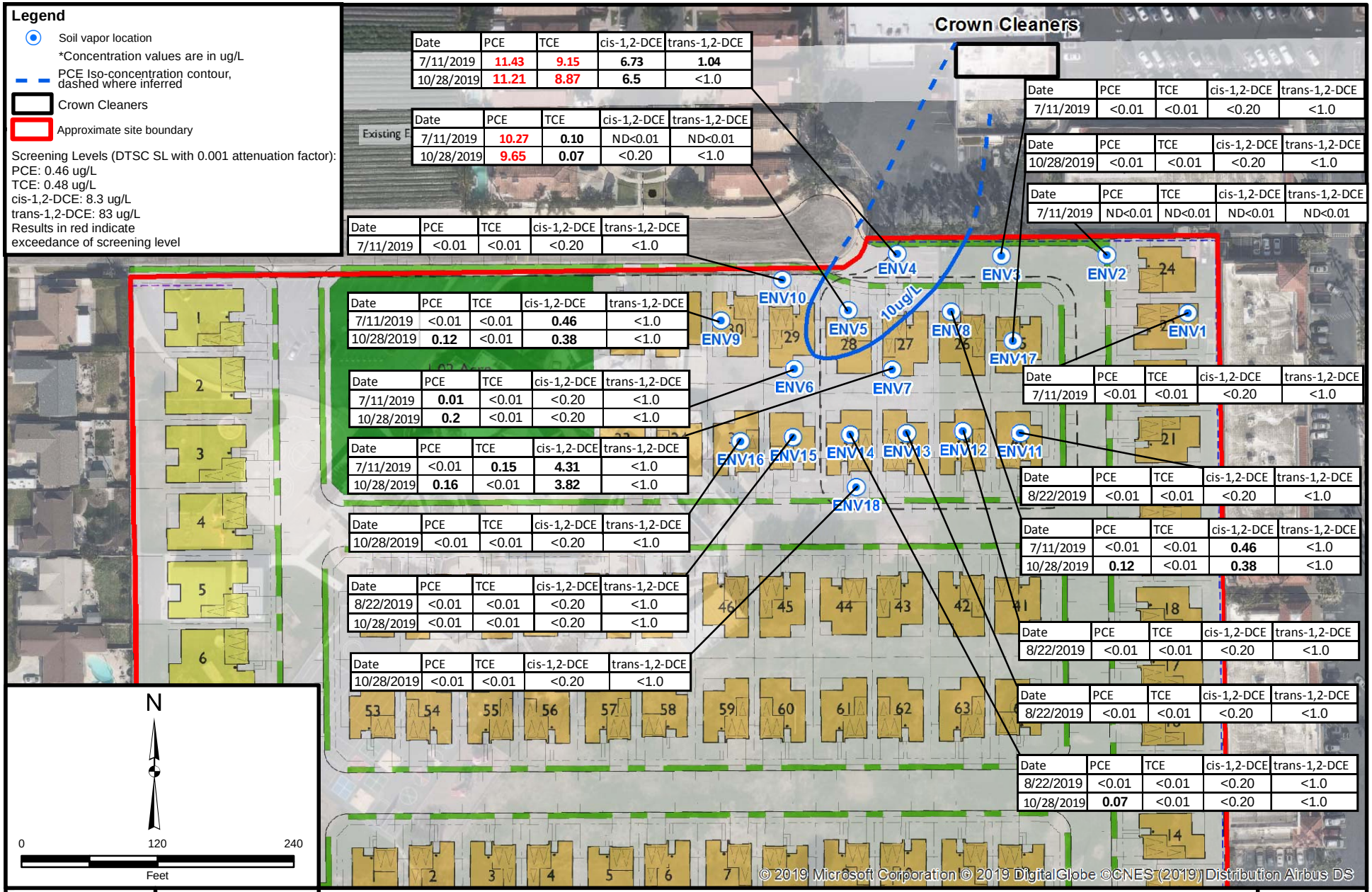
Approximate Subject Site Boundary

SITE PLAN

9790 Finch Avenue
Fountain Valley, California

Project No.	12418.001
Scale	Not to Scale
Engr./Geol.	MDC
Drafted By	SAG
Date	July 2019

Figure 2



Project: 12418.001	Eng/Geol: MDC
Scale:1 " = 120 '	Date: October 2019

Base Map: ESRI ArcGIS Online 2019
Thematic Information: Leighton
Author: Leighton Geomatics (btran)

SOIL VAPOR LOCATION AND DATA MAP - PLAN 1

Former Fred Moiola School Project
9790 Finch Avenue
Fountain Valley, California

Figure 3a

Leighton

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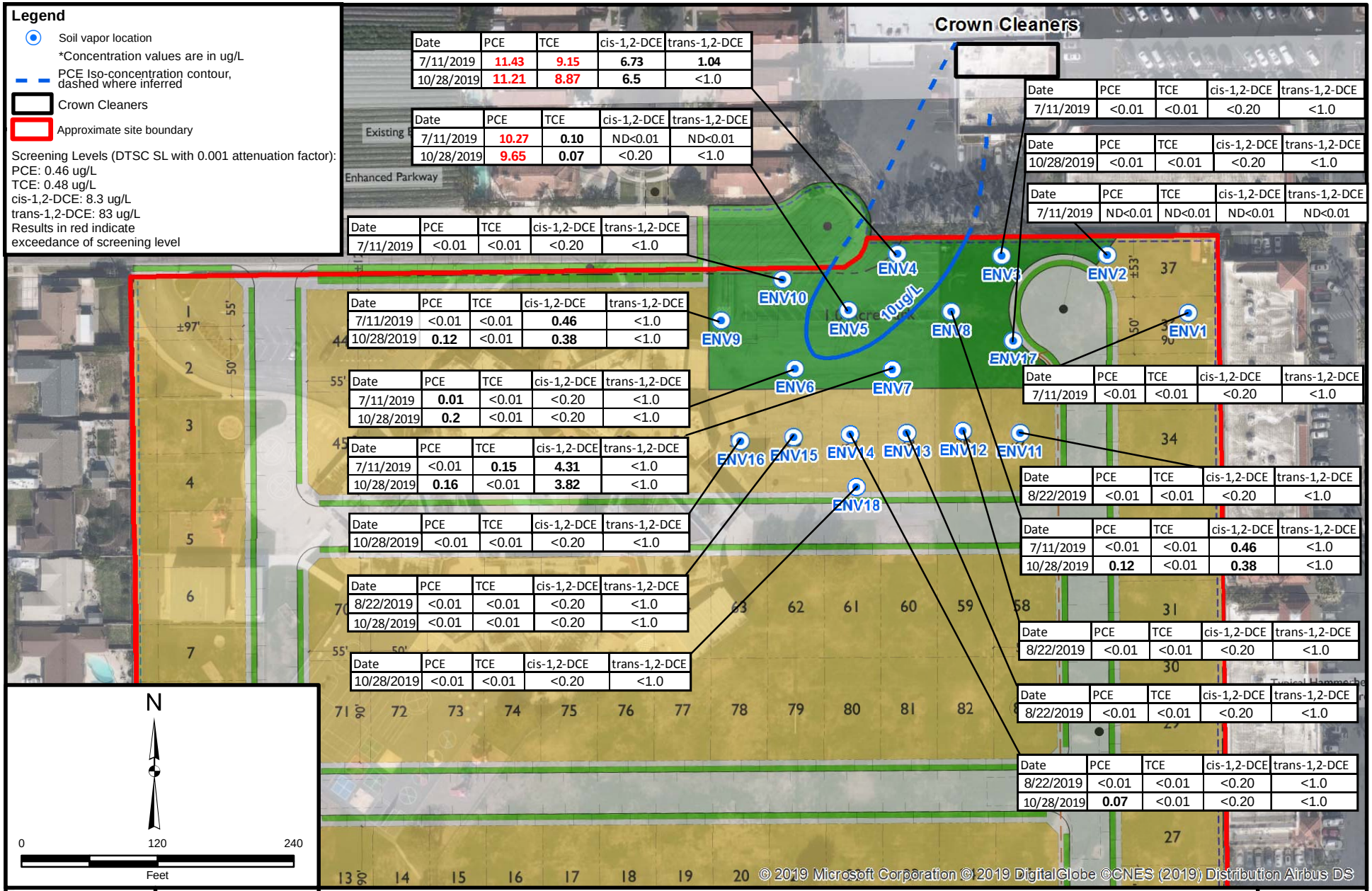

Project: 12418.001	Eng/Geol: MDC
Scale:1 " = 120 '	Date: November 2019

Base Map: ESRI ArcGIS Online 2019
Thematic Information: Leighton
Author: Leighton Geomatics (btran)

SOIL VAPOR LOCATION AND DATA MAP - PLAN 2

Former Fred Moiola School Project
9790 Finch Avenue
Fountain Valley, California

Figure 3b

Leighton

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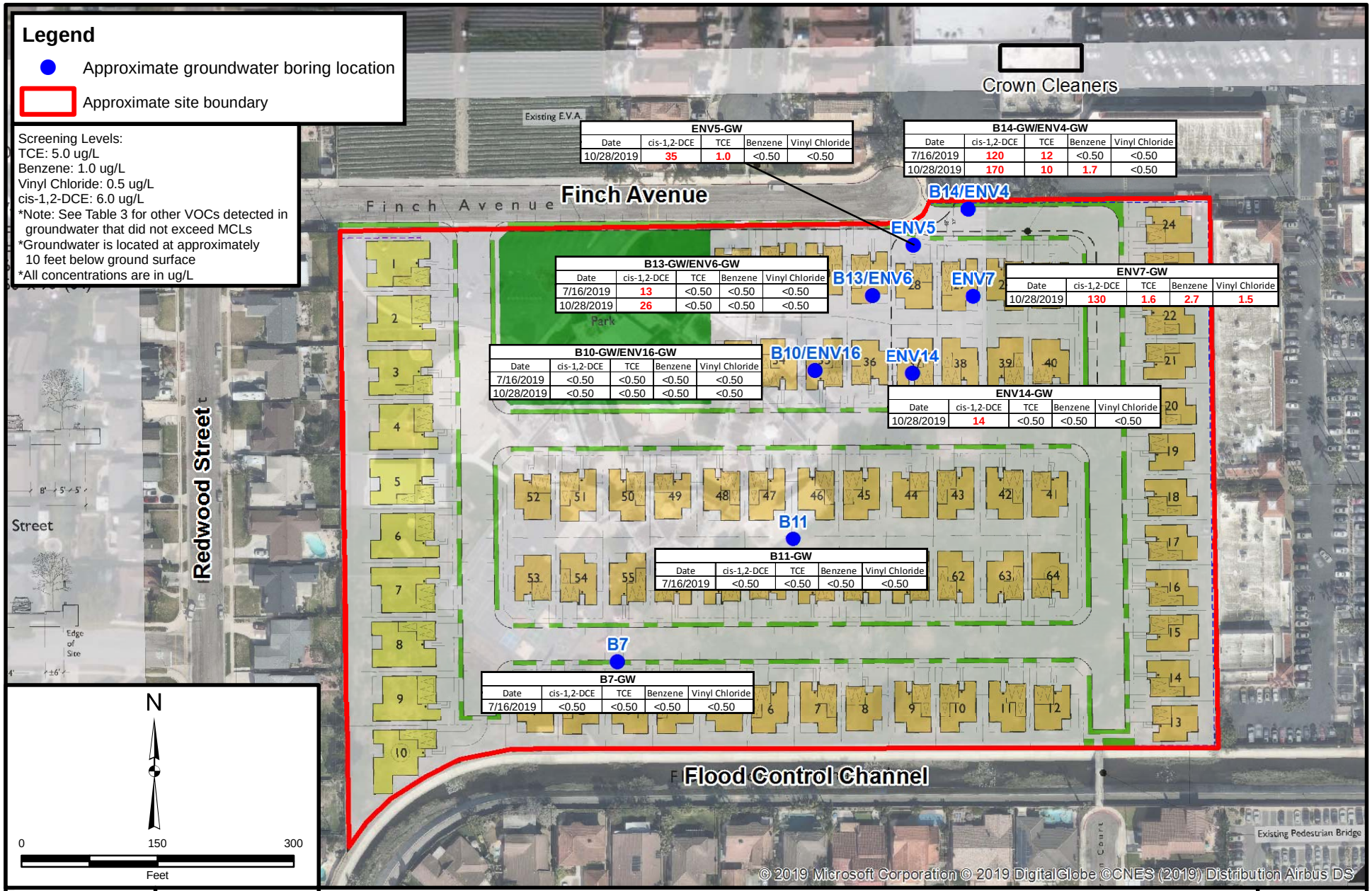

Project: 12418.001	Eng/Geol: MDC
Scale:1 " = 150 '	Date: November 2019

Base Map: ESRI ArcGIS Online 2019
Thematic Information: Leighton
Author: Leighton Geomatics (btran)

GROUNDWATER DATA MAP-CHLORINATED SOLVENTS - PLAN 1

Former Fred Moiola School Project
9790 Finch Avenue
Fountain Valley, California

Figure 4a

Leighton

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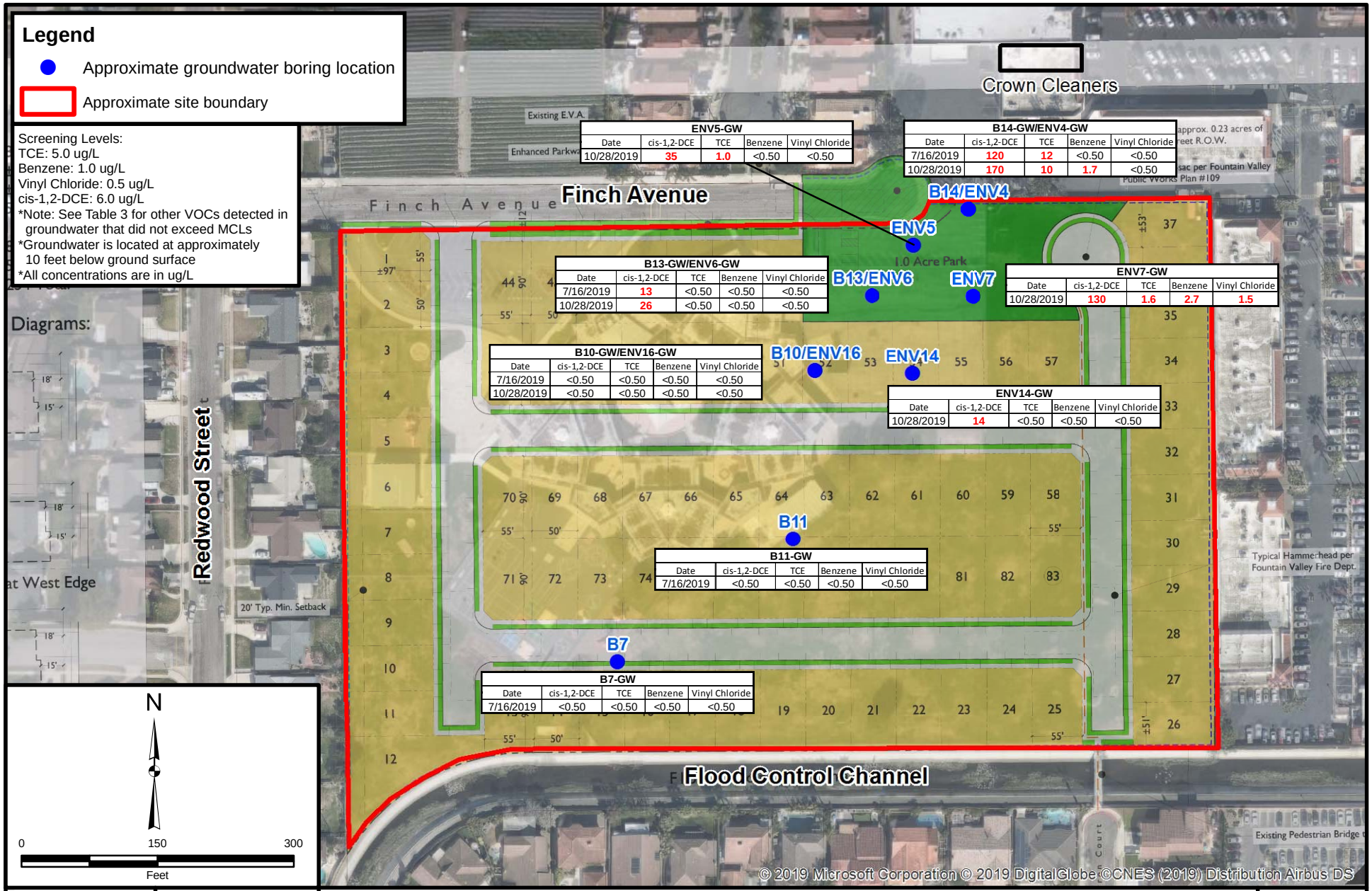


Project: 12418.001	Eng/Geol: MDC
Scale:1 " = 150 '	Date: November 2019

Base Map: ESRI ArcGIS Online 2019
Thematic Information: Leighton
Author: Leighton Geomatics (btran)

GROUNDWATER DATA MAP-CHLORINATED SOLVENTS - PLAN 2

Former Fred Moiola School Project
9790 Finch Avenue
Fountain Valley, California

Figure 4b

Leighton

Map Saved as V:\Drafting\12418\001\Maps\12418-001_F05b_GWM_2019-11-14.mxd on 11/14/2019 8:36:03 AM

APPENDIX A

REFERENCES

APPENDIX A

References

Converse Consultants, 2002, Remedial Action and Groundwater Sampling Report, Crown Cleaners, 18583 Brookhurst Street, Placentia, California, dated October 1, 2002.

Department of Toxic Substances Control (DTSC) and California Environmental Protection Agency (Cal EPA), 2011a, Vapor Intrusion Mitigation Advisory, dated October 2011.

DTSC and Cal EPA, 2011b, Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance), dated October 11, 2011.

DTSC, Human and Ecological Risk Office, Human Health Risk Assessment Note Number 3, dated April 2019.

Environmental Health Decisions (EHD), 2019, Human Health Risk Assessment of Soil Exposure and Vapor Intrusion to Indoor Air – 9790 Finch Avenue, Fountain Valley, California, dated September 5, 2019.

Leighton and Associates, 2019, Phase I and Phase II Environmental Site Assessment, 9790 Finch Avenue, Fountain Valley, California, dated August 30, 2019.

United States Environmental Protection Agency, 2019, Region 9 Residential Regional Screening Levels, April 2019.

APPENDIX B

BORING LOGS

Leighton

A Leighton Group Company

BORING LOG

PROJECT NUMBER	12418.001	**BORING/WELL NUMBER**	ENV14
PROJECT NAME	Former Fred Moiola School Project	**DATE DRILLED**	10/28/2019
LOCATION	9790 Finch Avenue, Fountain Valley, CA	**CASING TYPE/DIAMETER**	N/A
DRILLING METHOD	Hand Auger	**SCREEN TYPE/SLOT**	N/A
SAMPLING METHOD	Grab Sample	**GRAVEL PACK TYPE**	N/A
GROUND ELEVATION		**GROUT TYPE/QUANTITY**	N/A
TOP OF CASING	N/A	**DEPTH TO WATER**	
LOGGED BY	KCH	**GROUND WATER ELEVATION**	
REMARKS			

DEPTH (ft. BGL)	TIME	RECOVERY (inches)	SAMPLE ID.	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
							@Surface: 3" asphalt, 6" CAB
					SM		@1': Silty SAND, brown, medium dense, moist, fine to medium grained, no odor or staining.
5			ENV14A-5.0	0			
					CL		@5': Silty CLAY, grey/black, soft, moist, no odor or staining.
10			ENV14A-10	0			@10': moist to wet
15							**Notes:** Total Depth of Boring: 15 feet bgs Groundwater encountered at 9.70 feet bgs Backfilled with hydrated bentonite
20							

GE_SBL-T MOIOLA SCHOOL BORING LOGS - 102819.GPJ ROCKLOG2012.GDT 11/14/19

A Leighton Group Company

BORING LOG

PROJECT NUMBER	12418.001	**BORING/WELL NUMBER**	ENV16
PROJECT NAME	Former Fred Moiola School Project	**DATE DRILLED**	10/28/2019
LOCATION	9790 Finch Avenue, Fountain Valley, CA	**CASING TYPE/DIAMETER**	N/A
DRILLING METHOD	Hand Auger	**SCREEN TYPE/SLOT**	N/A
SAMPLING METHOD	Grab Sample	**GRAVEL PACK TYPE**	N/A
GROUND ELEVATION		**GROUT TYPE/QUANTITY**	N/A
TOP OF CASING	N/A	**DEPTH TO WATER**	
LOGGED BY	KCH	**GROUND WATER ELEVATION**	
REMARKS			

DEPTH (ft. BGL)	TIME	RECOVERY (inches)	SAMPLE ID.	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
							@Surface: 5" asphalt, 4" CAB
					SC		@1': Clayey SAND, brown, dense, moist, fine to medium grained, no odor or staining.
5			ENV16A-5.0	0			
					CL		@5': Sandy SILT, brown, stiff, moist, fine to medium grained, no odor or staining.
10			ENV16A-10	0			@10': grey-brown, soft, moist to wet
15							**Notes:** Total Depth of Boring: 15 feet bgs Groundwater encountered at 9.90 feet bgs Backfilled with hydrated bentonite
20							

GE_SBL-T MOIOLA SCHOOL BORING LOGS - 102819.GPJ ROCKLOG2012.GDT 11/14/19

A Leighton Group Company

BORING LOG

PROJECT NUMBER	12418.001	**BORING/WELL NUMBER**	ENV4
PROJECT NAME	Former Fred Moiola School Project	**DATE DRILLED**	10/28/2019
LOCATION	9790 Finch Avenue, Fountain Valley, CA	**CASING TYPE/DIAMETER**	N/A / N/A N/A
DRILLING METHOD	Hand Auger	**SCREEN TYPE/SLOT**	N/A / N/A N/A
SAMPLING METHOD	Grab Sample	**GRAVEL PACK TYPE**	N/A N/A
GROUND ELEVATION		**GROUT TYPE/QUANTITY**	N/A / N/A N/A
TOP OF CASING	N/A N/A	**DEPTH TO WATER**	
LOGGED BY	KCH	**GROUND WATER ELEVATION**	
REMARKS			

DEPTH (ft. BGL)	TIME	RECOVERY (inches)	SAMPLE ID.	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
							@Surface: 3" asphalt, 6" CAB
					SM		@1': Silty SAND, orange-brown, medium dense, moist, fine to medium grained, no odor or staining.
5			ENV4A-5.0	0			
10			ENV4A-10	0	CL		@10': Silty CLAY, grey, stiff, moist, no odor or staining.
15							**Notes:** Total Depth of Boring: 15 feet bgs Groundwater encountered at 10.50 feet bgs Backfilled with hydrated bentonite
20							

GE_SBL-T MOIOLA SCHOOL BORING LOGS - 102819.GPJ ROCKLOG2012.GDT 11/14/19

A Leighton Group Company

BORING LOG

PROJECT NUMBER 12418.001
PROJECT NAME Former Fred Moiola School Project
LOCATION 9790 Finch Avenue, Fountain Valley, CA
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab Sample
GROUND ELEVATION
TOP OF CASING N/A N/A
LOGGED BY KCH
REMARKS

BORING/WELL NUMBER ENV5
DATE DRILLED 10/28/2019
CASING TYPE/DIAMETER N/A / N/A N/A
SCREEN TYPE/SLOT N/A / N/A N/A
GRAVEL PACK TYPE N/A N/A
GROUT TYPE/QUANTITY N/A / N/A N/A
DEPTH TO WATER
GROUND WATER ELEVATION

DEPTH (ft. BGL)	TIME	RECOVERY (inches)	SAMPLE ID.	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
							@Surface: 3" asphalt, 6" CAB
					SM		@1': Silty SAND, orange-brown, medium dense, moist, fine to medium grained, no odor or staining.
5			ENV5A-5.0	0	ML		@5': Clayey SILT, dark brown, soft, moist to wet, no odor or staining.
10			ENV5A-10	0	CL		@10': Silty CLAY, dark brown, stiff, moist to wet, no odor or staining.
15							**Notes:** Total Depth of Boring: 15 feet bgs Groundwater encountered at 10.60 feet bgs Backfilled with hydrated bentonite
20							

GE_SBL-T MOIOLA SCHOOL BORING LOGS - 102819.GPJ ROCKLOG2012.GDT 11/14/19

A Leighton Group Company

BORING LOG

PROJECT NUMBER	12418.001	**BORING/WELL NUMBER**	ENV6
PROJECT NAME	Former Fred Moiola School Project	**DATE DRILLED**	10/28/2019
LOCATION	9790 Finch Avenue, Fountain Valley, CA	**CASING TYPE/DIAMETER**	N/A
DRILLING METHOD	Hand Auger	**SCREEN TYPE/SLOT**	N/A
SAMPLING METHOD	Grab Sample	**GRAVEL PACK TYPE**	N/A
GROUND ELEVATION		**GROUT TYPE/QUANTITY**	N/A
TOP OF CASING	N/A	**DEPTH TO WATER**	
LOGGED BY	KCH	**GROUND WATER ELEVATION**	
REMARKS			

DEPTH (ft. BGL)	TIME	RECOVERY (inches)	SAMPLE ID.	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
							@Surface: 3" asphalt, 6" CAB
					SM		@1': Silty SAND, brown, medium dense, moist, fine to medium grained, no odor or staining.
5			ENV6A-5.0	0	ML		@5': Sandy SILT, grey-brown, stiff, moist, no odor or staining.
10			ENV6A-10	0	CL		@10': Silty CLAY, dark brown, stiff, moist to wet, no odor or staining.
15							**Notes:** Total Depth of Boring: 15 feet bgs Groundwater encountered at 10.20 feet bgs Backfilled with hydrated bentonite
20							

GE_SBL-T MOIOLA SCHOOL BORING LOGS - 102819.GPJ ROCKLOG2012.GDT 11/14/19

A Leighton Group Company

BORING LOG

PROJECT NUMBER	12418.001	**BORING/WELL NUMBER**	ENV7
PROJECT NAME	Former Fred Moiola School Project	**DATE DRILLED**	10/28/2019
LOCATION	9790 Finch Avenue, Fountain Valley, CA	**CASING TYPE/DIAMETER**	N/A
DRILLING METHOD	Hand Auger	**SCREEN TYPE/SLOT**	N/A
SAMPLING METHOD	Grab Sample	**GRAVEL PACK TYPE**	N/A
GROUND ELEVATION		**GROUT TYPE/QUANTITY**	N/A
TOP OF CASING	N/A	**DEPTH TO WATER**	
LOGGED BY	KCH	**GROUND WATER ELEVATION**	
REMARKS			

DEPTH (ft. BGL)	TIME	RECOVERY (inches)	SAMPLE ID.	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
							@Surface: 3" asphalt, 6" CAB
					CL		@1': Sandy CLAY, dark brown, medium dense, moist, fine to medium grained, no odor or staining.
5			ENV7A-5.0	0	SM		@5': Silty SAND, brown, stiff, moist, fine to medium grained, no odor or staining.
10			ENV7A-10	0	CL		@10': Clayey SILT, dark brown, stiff, moist to wet, some sand, fine to medium grained, no odor or staining.
15							**Notes:** Total Depth of Boring: 15 feet bgs Groundwater encountered at 10.77 feet bgs Backfilled with hydrated bentonite
20							

GE_SBL-T MOIOLA SCHOOL BORING LOGS - 102819.GPJ ROCKLOG2012.GDT 11/14/19

APPENDIX C

LABORATORY REPORTS AND CHAIN-OF-CUSTODY RECORDS

Leighton

OPTIMAL TECHNOLOGY
Specializing in Environmental Field Services

October 29, 2019

Ms. Meredith Church
Leighton & Associates, Inc.
17781 Cowan
Irvine, CA 92614

Dear Ms. Church:

This letter presents the results of the soil vapor investigation conducted by Optimal Technology (Optimal), for Leighton & Associates, Inc. on October 28, 2019. The study was performed at 9790 Finch Ave., Fountain Valley, California.

Optimal was contracted to perform a soil vapor survey at this site to screen for possible chlorinated solvents and aromatic hydrocarbons. The primary objective of this soil vapor investigation was to determine if soil vapor contamination is present in the subsurface soil.

Gas Sampling Method

Gas sampling was performed by hydraulically pushing soil gas probes to a depth of 5.0 feet below ground surface (bgs). An electric rotary hammer drill was used to drill a 1.0-inch diameter hole through the overlying surface to allow probe placement when required. The same electric hammer drill was used to push probes in areas of resistance during placement.

At each sampling location, an electric vacuum pump set to draw 0.2 liters per minute (L/min) of soil vapor was attached to the probe and purged prior to sample collection. Vapor samples were obtained in gas-tight syringes by drawing the sample through a luer-lock connection which connects the sampling probe and the vacuum pump. Samples were immediately injected into the gas chromatograph/purge and trap after collection. New tubing was used at each sampling point to prevent cross contamination.

All analyses were performed on a laboratory grade Agilent model 6890N gas chromatograph equipped with an Agilent model 5973N Mass Spectra Detector and Tekmar LSC 3100 Purge and Trap. A Restek column using helium as the carrier gas was used to perform all analysis. All results were collected on a personal computer utilizing Agilent's MS and chromatographic data collection and handling system.

Quality Assurance

5-Point Calibration
The initial five-point calibration consisted of 20, 50, 100, 200 and 500 ul injections of the calibration standard. A calibration factor on each analyte was generated using a best fit line method using the Agilent data system. If the r^2 factor generated from this line was not greater than 0.990, an additional five-point calibration would have been performed. Method reporting limits were calculated to be 0.001-1.0 micrograms per Liter (ug/L) for the individual compounds.

A daily calibration check was performed using a pre-mixed standard supplied by Scotty Analyzed Gases. The standard contained common halogenated solvents and aromatic hydrocarbons (see Table 1). The individual compound concentrations in the standards ranged between 0.025 nanograms per microliter (ng/ul) and 0.25 ng/ul.

TABLE 1

Dichlorodifluoromethane	Carbon Tetrachloride	Chloroethane
Trichlorofluoromethane	1,2-Dichloroethane	Benzene
1,1-Dichloroethene	Trichloroethene	Toluene
Methylene Chloride	1,1,2-Trichloroethane	Ethylbenzene
trans-1,2-Dichloroethene	Tetrachloroethene	m-/p-Xylene
1,1-Dichloroethane	Chloroform	o-Xylene
cis-1,2-Dichloroethene	1,1,1,2-Tetrachloroethane	Vinyl Chloride
1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	Freon 113
4-Methyl-2-Pentanone	Cyclohexane	Acetone
Chlorobenzene	2-Butanone	Isobutane

Sample Replicates
A replicate analysis (duplicate) was run to evaluate the reproducibility of the sampling system and instrument. The difference between samples did not vary more than 20%.

Equipment Blanks
Blanks were run at the beginning of each workday and after calibrations. The blanks were collected using an ambient air sample. These blanks checked the septum, syringe, GC column, GC detector and the ambient air. Contamination was not found in any of the blanks analyzed during this investigation. Blank results are given along with the sample results.

Tracer Gas Leak Test
A tracer gas was applied to the soil gas probes at each point of connection in which ambient air could enter the sampling system. These points include the top of the sampling probe where the tubing meets the probe connection and the surface bentonite seals. Isobutane was used as the tracer gas. No Isobutane was found in any of the samples collected.

Purge Volume
The standard purge volume of three volumes was purged in accordance with the July 2015 DTSC/RWQCB Advisory for Active Soil Gas Investigations.

Shut-in Test
A shut-in test was conducted prior to purging or sampling each location to check for leaks in the above-ground sampling system. The system was evaluated to a minimum measured vacuum of 100 inches of water. The vacuum gauge was calibrated and sensitive enough to indicate a water pressure change of at least 0.5 inches.

Scope of Work

To achieve the objective of this investigation a total of 12 vapor samples were collected from 11 locations at the site. Sampling depths, vacuum readings, purge volume and sampling volumes are given on the analytical results page. All the collected vapor samples were analyzed on-site using Optimal's mobile laboratory.

Subsurface Conditions

Subsurface soil conditions at this site offered sampling flows at 0" water vacuum. Depth to groundwater was unknown at the time of the investigation.

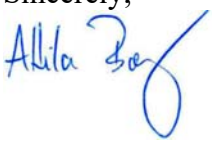
Results

During this vapor investigation, multiple analytes were detected in several samples collected above the listed reporting limit. Please see the complete table of analytical results included with this report.

Disclaimer

All conclusions presented in this letter are based solely on the information collected by the soil vapor survey conducted by Optimal Technology. Soil vapor testing is only a subsurface screening tool and does not represent actual contaminant concentrations in either the soil and/or groundwater. We enjoyed working with you on this project and look forward to future projects. If you have any questions, please contact me at (877) 764-5427.

Sincerely,



Attila Baly
Project Manager

OPTIMAL TECHNOLOGY
Specializing in Environmental Field Services

SOIL VAPOR RESULTS

Site Name: 9790 Finch Ave., Fountain Valley, CA
Analyst: A. Baly **Collector:** A. Baly
Method: Modified EPA 8260B

Lab Name: Optimal Technology
Inst. ID: Agilent 6890N
Detector: Agilent 5973N Mass Spectrometer

Date: 10/28/19

SAMPLE ID	BLANK-1	ENV-4A	ENV-5A	ENV-6A	ENV-7A	ENV-8A	ENV-9A	ENV-14A
Sampling Depth (Ft.)	N/A	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Purge Volume (ml)	N/A	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Vacuum (in. of Water)	N/A	0	0	0	0	0	0	0
Injection Volume (ul)	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Dilution Factor	1	1	1	1	1	1	1	1

COMPOUND	REP. LIMIT	CONC (ug/L)	CONC (ug/L)	CONC (ug/L)	CONC (ug/L)	CONC (ug/L)	CONC (ug/L)	CONC (ug/L)	CONC (ug/L)
Dichlorodifluoromethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	1.00	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	0.03	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	0.001	ND	**0.02**	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	0.001	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.001	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (TCE)	0.01	ND	**8.87**	**0.07**	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.001	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	0.01	ND	**11.21**	**9.65**	**0.20**	**0.16**	**0.12**	ND	**0.07**
1,1,1,2-Tetrachloroethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.001	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	0.001	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	1.00	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	1.00	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.20	ND	**6.50**	ND	ND	**3.82**	**0.38**	ND	ND
Cyclohexane	1.00	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	0.001	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	1.00	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1.00	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	1.00	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.03	ND	ND	ND	ND	ND	ND	ND	ND
m/p-Xylene	1.00	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	1.00	ND	ND	ND	ND	ND	ND	ND	ND
Isobutane (Tracer Gas)	1.00	ND	ND	ND	ND	ND	ND	ND	ND

Note: ND = Below Listed Reporting Limit

OPTIMAL TECHNOLOGY
Specializing in Environmental Field Services

SOIL VAPOR RESULTS

Site Name: 9790 Finch Ave., Fountain Valley, CA
Lab Name: Optimal Technology
Date: 10/28/19
Analyst: A. Baly **Collector:** A. Baly
Inst. ID: Agilent 6890N
Method: Modified EPA 8260B
Detector: Agilent 5973N Mass Spectrometer
Page: 2 of 2

SAMPLE ID	ENV-15A	ENV-16A	ENV-17A	ENV-17A Dup	ENV-18A			
Sampling Depth (Ft.)	5.0	5.0	5.0	5.0	5.0			
Purge Volume (ml)	1,500	1,500	1,500	1,500	1,500			
Vacuum (in. of Water)	0	0	0	0	0			
Injection Volume (ul)	50,000	50,000	50,000	50,000	50,000			
Dilution Factor	1	1	1	1	1			

COMPOUND	REP. LIMIT	CONC (ug/L)	CONC (ug/L)	CONC (ug/L)	CONC (ug/L)	CONC (ug/L)			
Dichlorodifluoromethane	1.00	ND	ND	ND	ND	ND			
Chloroethane	1.00	ND	ND	ND	ND	ND			
Trichlorofluoromethane	1.00	ND	ND	ND	ND	ND			
Freon 113	1.00	ND	ND	ND	ND	ND			
Methylene Chloride	0.03	ND	ND	ND	ND	ND			
1,1-Dichloroethane	0.05	ND	ND	ND	ND	ND			
Chloroform	0.004	ND	ND	ND	ND	ND			
1,1,1-Trichloroethane	1.00	ND	ND	ND	ND	ND			
Carbon Tetrachloride	0.002	ND	ND	ND	ND	ND			
1,2-Dichloroethane	0.003	ND	ND	ND	ND	ND			
Trichloroethene (TCE)	0.01	ND	ND	ND	ND	ND			
1,1,2-Trichloroethane	0.005	ND	ND	ND	ND	ND			
Tetrachloroethene (PCE)	0.01	ND	ND	ND	ND	ND			
1,1,1,2-Tetrachloroethane	0.01	ND	ND	ND	ND	ND			
1,1,2,2-Tetrachloroethane	0.001	ND	ND	ND	ND	ND			
Vinyl Chloride	0.001	ND	ND	ND	ND	ND			
Acetone	1.00	ND	ND	ND	ND	ND			
1,1-Dichloroethene	1.00	ND	ND	ND	ND	ND			
trans-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND			
2-Butanone (MEK)	1.00	ND	ND	ND	ND	ND			
cis-1,2-Dichloroethene	0.20	ND	ND	ND	ND	ND			
Cyclohexane	1.00	ND	ND	ND	ND	ND			
Benzene	0.003	ND	ND	ND	ND	ND			
4-Methyl-2-Pentanone	1.00	ND	ND	ND	ND	ND			
Toluene	1.00	ND	ND	ND	ND	ND			
Chlorobenzene	1.00	ND	ND	ND	ND	ND			
Ethylbenzene	0.03	ND	ND	ND	ND	ND			
m/p-Xylene	1.00	ND	ND	ND	ND	ND			
o-Xylene	1.00	ND	ND	ND	ND	ND			
Isobutane (Tracer Gas)	1.00	ND	ND	ND	ND	ND			

Note: ND = Below Listed Reporting Limit

OPTIMAL TECHNOLOGY
Specializing in Environmental Field Services

CHAIN OF CUSTODY FORM

Site Name/Number		PO# / Project Ref#	
Site Address	**9790 Finch Ave., Fountain Valley, CA**		
Company Name			
Contact Person(s):		Phone#	Email:
Comments:			

				TESTS REQUIRED (please mark with an "X")			
Sample Identification	Sampling Device	Date Collected	Time Collected	**Soil Gas Mod 8260B**	**Soil Gas Mod 8021B**	**Soil Gas Mod 8015**	**Notes**
BLANK-1	Syringe	10/28/19	7:04 AM	x			
ENV-4A	Syringe	10/28/19	7:45 AM	x			
ENV-5A	Syringe	10/28/19	8:38 AM	x			
ENV-6A	Syringe	10/28/19	8:59 AM	x			
ENV-7A	Syringe	10/28/19	9:23 AM	x			
ENV-8A	Syringe	10/28/19	10:08 AM	x			
ENV-9A	Syringe	10/28/19	10:33 AM	x			
ENV-14A	Syringe	10/28/19	10:58 AM	x			
ENV-15A	Syringe	10/28/19	11:28 AM	x			
ENV-16A	Syringe	10/28/19	11:51 AM	x			
ENV-17A	Syringe	10/28/19	12:14 PM	x			
ENV-17A Dup	Syringe	10/28/19	12:14 PM	x			
ENV-18A	Syringe	10/28/19	12:55 PM	x			

Collected & Tested by:

Attila Bo

1667 Cross Bridge Place, Thousand Oaks, CA 91362 • Toll Free (877) SOIL GAS (764-5427) • (818) 734-6230 • Fax (818) 734-6235

November 04, 2019

Meredith Church
Leighton & Associates
17781 Cowan Street
Irvine, CA 92614
Tel: (949) 681-4208
Fax:(949) 757-7230

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

Re: ATL Work Order Number : 1903938

Client Reference : Brookfield - Moiola School, FV, 12418.001

Enclosed are the results for sample(s) received on October 28, 2019 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Edgar Caballero
President & Laboratory Director

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ENV7A-5'	1903938-01	Soil	10/28/19 9:10	10/28/19 14:20
ENV7A-10'	1903938-02	Soil	10/28/19 9:12	10/28/19 14:20
ENV14A-5'	1903938-03	Soil	10/28/19 9:30	10/28/19 14:20
ENV14A-10'	1903938-04	Soil	10/28/19 9:32	10/28/19 14:20
ENV5A-5'	1903938-05	Soil	10/28/19 9:44	10/28/19 14:20
ENV5A-10'	1903938-06	Soil	10/28/19 9:46	10/28/19 14:20
ENV16A-5'	1903938-07	Soil	10/28/19 10:15	10/28/19 14:20
ENV16A-10'	1903938-08	Soil	10/28/19 10:17	10/28/19 14:20
ENV6A-5'	1903938-09	Soil	10/28/19 10:00	10/28/19 14:20
ENV6A-10'	1903938-10	Soil	10/28/19 10:02	10/28/19 14:20
ENV4A-5'	1903938-11	Soil	10/28/19 10:45	10/28/19 14:20
ENV4AD-5'	1903938-12	Soil	10/28/19 10:46	10/28/19 14:20
ENV4A-10'	1903938-13	Soil	10/28/19 10:49	10/28/19 14:20
ENV4AD-10'	1903938-14	Soil	10/28/19 10:50	10/28/19 14:20

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

DETECTION SUMMARY

Client Sample ID ENV7A-10'

Lab ID: 1903938-02

Volatile Organic Compounds by EPA 5035 / EPA 8260B — **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	**5.0**	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
cis-1,2-Dichloroethene	**5.8**	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	

Client Sample ID ENV14A-5'

Lab ID: 1903938-03

Volatile Organic Compounds by EPA 5035 / EPA 8260B — **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	**41**	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Carbon disulfide	**4.9**	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Toluene	**23**	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	

Client Sample ID ENV5A-5'

Lab ID: 1903938-05

Volatile Organic Compounds by EPA 5035 / EPA 8260B — **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	**43**	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Carbon disulfide	**7.0**	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Tetrachloroethene	**5.3**	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Toluene	**28**	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

DETECTION SUMMARY

Client Sample ID ENV5A-10'

Lab ID: 1903938-06

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	**49**	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Tetrachloroethene	**5.9**	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Toluene	**24**	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	

Client Sample ID ENV16A-5'

Lab ID: 1903938-07

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	**12**	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Toluene	**8.2**	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	

Client Sample ID ENV4AD-5'

Lab ID: 1903938-12

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	**18**	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Toluene	**15**	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV7A-5'

Lab ID: 1903938-01

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,1,1-Trichloroethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,1,2,2-Tetrachloroethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,1,2-Trichloroethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,1-Dichloroethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,1-Dichloroethene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,1-Dichloropropene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,2,3-Trichloropropane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,2,3-Trichlorobenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,2,4-Trichlorobenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,2,4-Trimethylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,2-Dibromo-3-chloropropane	ND	9.7	1	B9J0978	10/31/2019	10/31/19 20:18	
1,2-Dibromoethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,2-Dichlorobenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,2-Dichloroethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,2-Dichloropropane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,3,5-Trimethylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,3-Dichlorobenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,3-Dichloropropane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
1,4-Dichlorobenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
2,2-Dichloropropane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
2-Chlorotoluene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
4-Chlorotoluene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
4-Isopropyltoluene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Benzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Bromobenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Bromochloromethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Bromodichloromethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Bromoform	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Bromomethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Carbon disulfide	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Carbon tetrachloride	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Chlorobenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Chloroethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Chloroform	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Chloromethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
cis-1,2-Dichloroethene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV7A-5'

Lab ID: 1903938-01

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Di-isopropyl ether	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Dibromochloromethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Dibromomethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Dichlorodifluoromethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Ethyl Acetate	ND	49	1	B9J0978	10/31/2019	10/31/19 20:18	
Ethyl Ether	ND	49	1	B9J0978	10/31/2019	10/31/19 20:18	
Ethyl tert-butyl ether	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Ethylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Freon-113	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Hexachlorobutadiene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Isopropylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
m,p-Xylene	ND	9.7	1	B9J0978	10/31/2019	10/31/19 20:18	
Methylene chloride	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
MTBE	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
n-Butylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
n-Propylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Naphthalene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
o-Xylene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
sec-Butylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Styrene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
tert-Amyl methyl ether	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
tert-Butanol	ND	97	1	B9J0978	10/31/2019	10/31/19 20:18	
tert-Butylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Tetrachloroethene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Toluene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
trans-1,2-Dichloroethene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
trans-1,3-Dichloropropene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Trichloroethene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Trichlorofluoromethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Vinyl acetate	ND	49	1	B9J0978	10/31/2019	10/31/19 20:18	
Vinyl chloride	ND	4.9	1	B9J0978	10/31/2019	10/31/19 20:18	
Surrogate: 1,2-Dichloroethane-d4	*125 %*	*60 - 145*		B9J0978	10/31/2019	*10/31/19 20:18*	
Surrogate: 4-Bromofluorobenzene	*95.0 %*	*68 - 121*		B9J0978	10/31/2019	*10/31/19 20:18*	
Surrogate: Dibromofluoromethane	*110 %*	*65 - 137*		B9J0978	10/31/2019	*10/31/19 20:18*	
Surrogate: Toluene-d8	*94.2 %*	*82 - 119*		B9J0978	10/31/2019	*10/31/19 20:18*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV7A-10'

Lab ID: 1903938-02

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,1,1-Trichloroethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,1,2,2-Tetrachloroethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,1,2-Trichloroethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,1-Dichloroethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,1-Dichloroethene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,1-Dichloropropene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,2,3-Trichloropropane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,2,3-Trichlorobenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,2,4-Trichlorobenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,2,4-Trimethylbenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,2-Dibromo-3-chloropropane	ND	7.3	1	B9J0978	10/31/2019	10/31/19 20:36	
1,2-Dibromoethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,2-Dichlorobenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,2-Dichloroethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,2-Dichloropropane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,3,5-Trimethylbenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,3-Dichlorobenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,3-Dichloropropane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
1,4-Dichlorobenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
2,2-Dichloropropane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
2-Chlorotoluene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
4-Chlorotoluene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
4-Isopropyltoluene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Benzene	**5.0**	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Bromobenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Bromochloromethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Bromodichloromethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Bromoform	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Bromomethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Carbon disulfide	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Carbon tetrachloride	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Chlorobenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Chloroethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Chloroform	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Chloromethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
cis-1,2-Dichloroethene	**5.8**	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV7A-10'

Lab ID: 1903938-02

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Di-isopropyl ether	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Dibromochloromethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Dibromomethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Dichlorodifluoromethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Ethyl Acetate	ND	37	1	B9J0978	10/31/2019	10/31/19 20:36	
Ethyl Ether	ND	37	1	B9J0978	10/31/2019	10/31/19 20:36	
Ethyl tert-butyl ether	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Ethylbenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Freon-113	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Hexachlorobutadiene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Isopropylbenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
m,p-Xylene	ND	7.3	1	B9J0978	10/31/2019	10/31/19 20:36	
Methylene chloride	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
MTBE	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
n-Butylbenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
n-Propylbenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Naphthalene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
o-Xylene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
sec-Butylbenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Styrene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
tert-Amyl methyl ether	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
tert-Butanol	ND	73	1	B9J0978	10/31/2019	10/31/19 20:36	
tert-Butylbenzene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Tetrachloroethene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Toluene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
trans-1,2-Dichloroethene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
trans-1,3-Dichloropropene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Trichloroethene	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Trichlorofluoromethane	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Vinyl acetate	ND	37	1	B9J0978	10/31/2019	10/31/19 20:36	
Vinyl chloride	ND	3.7	1	B9J0978	10/31/2019	10/31/19 20:36	
Surrogate: 1,2-Dichloroethane-d4	*129 %*	*60 - 145*		B9J0978	10/31/2019	*10/31/19 20:36*	
Surrogate: 4-Bromofluorobenzene	*96.7 %*	*68 - 121*		B9J0978	10/31/2019	*10/31/19 20:36*	
Surrogate: Dibromofluoromethane	*112 %*	*65 - 137*		B9J0978	10/31/2019	*10/31/19 20:36*	
Surrogate: Toluene-d8	*94.8 %*	*82 - 119*		B9J0978	10/31/2019	*10/31/19 20:36*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV14A-5'

Lab ID: 1903938-03

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,1,1-Trichloroethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,1,2,2-Tetrachloroethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,1,2-Trichloroethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,1-Dichloroethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,1-Dichloroethene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,1-Dichloropropene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,2,3-Trichloropropane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,2,3-Trichlorobenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,2,4-Trichlorobenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,2,4-Trimethylbenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,2-Dibromo-3-chloropropane	ND	9.6	1	B9J0978	10/31/2019	10/31/19 20:55	
1,2-Dibromoethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,2-Dichlorobenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,2-Dichloroethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,2-Dichloropropane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,3,5-Trimethylbenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,3-Dichlorobenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,3-Dichloropropane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
1,4-Dichlorobenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
2,2-Dichloropropane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
2-Chlorotoluene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
4-Chlorotoluene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
4-Isopropyltoluene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Benzene	**41**	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Bromobenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Bromochloromethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Bromodichloromethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Bromoform	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Bromomethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Carbon disulfide	**4.9**	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Carbon tetrachloride	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Chlorobenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Chloroethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Chloroform	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Chloromethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
cis-1,2-Dichloroethene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV14A-5'

Lab ID: 1903938-03

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Di-isopropyl ether	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Dibromochloromethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Dibromomethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Dichlorodifluoromethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Ethyl Acetate	ND	48	1	B9J0978	10/31/2019	10/31/19 20:55	
Ethyl Ether	ND	48	1	B9J0978	10/31/2019	10/31/19 20:55	
Ethyl tert-butyl ether	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Ethylbenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Freon-113	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Hexachlorobutadiene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Isopropylbenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
m,p-Xylene	ND	9.6	1	B9J0978	10/31/2019	10/31/19 20:55	
Methylene chloride	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
MTBE	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
n-Butylbenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
n-Propylbenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Naphthalene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
o-Xylene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
sec-Butylbenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Styrene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
tert-Amyl methyl ether	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
tert-Butanol	ND	96	1	B9J0978	10/31/2019	10/31/19 20:55	
tert-Butylbenzene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Tetrachloroethene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Toluene	**23**	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
trans-1,2-Dichloroethene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
trans-1,3-Dichloropropene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Trichloroethene	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Trichlorofluoromethane	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Vinyl acetate	ND	48	1	B9J0978	10/31/2019	10/31/19 20:55	
Vinyl chloride	ND	4.8	1	B9J0978	10/31/2019	10/31/19 20:55	
Surrogate: 1,2-Dichloroethane-d4	*124 %*	*60 - 145*		B9J0978	10/31/2019	*10/31/19 20:55*	
Surrogate: 4-Bromofluorobenzene	*99.3 %*	*68 - 121*		B9J0978	10/31/2019	*10/31/19 20:55*	
Surrogate: Dibromofluoromethane	*109 %*	*65 - 137*		B9J0978	10/31/2019	*10/31/19 20:55*	
Surrogate: Toluene-d8	*96.4 %*	*82 - 119*		B9J0978	10/31/2019	*10/31/19 20:55*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV14A-10'

Lab ID: 1903938-04

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,1,1-Trichloroethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,1,2,2-Tetrachloroethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,1,2-Trichloroethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,1-Dichloroethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,1-Dichloroethene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,1-Dichloropropene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,2,3-Trichloropropane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,2,3-Trichlorobenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,2,4-Trichlorobenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,2,4-Trimethylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,2-Dibromo-3-chloropropane	ND	9.0	1	B9J0978	10/31/2019	10/31/19 21:14	
1,2-Dibromoethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,2-Dichlorobenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,2-Dichloroethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,2-Dichloropropane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,3,5-Trimethylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,3-Dichlorobenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,3-Dichloropropane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
1,4-Dichlorobenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
2,2-Dichloropropane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
2-Chlorotoluene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
4-Chlorotoluene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
4-Isopropyltoluene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Benzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Bromobenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Bromochloromethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Bromodichloromethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Bromoform	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Bromomethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Carbon disulfide	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Carbon tetrachloride	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Chlorobenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Chloroethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Chloroform	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Chloromethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
cis-1,2-Dichloroethene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV14A-10'

Lab ID: 1903938-04

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Di-isopropyl ether	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Dibromochloromethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Dibromomethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Dichlorodifluoromethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Ethyl Acetate	ND	45	1	B9J0978	10/31/2019	10/31/19 21:14	
Ethyl Ether	ND	45	1	B9J0978	10/31/2019	10/31/19 21:14	
Ethyl tert-butyl ether	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Ethylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Freon-113	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Hexachlorobutadiene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Isopropylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
m,p-Xylene	ND	9.0	1	B9J0978	10/31/2019	10/31/19 21:14	
Methylene chloride	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
MTBE	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
n-Butylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
n-Propylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Naphthalene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
o-Xylene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
sec-Butylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Styrene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
tert-Amyl methyl ether	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
tert-Butanol	ND	90	1	B9J0978	10/31/2019	10/31/19 21:14	
tert-Butylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Tetrachloroethene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Toluene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
trans-1,2-Dichloroethene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
trans-1,3-Dichloropropene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Trichloroethene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Trichlorofluoromethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Vinyl acetate	ND	45	1	B9J0978	10/31/2019	10/31/19 21:14	
Vinyl chloride	ND	4.5	1	B9J0978	10/31/2019	10/31/19 21:14	
Surrogate: 1,2-Dichloroethane-d4	*127 %*	*60 - 145*		B9J0978	10/31/2019	*10/31/19 21:14*	
Surrogate: 4-Bromofluorobenzene	*95.0 %*	*68 - 121*		B9J0978	10/31/2019	*10/31/19 21:14*	
Surrogate: Dibromofluoromethane	*108 %*	*65 - 137*		B9J0978	10/31/2019	*10/31/19 21:14*	
Surrogate: Toluene-d8	*95.3 %*	*82 - 119*		B9J0978	10/31/2019	*10/31/19 21:14*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV5A-5'

Lab ID: 1903938-05

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,1,1-Trichloroethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,1,2,2-Tetrachloroethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,1,2-Trichloroethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,1-Dichloroethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,1-Dichloroethene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,1-Dichloropropene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,2,3-Trichloropropane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,2,3-Trichlorobenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,2,4-Trichlorobenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,2,4-Trimethylbenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,2-Dibromo-3-chloropropane	ND	9.2	1	B9J0978	10/31/2019	10/31/19 21:32	
1,2-Dibromoethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,2-Dichlorobenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,2-Dichloroethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,2-Dichloropropane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,3,5-Trimethylbenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,3-Dichlorobenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,3-Dichloropropane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
1,4-Dichlorobenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
2,2-Dichloropropane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
2-Chlorotoluene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
4-Chlorotoluene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
4-Isopropyltoluene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Benzene	**43**	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Bromobenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Bromochloromethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Bromodichloromethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Bromoform	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Bromomethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Carbon disulfide	**7.0**	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Carbon tetrachloride	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Chlorobenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Chloroethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Chloroform	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Chloromethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
cis-1,2-Dichloroethene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV5A-5'

Lab ID: 1903938-05

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Di-isopropyl ether	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Dibromochloromethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Dibromomethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Dichlorodifluoromethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Ethyl Acetate	ND	46	1	B9J0978	10/31/2019	10/31/19 21:32	
Ethyl Ether	ND	46	1	B9J0978	10/31/2019	10/31/19 21:32	
Ethyl tert-butyl ether	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Ethylbenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Freon-113	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Hexachlorobutadiene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Isopropylbenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
m,p-Xylene	ND	9.2	1	B9J0978	10/31/2019	10/31/19 21:32	
Methylene chloride	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
MTBE	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
n-Butylbenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
n-Propylbenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Naphthalene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
o-Xylene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
sec-Butylbenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Styrene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
tert-Amyl methyl ether	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
tert-Butanol	ND	92	1	B9J0978	10/31/2019	10/31/19 21:32	
tert-Butylbenzene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Tetrachloroethene	**5.3**	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Toluene	**28**	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
trans-1,2-Dichloroethene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
trans-1,3-Dichloropropene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Trichloroethene	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Trichlorofluoromethane	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Vinyl acetate	ND	46	1	B9J0978	10/31/2019	10/31/19 21:32	
Vinyl chloride	ND	4.6	1	B9J0978	10/31/2019	10/31/19 21:32	
Surrogate: 1,2-Dichloroethane-d4	*131 %*	*60 - 145*		B9J0978	10/31/2019	*10/31/19 21:32*	
Surrogate: 4-Bromofluorobenzene	*98.4 %*	*68 - 121*		B9J0978	10/31/2019	*10/31/19 21:32*	
Surrogate: Dibromofluoromethane	*113 %*	*65 - 137*		B9J0978	10/31/2019	*10/31/19 21:32*	
Surrogate: Toluene-d8	*96.3 %*	*82 - 119*		B9J0978	10/31/2019	*10/31/19 21:32*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV5A-10'

Lab ID: 1903938-06

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,1,1-Trichloroethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,1,2,2-Tetrachloroethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,1,2-Trichloroethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,1-Dichloroethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,1-Dichloroethene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,1-Dichloropropene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,2,3-Trichloropropane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,2,3-Trichlorobenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,2,4-Trichlorobenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,2,4-Trimethylbenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,2-Dibromo-3-chloropropane	ND	8.9	1	B9J0978	10/31/2019	10/31/19 21:51	
1,2-Dibromoethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,2-Dichlorobenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,2-Dichloroethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,2-Dichloropropane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,3,5-Trimethylbenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,3-Dichlorobenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,3-Dichloropropane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
1,4-Dichlorobenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
2,2-Dichloropropane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
2-Chlorotoluene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
4-Chlorotoluene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
4-Isopropyltoluene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Benzene	**49**	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Bromobenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Bromochloromethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Bromodichloromethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Bromoform	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Bromomethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Carbon disulfide	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Carbon tetrachloride	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Chlorobenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Chloroethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Chloroform	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Chloromethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
cis-1,2-Dichloroethene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV5A-10'

Lab ID: 1903938-06

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Di-isopropyl ether	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Dibromochloromethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Dibromomethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Dichlorodifluoromethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Ethyl Acetate	ND	44	1	B9J0978	10/31/2019	10/31/19 21:51	
Ethyl Ether	ND	44	1	B9J0978	10/31/2019	10/31/19 21:51	
Ethyl tert-butyl ether	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Ethylbenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Freon-113	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Hexachlorobutadiene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Isopropylbenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
m,p-Xylene	ND	8.9	1	B9J0978	10/31/2019	10/31/19 21:51	
Methylene chloride	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
MTBE	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
n-Butylbenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
n-Propylbenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Naphthalene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
o-Xylene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
sec-Butylbenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Styrene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
tert-Amyl methyl ether	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
tert-Butanol	ND	89	1	B9J0978	10/31/2019	10/31/19 21:51	
tert-Butylbenzene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Tetrachloroethene	**5.9**	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Toluene	**24**	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
trans-1,2-Dichloroethene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
trans-1,3-Dichloropropene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Trichloroethene	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Trichlorofluoromethane	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Vinyl acetate	ND	44	1	B9J0978	10/31/2019	10/31/19 21:51	
Vinyl chloride	ND	4.4	1	B9J0978	10/31/2019	10/31/19 21:51	
Surrogate: 1,2-Dichloroethane-d4	*127 %*	*60 - 145*		B9J0978	10/31/2019	*10/31/19 21:51*	
Surrogate: 4-Bromofluorobenzene	*94.1 %*	*68 - 121*		B9J0978	10/31/2019	*10/31/19 21:51*	
Surrogate: Dibromofluoromethane	*109 %*	*65 - 137*		B9J0978	10/31/2019	*10/31/19 21:51*	
Surrogate: Toluene-d8	*95.4 %*	*82 - 119*		B9J0978	10/31/2019	*10/31/19 21:51*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV16A-5'

Lab ID: 1903938-07

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,1,1-Trichloroethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,1,2,2-Tetrachloroethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,1,2-Trichloroethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,1-Dichloroethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,1-Dichloroethene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,1-Dichloropropene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,2,3-Trichloropropane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,2,3-Trichlorobenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,2,4-Trichlorobenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,2,4-Trimethylbenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,2-Dibromo-3-chloropropane	ND	8.7	1	B9J0978	10/31/2019	10/31/19 22:10	
1,2-Dibromoethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,2-Dichlorobenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,2-Dichloroethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,2-Dichloropropane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,3,5-Trimethylbenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,3-Dichlorobenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,3-Dichloropropane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
1,4-Dichlorobenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
2,2-Dichloropropane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
2-Chlorotoluene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
4-Chlorotoluene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
4-Isopropyltoluene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Benzene	**12**	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Bromobenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Bromochloromethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Bromodichloromethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Bromoform	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Bromomethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Carbon disulfide	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Carbon tetrachloride	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Chlorobenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Chloroethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Chloroform	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Chloromethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
cis-1,2-Dichloroethene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV16A-5'

Lab ID: 1903938-07

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Di-isopropyl ether	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Dibromochloromethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Dibromomethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Dichlorodifluoromethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Ethyl Acetate	ND	43	1	B9J0978	10/31/2019	10/31/19 22:10	
Ethyl Ether	ND	43	1	B9J0978	10/31/2019	10/31/19 22:10	
Ethyl tert-butyl ether	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Ethylbenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Freon-113	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Hexachlorobutadiene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Isopropylbenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
m,p-Xylene	ND	8.7	1	B9J0978	10/31/2019	10/31/19 22:10	
Methylene chloride	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
MTBE	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
n-Butylbenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
n-Propylbenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Naphthalene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
o-Xylene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
sec-Butylbenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Styrene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
tert-Amyl methyl ether	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
tert-Butanol	ND	87	1	B9J0978	10/31/2019	10/31/19 22:10	
tert-Butylbenzene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Tetrachloroethene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Toluene	**8.2**	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
trans-1,2-Dichloroethene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
trans-1,3-Dichloropropene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Trichloroethene	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Trichlorofluoromethane	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Vinyl acetate	ND	43	1	B9J0978	10/31/2019	10/31/19 22:10	
Vinyl chloride	ND	4.3	1	B9J0978	10/31/2019	10/31/19 22:10	
Surrogate: 1,2-Dichloroethane-d4	*114 %*	*60 - 145*		B9J0978	10/31/2019	*10/31/19 22:10*	
Surrogate: 4-Bromofluorobenzene	*96.2 %*	*68 - 121*		B9J0978	10/31/2019	*10/31/19 22:10*	
Surrogate: Dibromofluoromethane	*106 %*	*65 - 137*		B9J0978	10/31/2019	*10/31/19 22:10*	
Surrogate: Toluene-d8	*97.1 %*	*82 - 119*		B9J0978	10/31/2019	*10/31/19 22:10*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV16A-10'

Lab ID: 1903938-08

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,1,1-Trichloroethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,1,2,2-Tetrachloroethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,1,2-Trichloroethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,1-Dichloroethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,1-Dichloroethene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,1-Dichloropropene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,2,3-Trichloropropane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,2,3-Trichlorobenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,2,4-Trichlorobenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,2,4-Trimethylbenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,2-Dibromo-3-chloropropane	ND	10	1	B9J0978	10/31/2019	10/31/19 22:28	
1,2-Dibromoethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,2-Dichlorobenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,2-Dichloroethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,2-Dichloropropane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,3,5-Trimethylbenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,3-Dichlorobenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,3-Dichloropropane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
1,4-Dichlorobenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
2,2-Dichloropropane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
2-Chlorotoluene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
4-Chlorotoluene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
4-Isopropyltoluene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Benzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Bromobenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Bromochloromethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Bromodichloromethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Bromoform	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Bromomethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Carbon disulfide	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Carbon tetrachloride	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Chlorobenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Chloroethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Chloroform	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Chloromethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
cis-1,2-Dichloroethene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV16A-10'

Lab ID: 1903938-08

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Di-isopropyl ether	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Dibromochloromethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Dibromomethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Dichlorodifluoromethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Ethyl Acetate	ND	51	1	B9J0978	10/31/2019	10/31/19 22:28	
Ethyl Ether	ND	51	1	B9J0978	10/31/2019	10/31/19 22:28	
Ethyl tert-butyl ether	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Ethylbenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Freon-113	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Hexachlorobutadiene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Isopropylbenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
m,p-Xylene	ND	10	1	B9J0978	10/31/2019	10/31/19 22:28	
Methylene chloride	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
MTBE	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
n-Butylbenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
n-Propylbenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Naphthalene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
o-Xylene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
sec-Butylbenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Styrene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
tert-Amyl methyl ether	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
tert-Butanol	ND	100	1	B9J0978	10/31/2019	10/31/19 22:28	
tert-Butylbenzene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Tetrachloroethene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Toluene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
trans-1,2-Dichloroethene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
trans-1,3-Dichloropropene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Trichloroethene	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Trichlorofluoromethane	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Vinyl acetate	ND	51	1	B9J0978	10/31/2019	10/31/19 22:28	
Vinyl chloride	ND	5.1	1	B9J0978	10/31/2019	10/31/19 22:28	
Surrogate: 1,2-Dichloroethane-d4	*125 %*	*60 - 145*		B9J0978	10/31/2019	*10/31/19 22:28*	
Surrogate: 4-Bromofluorobenzene	*93.6 %*	*68 - 121*		B9J0978	10/31/2019	*10/31/19 22:28*	
Surrogate: Dibromofluoromethane	*107 %*	*65 - 137*		B9J0978	10/31/2019	*10/31/19 22:28*	
Surrogate: Toluene-d8	*94.7 %*	*82 - 119*		B9J0978	10/31/2019	*10/31/19 22:28*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV6A-5'

Lab ID: 1903938-09

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,1,1-Trichloroethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,1,2,2-Tetrachloroethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,1,2-Trichloroethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,1-Dichloroethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,1-Dichloroethene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,1-Dichloropropene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,2,3-Trichloropropane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,2,3-Trichlorobenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,2,4-Trichlorobenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,2,4-Trimethylbenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,2-Dibromo-3-chloropropane	ND	8.5	1	B9J0978	10/31/2019	10/31/19 22:47	
1,2-Dibromoethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,2-Dichlorobenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,2-Dichloroethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,2-Dichloropropane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,3,5-Trimethylbenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,3-Dichlorobenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,3-Dichloropropane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
1,4-Dichlorobenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
2,2-Dichloropropane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
2-Chlorotoluene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
4-Chlorotoluene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
4-Isopropyltoluene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Benzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Bromobenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Bromochloromethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Bromodichloromethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Bromoform	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Bromomethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Carbon disulfide	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Carbon tetrachloride	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Chlorobenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Chloroethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Chloroform	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Chloromethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
cis-1,2-Dichloroethene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV6A-5'

Lab ID: 1903938-09

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Di-isopropyl ether	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Dibromochloromethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Dibromomethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Dichlorodifluoromethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Ethyl Acetate	ND	42	1	B9J0978	10/31/2019	10/31/19 22:47	
Ethyl Ether	ND	42	1	B9J0978	10/31/2019	10/31/19 22:47	
Ethyl tert-butyl ether	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Ethylbenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Freon-113	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Hexachlorobutadiene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Isopropylbenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
m,p-Xylene	ND	8.5	1	B9J0978	10/31/2019	10/31/19 22:47	
Methylene chloride	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
MTBE	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
n-Butylbenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
n-Propylbenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Naphthalene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
o-Xylene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
sec-Butylbenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Styrene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
tert-Amyl methyl ether	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
tert-Butanol	ND	85	1	B9J0978	10/31/2019	10/31/19 22:47	
tert-Butylbenzene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Tetrachloroethene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Toluene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
trans-1,2-Dichloroethene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
trans-1,3-Dichloropropene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Trichloroethene	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Trichlorofluoromethane	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Vinyl acetate	ND	42	1	B9J0978	10/31/2019	10/31/19 22:47	
Vinyl chloride	ND	4.2	1	B9J0978	10/31/2019	10/31/19 22:47	
Surrogate: 1,2-Dichloroethane-d4	*129 %*	*60 - 145*		B9J0978	10/31/2019	*10/31/19 22:47*	
Surrogate: 4-Bromofluorobenzene	*94.3 %*	*68 - 121*		B9J0978	10/31/2019	*10/31/19 22:47*	
Surrogate: Dibromofluoromethane	*111 %*	*65 - 137*		B9J0978	10/31/2019	*10/31/19 22:47*	
Surrogate: Toluene-d8	*95.1 %*	*82 - 119*		B9J0978	10/31/2019	*10/31/19 22:47*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV6A-10'

Lab ID: 1903938-10

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,1,1-Trichloroethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,1,2,2-Tetrachloroethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,1,2-Trichloroethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,1-Dichloroethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,1-Dichloroethene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,1-Dichloropropene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,2,3-Trichloropropane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,2,3-Trichlorobenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,2,4-Trichlorobenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,2,4-Trimethylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,2-Dibromo-3-chloropropane	ND	9.1	1	B9J0978	10/31/2019	10/31/19 23:06	
1,2-Dibromoethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,2-Dichlorobenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,2-Dichloroethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,2-Dichloropropane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,3,5-Trimethylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,3-Dichlorobenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,3-Dichloropropane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
1,4-Dichlorobenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
2,2-Dichloropropane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
2-Chlorotoluene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
4-Chlorotoluene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
4-Isopropyltoluene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Benzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Bromobenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Bromochloromethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Bromodichloromethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Bromoform	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Bromomethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Carbon disulfide	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Carbon tetrachloride	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Chlorobenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Chloroethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Chloroform	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Chloromethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
cis-1,2-Dichloroethene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV6A-10'

Lab ID: 1903938-10

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Di-isopropyl ether	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Dibromochloromethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Dibromomethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Dichlorodifluoromethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Ethyl Acetate	ND	45	1	B9J0978	10/31/2019	10/31/19 23:06	
Ethyl Ether	ND	45	1	B9J0978	10/31/2019	10/31/19 23:06	
Ethyl tert-butyl ether	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Ethylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Freon-113	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Hexachlorobutadiene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Isopropylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
m,p-Xylene	ND	9.1	1	B9J0978	10/31/2019	10/31/19 23:06	
Methylene chloride	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
MTBE	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
n-Butylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
n-Propylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Naphthalene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
o-Xylene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
sec-Butylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Styrene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
tert-Amyl methyl ether	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
tert-Butanol	ND	91	1	B9J0978	10/31/2019	10/31/19 23:06	
tert-Butylbenzene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Tetrachloroethene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Toluene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
trans-1,2-Dichloroethene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
trans-1,3-Dichloropropene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Trichloroethene	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Trichlorofluoromethane	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Vinyl acetate	ND	45	1	B9J0978	10/31/2019	10/31/19 23:06	
Vinyl chloride	ND	4.5	1	B9J0978	10/31/2019	10/31/19 23:06	
Surrogate: 1,2-Dichloroethane-d4	*117 %*	*60 - 145*		B9J0978	10/31/2019	*10/31/19 23:06*	
Surrogate: 4-Bromofluorobenzene	*93.5 %*	*68 - 121*		B9J0978	10/31/2019	*10/31/19 23:06*	
Surrogate: Dibromofluoromethane	*106 %*	*65 - 137*		B9J0978	10/31/2019	*10/31/19 23:06*	
Surrogate: Toluene-d8	*95.1 %*	*82 - 119*		B9J0978	10/31/2019	*10/31/19 23:06*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV4A-5'

Lab ID: 1903938-11

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,1,1-Trichloroethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,1,2,2-Tetrachloroethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,1,2-Trichloroethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,1-Dichloroethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,1-Dichloroethene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,1-Dichloropropene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,2,3-Trichloropropane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,2,3-Trichlorobenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,2,4-Trichlorobenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,2,4-Trimethylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,2-Dibromo-3-chloropropane	ND	9.7	1	B9J0978	10/31/2019	10/31/19 23:24	
1,2-Dibromoethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,2-Dichlorobenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,2-Dichloroethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,2-Dichloropropane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,3,5-Trimethylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,3-Dichlorobenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,3-Dichloropropane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
1,4-Dichlorobenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
2,2-Dichloropropane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
2-Chlorotoluene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
4-Chlorotoluene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
4-Isopropyltoluene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Benzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Bromobenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Bromochloromethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Bromodichloromethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Bromoform	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Bromomethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Carbon disulfide	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Carbon tetrachloride	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Chlorobenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Chloroethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Chloroform	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Chloromethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
cis-1,2-Dichloroethene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV4A-5'

Lab ID: 1903938-11

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Di-isopropyl ether	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Dibromochloromethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Dibromomethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Dichlorodifluoromethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Ethyl Acetate	ND	49	1	B9J0978	10/31/2019	10/31/19 23:24	
Ethyl Ether	ND	49	1	B9J0978	10/31/2019	10/31/19 23:24	
Ethyl tert-butyl ether	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Ethylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Freon-113	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Hexachlorobutadiene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Isopropylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
m,p-Xylene	ND	9.7	1	B9J0978	10/31/2019	10/31/19 23:24	
Methylene chloride	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
MTBE	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
n-Butylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
n-Propylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Naphthalene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
o-Xylene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
sec-Butylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Styrene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
tert-Amyl methyl ether	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
tert-Butanol	ND	97	1	B9J0978	10/31/2019	10/31/19 23:24	
tert-Butylbenzene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Tetrachloroethene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Toluene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
trans-1,2-Dichloroethene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
trans-1,3-Dichloropropene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Trichloroethene	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Trichlorofluoromethane	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Vinyl acetate	ND	49	1	B9J0978	10/31/2019	10/31/19 23:24	
Vinyl chloride	ND	4.9	1	B9J0978	10/31/2019	10/31/19 23:24	
Surrogate: 1,2-Dichloroethane-d4	*129 %*	*60 - 145*		B9J0978	10/31/2019	*10/31/19 23:24*	
Surrogate: 4-Bromofluorobenzene	*93.2 %*	*68 - 121*		B9J0978	10/31/2019	*10/31/19 23:24*	
Surrogate: Dibromofluoromethane	*110 %*	*65 - 137*		B9J0978	10/31/2019	*10/31/19 23:24*	
Surrogate: Toluene-d8	*98.8 %*	*82 - 119*		B9J0978	10/31/2019	*10/31/19 23:24*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV4AD-5'

Lab ID: 1903938-12

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,1,1-Trichloroethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,1,2,2-Tetrachloroethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,1,2-Trichloroethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,1-Dichloroethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,1-Dichloroethene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,1-Dichloropropene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,2,3-Trichloropropane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,2,3-Trichlorobenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,2,4-Trichlorobenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,2,4-Trimethylbenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,2-Dibromo-3-chloropropane	ND	11	1	B9J0978	10/31/2019	10/31/19 23:43	
1,2-Dibromoethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,2-Dichlorobenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,2-Dichloroethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,2-Dichloropropane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,3,5-Trimethylbenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,3-Dichlorobenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,3-Dichloropropane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
1,4-Dichlorobenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
2,2-Dichloropropane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
2-Chlorotoluene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
4-Chlorotoluene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
4-Isopropyltoluene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Benzene	**18**	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Bromobenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Bromochloromethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Bromodichloromethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Bromoform	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Bromomethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Carbon disulfide	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Carbon tetrachloride	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Chlorobenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Chloroethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Chloroform	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Chloromethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
cis-1,2-Dichloroethene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV4AD-5'

Lab ID: 1903938-12

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Di-isopropyl ether	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Dibromochloromethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Dibromomethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Dichlorodifluoromethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Ethyl Acetate	ND	55	1	B9J0978	10/31/2019	10/31/19 23:43	
Ethyl Ether	ND	55	1	B9J0978	10/31/2019	10/31/19 23:43	
Ethyl tert-butyl ether	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Ethylbenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Freon-113	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Hexachlorobutadiene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Isopropylbenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
m,p-Xylene	ND	11	1	B9J0978	10/31/2019	10/31/19 23:43	
Methylene chloride	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
MTBE	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
n-Butylbenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
n-Propylbenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Naphthalene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
o-Xylene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
sec-Butylbenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Styrene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
tert-Amyl methyl ether	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
tert-Butanol	ND	110	1	B9J0978	10/31/2019	10/31/19 23:43	
tert-Butylbenzene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Tetrachloroethene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Toluene	**15**	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
trans-1,2-Dichloroethene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
trans-1,3-Dichloropropene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Trichloroethene	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Trichlorofluoromethane	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Vinyl acetate	ND	55	1	B9J0978	10/31/2019	10/31/19 23:43	
Vinyl chloride	ND	5.5	1	B9J0978	10/31/2019	10/31/19 23:43	
Surrogate: 1,2-Dichloroethane-d4	*137 %*	*60 - 145*		B9J0978	10/31/2019	*10/31/19 23:43*	
Surrogate: 4-Bromofluorobenzene	*99.3 %*	*68 - 121*		B9J0978	10/31/2019	*10/31/19 23:43*	
Surrogate: Dibromofluoromethane	*114 %*	*65 - 137*		B9J0978	10/31/2019	*10/31/19 23:43*	
Surrogate: Toluene-d8	*97.8 %*	*82 - 119*		B9J0978	10/31/2019	*10/31/19 23:43*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV4A-10'

Lab ID: 1903938-13

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,1,1-Trichloroethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,1,2,2-Tetrachloroethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,1,2-Trichloroethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,1-Dichloroethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,1-Dichloroethene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,1-Dichloropropene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,2,3-Trichloropropane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,2,3-Trichlorobenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,2,4-Trichlorobenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,2,4-Trimethylbenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,2-Dibromo-3-chloropropane	ND	9.2	1	B9J0978	11/01/2019	11/01/19 00:02	
1,2-Dibromoethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,2-Dichlorobenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,2-Dichloroethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,2-Dichloropropane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,3,5-Trimethylbenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,3-Dichlorobenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,3-Dichloropropane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
1,4-Dichlorobenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
2,2-Dichloropropane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
2-Chlorotoluene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
4-Chlorotoluene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
4-Isopropyltoluene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Benzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Bromobenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Bromochloromethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Bromodichloromethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Bromoform	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Bromomethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Carbon disulfide	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Carbon tetrachloride	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Chlorobenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Chloroethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Chloroform	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Chloromethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
cis-1,2-Dichloroethene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV4A-10'

Lab ID: 1903938-13

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Di-isopropyl ether	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Dibromochloromethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Dibromomethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Dichlorodifluoromethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Ethyl Acetate	ND	46	1	B9J0978	11/01/2019	11/01/19 00:02	
Ethyl Ether	ND	46	1	B9J0978	11/01/2019	11/01/19 00:02	
Ethyl tert-butyl ether	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Ethylbenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Freon-113	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Hexachlorobutadiene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Isopropylbenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
m,p-Xylene	ND	9.2	1	B9J0978	11/01/2019	11/01/19 00:02	
Methylene chloride	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
MTBE	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
n-Butylbenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
n-Propylbenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Naphthalene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
o-Xylene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
sec-Butylbenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Styrene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
tert-Amyl methyl ether	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
tert-Butanol	ND	92	1	B9J0978	11/01/2019	11/01/19 00:02	
tert-Butylbenzene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Tetrachloroethene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Toluene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
trans-1,2-Dichloroethene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
trans-1,3-Dichloropropene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Trichloroethene	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Trichlorofluoromethane	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Vinyl acetate	ND	46	1	B9J0978	11/01/2019	11/01/19 00:02	
Vinyl chloride	ND	4.6	1	B9J0978	11/01/2019	11/01/19 00:02	
Surrogate: 1,2-Dichloroethane-d4	*133 %*	*60 - 145*		B9J0978	11/01/2019	*11/01/19 00:02*	
Surrogate: 4-Bromofluorobenzene	*99.2 %*	*68 - 121*		B9J0978	11/01/2019	*11/01/19 00:02*	
Surrogate: Dibromofluoromethane	*111 %*	*65 - 137*		B9J0978	11/01/2019	*11/01/19 00:02*	
Surrogate: Toluene-d8	*97.3 %*	*82 - 119*		B9J0978	11/01/2019	*11/01/19 00:02*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV4AD-10'

Lab ID: 1903938-14

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,1,1-Trichloroethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,1,2,2-Tetrachloroethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,1,2-Trichloroethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,1-Dichloroethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,1-Dichloroethene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,1-Dichloropropene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,2,3-Trichloropropane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,2,3-Trichlorobenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,2,4-Trichlorobenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,2,4-Trimethylbenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,2-Dibromo-3-chloropropane	ND	10	1	B9J0978	11/01/2019	11/01/19 00:21	
1,2-Dibromoethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,2-Dichlorobenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,2-Dichloroethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,2-Dichloropropane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,3,5-Trimethylbenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,3-Dichlorobenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,3-Dichloropropane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
1,4-Dichlorobenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
2,2-Dichloropropane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
2-Chlorotoluene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
4-Chlorotoluene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
4-Isopropyltoluene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Benzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Bromobenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Bromochloromethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Bromodichloromethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Bromoform	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Bromomethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Carbon disulfide	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Carbon tetrachloride	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Chlorobenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Chloroethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Chloroform	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Chloromethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
cis-1,2-Dichloroethene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV4AD-10'

Lab ID: 1903938-14

Volatile Organic Compounds by EPA 5035 / EPA 8260B **Analyst: JBL**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Di-isopropyl ether	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Dibromochloromethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Dibromomethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Dichlorodifluoromethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Ethyl Acetate	ND	52	1	B9J0978	11/01/2019	11/01/19 00:21	
Ethyl Ether	ND	52	1	B9J0978	11/01/2019	11/01/19 00:21	
Ethyl tert-butyl ether	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Ethylbenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Freon-113	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Hexachlorobutadiene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Isopropylbenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
m,p-Xylene	ND	10	1	B9J0978	11/01/2019	11/01/19 00:21	
Methylene chloride	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
MTBE	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
n-Butylbenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
n-Propylbenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Naphthalene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
o-Xylene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
sec-Butylbenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Styrene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
tert-Amyl methyl ether	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
tert-Butanol	ND	100	1	B9J0978	11/01/2019	11/01/19 00:21	
tert-Butylbenzene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Tetrachloroethene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Toluene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
trans-1,2-Dichloroethene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
trans-1,3-Dichloropropene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Trichloroethene	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Trichlorofluoromethane	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Vinyl acetate	ND	52	1	B9J0978	11/01/2019	11/01/19 00:21	
Vinyl chloride	ND	5.2	1	B9J0978	11/01/2019	11/01/19 00:21	
Surrogate: 1,2-Dichloroethane-d4	*132 %*	*60 - 145*		B9J0978	11/01/2019	*11/01/19 00:21*	
Surrogate: 4-Bromofluorobenzene	*102 %*	*68 - 121*		B9J0978	11/01/2019	*11/01/19 00:21*	
Surrogate: Dibromofluoromethane	*111 %*	*65 - 137*		B9J0978	11/01/2019	*11/01/19 00:21*	
Surrogate: Toluene-d8	*96.1 %*	*82 - 119*		B9J0978	11/01/2019	*11/01/19 00:21*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

QUALITY CONTROL SECTION

Volatile Organic Compounds by EPA 5035 / EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0978 - MSVOA_S										
Blank (B9J0978-BLK1)					Prepared: 10/31/2019 Analyzed: 10/31/2019					
1,1,1,2-Tetrachloroethane	ND	5.0	0.40							
1,1,1-Trichloroethane	ND	5.0	0.79							
1,1,2,2-Tetrachloroethane	ND	5.0	0.70							
1,1,2-Trichloroethane	ND	5.0	0.57							
1,1-Dichloroethane	ND	5.0	0.63							
1,1-Dichloroethene	ND	5.0	2.9							
1,1-Dichloropropene	ND	5.0	0.26							
1,2,3-Trichloropropane	ND	5.0	0.72							
1,2,3-Trichlorobenzene	ND	5.0	0.57							
1,2,4-Trichlorobenzene	ND	5.0	0.61							
1,2,4-Trimethylbenzene	ND	5.0	1.0							
1,2-Dibromo-3-chloropropane	ND	10	1.2							
1,2-Dibromoethane	ND	5.0	0.28							
1,2-Dichlorobenzene	ND	5.0	0.45							
1,2-Dichloroethane	ND	5.0	0.88							
1,2-Dichloropropane	ND	5.0	0.67							
1,3,5-Trimethylbenzene	ND	5.0	0.35							
1,3-Dichlorobenzene	ND	5.0	0.41							
1,3-Dichloropropane	ND	5.0	0.49							
1,4-Dichlorobenzene	ND	5.0	0.39							
2,2-Dichloropropane	ND	5.0	0.61							
2-Chlorotoluene	ND	5.0	0.26							
4-Chlorotoluene	ND	5.0	0.20							
4-Isopropyltoluene	ND	5.0	0.28							
Benzene	ND	5.0	0.37							
Bromobenzene	ND	5.0	0.44							
Bromochloromethane	ND	5.0	0.99							
Bromodichloromethane	ND	5.0	0.58							
Bromoform	ND	5.0	0.37							
Bromomethane	ND	5.0	4.7							
Carbon disulfide	ND	5.0	3.2							
Carbon tetrachloride	ND	5.0	0.65							
Chlorobenzene	ND	5.0	0.29							
Chloroethane	ND	5.0	4.0							
Chloroform	ND	5.0	0.75							
Chloromethane	ND	5.0	0.98							
cis-1,2-Dichloroethene	ND	5.0	0.82							
cis-1,3-Dichloropropene	ND	5.0	0.22							
Di-isopropyl ether	ND	5.0	0.55							

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Volatile Organic Compounds by EPA 5035 / EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0978 - MSVOA_S (continued)										
Blank (B9J0978-BLK1) - Continued					Prepared: 10/31/2019 Analyzed: 10/31/2019					
Dibromochloromethane	ND	5.0	0.20							
Dibromomethane	ND	5.0	0.56							
Dichlorodifluoromethane	ND	5.0	2.6							
Ethyl Acetate	ND	50	10							
Ethyl Ether	ND	50	20							
Ethyl tert-butyl ether	ND	5.0	0.32							
Ethylbenzene	ND	5.0	0.26							
Freon-113	ND	5.0	3.7							
Hexachlorobutadiene	ND	5.0	0.40							
Isopropylbenzene	ND	5.0	0.32							
m,p-Xylene	ND	10	0.86							
Methylene chloride	ND	5.0	3.4							
MTBE	ND	5.0	1.3							
n-Butylbenzene	ND	5.0	0.42							
n-Propylbenzene	ND	5.0	0.25							
Naphthalene	ND	5.0	0.50							
o-Xylene	ND	5.0	0.46							
sec-Butylbenzene	ND	5.0	0.36							
Styrene	ND	5.0	0.38							
tert-Amyl methyl ether	ND	5.0	0.43							
tert-Butanol	ND	100	7.4							
tert-Butylbenzene	ND	5.0	0.33							
Tetrachloroethene	ND	5.0	0.31							
Toluene	ND	5.0	0.47							
trans-1,2-Dichloroethene	ND	5.0	1.4							
trans-1,3-Dichloropropene	ND	5.0	0.48							
Trichloroethene	ND	5.0	0.64							
Trichlorofluoromethane	ND	5.0	0.79							
Vinyl acetate	ND	50	9.0							
Vinyl chloride	ND	5.0	0.74							
Surrogate: 1,2-Dichloroethane-d4	*51.66*			*50.0000*		*103*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*46.24*			*50.0000*		*92.5*	*68 - 121*			
Surrogate: Dibromofluoromethan	*50.85*			*50.0000*		*102*	*65 - 137*			
Surrogate: Toluene-d8	*46.80*			*50.0000*		*93.6*	*82 - 119*			
LCS (B9J0978-BS1)					Prepared: 10/31/2019 Analyzed: 10/31/2019					
1,1,1,2-Tetrachloroethane	47.5800	5.0	0.40	50.0000		95.2	82 - 114			
1,1,1-Trichloroethane	51.7000	5.0	0.79	50.0000		103	70 - 121			
1,1,2,2-Tetrachloroethane	46.0800	5.0	0.70	50.0000		92.2	65 - 116			
1,1,2-Trichloroethane	49.5000	5.0	0.57	50.0000		99.0	73 - 114			
1,1-Dichloroethane	49.3600	5.0	0.63	50.0000		98.7	69 - 117			

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Volatile Organic Compounds by EPA 5035 / EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0978 - MSVOA_S (continued)										
LCS (B9J0978-BS1) - Continued					Prepared: 10/31/2019 Analyzed: 10/31/2019					
1,1-Dichloroethene	48.2600	5.0	2.9	50.0000		96.5	57 - 128			
1,1-Dichloropropene	49.9100	5.0	0.26	50.0000		99.8	76 - 122			
1,2,3-Trichloropropane	47.2200	5.0	0.72	50.0000		94.4	65 - 116			
1,2,3-Trichlorobenzene	43.8100	5.0	0.57	50.0000		87.6	72 - 130			
1,2,4-Trichlorobenzene	47.7700	5.0	0.61	50.0000		95.5	74 - 141			
1,2,4-Trimethylbenzene	55.2700	5.0	1.0	50.0000		111	81 - 126			
1,2-Dibromo-3-chloropropane	47.9700	10	1.2	50.0000		95.9	63 - 126			
1,2-Dibromoethane	47.0700	5.0	0.28	50.0000		94.1	75 - 113			
1,2-Dichlorobenzene	48.0700	5.0	0.45	50.0000		96.1	83 - 114			
1,2-Dichloroethane	52.7700	5.0	0.88	50.0000		106	73 - 115			
1,2-Dichloropropane	49.7300	5.0	0.67	50.0000		99.5	75 - 117			
1,3,5-Trimethylbenzene	54.9000	5.0	0.35	50.0000		110	80 - 126			
1,3-Dichlorobenzene	54.7000	5.0	0.41	50.0000		109	83 - 113			
1,3-Dichloropropane	47.5800	5.0	0.49	50.0000		95.2	79 - 108			
1,4-Dichlorobenzene	52.9900	5.0	0.39	50.0000		106	82 - 114			
2,2-Dichloropropane	43.3700	5.0	0.61	50.0000		86.7	66 - 135			
2-Chlorotoluene	53.0200	5.0	0.26	50.0000		106	79 - 117			
4-Chlorotoluene	52.8300	5.0	0.20	50.0000		106	77 - 118			
4-Isopropyltoluene	56.7500	5.0	0.28	50.0000		114	81 - 129			
Benzene	95.5900	5.0	0.37	100.000		95.6	78 - 112			
Bromobenzene	46.8500	5.0	0.44	50.0000		93.7	79 - 111			
Bromochloromethane	47.0900	5.0	0.99	50.0000		94.2	69 - 116			
Bromodichloromethane	51.6500	5.0	0.58	50.0000		103	79 - 111			
Bromoform	48.8500	5.0	0.37	50.0000		97.7	75 - 119			
Bromomethane	60.9000	5.0	4.7	50.0000		122	31 - 168			
Carbon disulfide	44.5300	5.0	3.2	50.0000		89.1	54 - 141			
Carbon tetrachloride	53.4200	5.0	0.65	50.0000		107	74 - 125			
Chlorobenzene	49.2100	5.0	0.29	50.0000		98.4	83 - 112			
Chloroethane	64.8000	5.0	4.0	50.0000		130	53 - 144			
Chloroform	50.4400	5.0	0.75	50.0000		101	69 - 118			
Chloromethane	51.8200	5.0	0.98	50.0000		104	46 - 137			
cis-1,2-Dichloroethene	47.7000	5.0	0.82	50.0000		95.4	68 - 118			
cis-1,3-Dichloropropene	47.6100	5.0	0.22	50.0000		95.2	77 - 121			
Di-isopropyl ether	50.8200	5.0	0.55	50.0000		102	60 - 129			
Dibromochloromethane	46.4000	5.0	0.20	50.0000		92.8	80 - 111			
Dibromomethane	47.7400	5.0	0.56	50.0000		95.5	78 - 108			
Dichlorodifluoromethane	42.6300	5.0	2.6	50.0000		85.3	41 - 146			
Ethyl Acetate	482.840	50	10	500.000		96.6	52 - 130			
Ethyl Ether	468.300	50	20	500.000		93.7	54 - 138			
Ethyl tert-butyl ether	51.2000	5.0	0.32	50.0000		102	52 - 141			
Ethylbenzene	122.700	5.0	0.26	100.000		123	82 - 121			L3
Freon-113	51.5700	5.0	3.7	50.0000		103	59 - 139			

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Volatile Organic Compounds by EPA 5035 / EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0978 - MSVOA_S (continued)										
LCS (B9J0978-BS1) - Continued					Prepared: 10/31/2019 Analyzed: 10/31/2019					
Hexachlorobutadiene	50.1000	5.0	0.40	50.0000		100	69 - 143			
Isopropylbenzene	55.0100	5.0	0.32	50.0000		110	78 - 124			
m,p-Xylene	120.200	10	0.86	100.000		120	85 - 118			L3
Methylene chloride	49.4100	5.0	3.4	50.0000		98.8	44 - 146			
MTBE	47.0900	5.0	1.3	50.0000		94.2	61 - 122			
n-Butylbenzene	57.0600	5.0	0.42	50.0000		114	78 - 135			
n-Propylbenzene	55.9600	5.0	0.25	50.0000		112	78 - 127			
Naphthalene	42.0800	5.0	0.50	50.0000		84.2	68 - 129			
o-Xylene	116.250	5.0	0.46	100.000		116	86 - 118			
sec-Butylbenzene	57.8900	5.0	0.36	50.0000		116	80 - 127			
Styrene	54.6000	5.0	0.38	50.0000		109	85 - 117			
tert-Amyl methyl ether	46.8200	5.0	0.43	50.0000		93.6	48 - 135			
tert-Butanol	210.940	100	7.4	250.000		84.4	0 - 175			
tert-Butylbenzene	55.4100	5.0	0.33	50.0000		111	81 - 122			
Tetrachloroethene	49.3300	5.0	0.31	50.0000		98.7	77 - 122			
Toluene	97.7000	5.0	0.47	100.000		97.7	79 - 114			
trans-1,2-Dichloroethene	48.3800	5.0	1.4	50.0000		96.8	66 - 125			
trans-1,3-Dichloropropene	46.1900	5.0	0.48	50.0000		92.4	76 - 120			
Trichloroethene	51.2700	5.0	0.64	50.0000		103	79 - 117			
Trichlorofluoromethane	50.3800	5.0	0.79	50.0000		101	55 - 133			
Vinyl acetate	467.390	50	9.0	500.000		93.5	52 - 141			
Vinyl chloride	47.7900	5.0	0.74	50.0000		95.6	58 - 132			
Surrogate: 1,2-Dichloroethane-d4	*52.20*			*50.0000*		*104*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*51.38*			*50.0000*		*103*	*68 - 121*			
Surrogate: Dibromofluoromethan	*51.09*			*50.0000*		*102*	*65 - 137*			
Surrogate: Toluene-d8	*49.56*			*50.0000*		*99.1*	*82 - 119*			
LCS Dup (B9J0978-BSD1)					Prepared: 10/31/2019 Analyzed: 10/31/2019					
1,1,1,2-Tetrachloroethane	46.2900	5.0	0.40	50.0000		92.6	82 - 114	2.75	20	
1,1,1-Trichloroethane	49.4300	5.0	0.79	50.0000		98.9	70 - 121	4.49	20	
1,1,2,2-Tetrachloroethane	44.7700	5.0	0.70	50.0000		89.5	65 - 116	2.88	20	
1,1,2-Trichloroethane	47.4800	5.0	0.57	50.0000		95.0	73 - 114	4.17	20	
1,1-Dichloroethane	47.9100	5.0	0.63	50.0000		95.8	69 - 117	2.98	20	
1,1-Dichloroethene	45.9000	5.0	2.9	50.0000		91.8	57 - 128	5.01	20	
1,1-Dichloropropene	47.2100	5.0	0.26	50.0000		94.4	76 - 122	5.56	20	
1,2,3-Trichloropropane	46.2200	5.0	0.72	50.0000		92.4	65 - 116	2.14	20	
1,2,3-Trichlorobenzene	42.8100	5.0	0.57	50.0000		85.6	72 - 130	2.31	20	
1,2,4-Trichlorobenzene	46.3800	5.0	0.61	50.0000		92.8	74 - 141	2.95	20	
1,2,4-Trimethylbenzene	51.4700	5.0	1.0	50.0000		103	81 - 126	7.12	20	
1,2-Dibromo-3-chloropropane	51.5500	10	1.2	50.0000		103	63 - 126	7.19	20	
1,2-Dibromoethane	45.4900	5.0	0.28	50.0000		91.0	75 - 113	3.41	20	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Volatile Organic Compounds by EPA 5035 / EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0978 - MSVOA_S (continued)										
LCS Dup (B9J0978-BSD1) - Continued					Prepared: 10/31/2019 Analyzed: 10/31/2019					
1,2-Dichlorobenzene	45.8200	5.0	0.45	50.0000		91.6	83 - 114	4.79	20	
1,2-Dichloroethane	50.0800	5.0	0.88	50.0000		100	73 - 115	5.23	20	
1,2-Dichloropropane	47.3000	5.0	0.67	50.0000		94.6	75 - 117	5.01	20	
1,3,5-Trimethylbenzene	50.7000	5.0	0.35	50.0000		101	80 - 126	7.95	20	
1,3-Dichlorobenzene	50.3500	5.0	0.41	50.0000		101	83 - 113	8.28	20	
1,3-Dichloropropane	47.0400	5.0	0.49	50.0000		94.1	79 - 108	1.14	20	
1,4-Dichlorobenzene	49.7000	5.0	0.39	50.0000		99.4	82 - 114	6.41	20	
2,2-Dichloropropane	41.7100	5.0	0.61	50.0000		83.4	66 - 135	3.90	20	
2-Chlorotoluene	48.4300	5.0	0.26	50.0000		96.9	79 - 117	9.05	20	
4-Chlorotoluene	48.6600	5.0	0.20	50.0000		97.3	77 - 118	8.22	20	
4-Isopropyltoluene	52.7600	5.0	0.28	50.0000		106	81 - 129	7.29	20	
Benzene	90.1800	5.0	0.37	100.000		90.2	78 - 112	5.82	20	
Bromobenzene	43.6100	5.0	0.44	50.0000		87.2	79 - 111	7.16	20	
Bromochloromethane	46.3000	5.0	0.99	50.0000		92.6	69 - 116	1.69	20	
Bromodichloromethane	49.2900	5.0	0.58	50.0000		98.6	79 - 111	4.68	20	
Bromoform	49.1000	5.0	0.37	50.0000		98.2	75 - 119	0.510	20	
Bromomethane	56.2400	5.0	4.7	50.0000		112	31 - 168	7.96	20	
Carbon disulfide	41.4200	5.0	3.2	50.0000		82.8	54 - 141	7.24	20	
Carbon tetrachloride	49.6000	5.0	0.65	50.0000		99.2	74 - 125	7.42	20	
Chlorobenzene	46.6800	5.0	0.29	50.0000		93.4	83 - 112	5.28	20	
Chloroethane	60.8500	5.0	4.0	50.0000		122	53 - 144	6.29	20	
Chloroform	49.1400	5.0	0.75	50.0000		98.3	69 - 118	2.61	20	
Chloromethane	49.5000	5.0	0.98	50.0000		99.0	46 - 137	4.58	20	
cis-1,2-Dichloroethene	47.0700	5.0	0.82	50.0000		94.1	68 - 118	1.33	20	
cis-1,3-Dichloropropene	45.8600	5.0	0.22	50.0000		91.7	77 - 121	3.74	20	
Di-isopropyl ether	48.6000	5.0	0.55	50.0000		97.2	60 - 129	4.47	20	
Dibromochloromethane	45.5600	5.0	0.20	50.0000		91.1	80 - 111	1.83	20	
Dibromomethane	46.8000	5.0	0.56	50.0000		93.6	78 - 108	1.99	20	
Dichlorodifluoromethane	40.6300	5.0	2.6	50.0000		81.3	41 - 146	4.80	20	
Ethyl Acetate	483.080	50	10	500.000		96.6	52 - 130	0.0497	20	
Ethyl Ether	453.460	50	20	500.000		90.7	54 - 138	3.22	20	
Ethyl tert-butyl ether	50.0200	5.0	0.32	50.0000		100	52 - 141	2.33	20	
Ethylbenzene	113.580	5.0	0.26	100.000		114	82 - 121	7.72	20	
Freon-113	49.0400	5.0	3.7	50.0000		98.1	59 - 139	5.03	20	
Hexachlorobutadiene	48.6000	5.0	0.40	50.0000		97.2	69 - 143	3.04	20	
Isopropylbenzene	50.4000	5.0	0.32	50.0000		101	78 - 124	8.75	20	
m,p-Xylene	110.040	10	0.86	100.000		110	85 - 118	8.83	20	
Methylene chloride	47.3200	5.0	3.4	50.0000		94.6	44 - 146	4.32	20	
MTBE	48.5900	5.0	1.3	50.0000		97.2	61 - 122	3.14	20	
n-Butylbenzene	52.6600	5.0	0.42	50.0000		105	78 - 135	8.02	20	
n-Propylbenzene	51.0500	5.0	0.25	50.0000		102	78 - 127	9.18	20	
Naphthalene	42.1000	5.0	0.50	50.0000		84.2	68 - 129	0.0475	20	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Volatile Organic Compounds by EPA 5035 / EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0978 - MSVOA_S (continued)										
LCS Dup (B9J0978-BSD1) - Continued					Prepared: 10/31/2019 Analyzed: 10/31/2019					
o-Xylene	108.180	5.0	0.46	100.000		108	86 - 118	7.19	20	
sec-Butylbenzene	53.0700	5.0	0.36	50.0000		106	80 - 127	8.69	20	
Styrene	51.2200	5.0	0.38	50.0000		102	85 - 117	6.39	20	
tert-Amyl methyl ether	46.0800	5.0	0.43	50.0000		92.2	48 - 135	1.59	20	
tert-Butanol	196.180	100	7.4	250.000		78.5	0 - 175	7.25	20	
tert-Butylbenzene	50.3900	5.0	0.33	50.0000		101	81 - 122	9.49	20	
Tetrachloroethene	46.8000	5.0	0.31	50.0000		93.6	77 - 122	5.26	20	
Toluene	89.1600	5.0	0.47	100.000		89.2	79 - 114	9.14	20	
trans-1,2-Dichloroethene	45.6800	5.0	1.4	50.0000		91.4	66 - 125	5.74	20	
trans-1,3-Dichloropropene	44.9400	5.0	0.48	50.0000		89.9	76 - 120	2.74	20	
Trichloroethene	47.7500	5.0	0.64	50.0000		95.5	79 - 117	7.11	20	
Trichlorofluoromethane	48.4300	5.0	0.79	50.0000		96.9	55 - 133	3.95	20	
Vinyl acetate	462.420	50	9.0	500.000		92.5	52 - 141	1.07	20	
Vinyl chloride	44.6500	5.0	0.74	50.0000		89.3	58 - 132	6.79	20	
Surrogate: 1,2-Dichloroethane-d4	*53.13*			*50.0000*		*106*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*49.49*			*50.0000*		*99.0*	*68 - 121*			
Surrogate: Dibromofluoromethan	*50.93*			*50.0000*		*102*	*65 - 137*			
Surrogate: Toluene-d8	*47.40*			*50.0000*		*94.8*	*82 - 119*			

Certificate of Analysis

Leighton & Associates		Project Number :	Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street		Report To :	Meredith Church
Irvine , CA 92614		Reported :	11/04/2019

Notes and Definitions

L3	Laboratory control sample outside in-house established limits but within method criteria.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

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

ADVANCED TECHNOLOGY LABORATORIES
3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 ● Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 2

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver:20180415

Method of Transport		Sample Conditions Upon Receipt					
		Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL		1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac		2. HEADSPACE (VOA)	☐	☐	6. PRESERVED		
☐ GSO		3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other:		4. SEALED	☐	☐			

CUSTOMER

Company: Leighton and Associates, Inc.	Address: 17781 Cowan		Tel: (949) 681-4208
	City: Irvine	State: CA Zip: 92614	Fax: (949) 250-1114

SEND REPORT TO:		SEND INVOICE TO: ☐ same as SEND REPORT TO	
Attn: Meredith Church	Email: mchurch@leightongroup.com	Attn: Accounts Payable	Email: Acctpayable@leightongroup.com
Company: Leighton and Associates, Inc.		Company: Leighton and Associates, Inc.	
Address: 17781 Cowan		Address: 17781 Cowan	
City: Irvine State: CA Zip: 92614		City: Irvine State: CA Zip: 92614	

EDD: ☐ Excel ☐ EDF ☐ Equis ☐ _____

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV ☐ _____

PROJECT SAMPLES

Project Name:	Quote #:	Special Instructions/Comments:
Brookfield - Moiola School, FV	Leighton 2019	5035 Kits for VOCs
Project No.: 12418.001	PO #: 12418.001	
Sampler: KCH		

ITEM	Laboratory ID (For Lab Use Only)	Sample Description: Sample ID / Location	Date	Time	8081 (Organochlorine Pesticides)	8260 / 624 (Volatiles)	8015 (DRO)	6010 / 7000 (Title 22 Metals)	Select Analysis	Select Analysis	Select Analysis	Select Analysis	Arsenic EPA 6010	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Select Soil Matrix	Select Solid Matrix	Select Water Matrix	Select Wastewater Matrix	Select Non-aqueous Matrix	Enter Custom Matrix	Turnaround Time (TAT)	Container: Quantity	Container: Type (1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister)	Container: Material (1=Glass; 2=Plastic; 3=Metal)	Container: Preservative (1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn(Ac)2; 6=NaOH; 7=NA2S2O3)	Remarks
1	1903938-01	ENV 7A - 5'	10/28/19	0910		X																							5	4	1	1	4	
2	-02	ENV 7A - 10'	10/28/19	0912																										4	1	1	4	
3	-03	ENV 14A - 5'	10/28/19	0930																										4	1	1	4	
4	-04	ENV 14A - 10'	10/28/19	0932																										4	1	1	4	
5	-05	ENV 5A - 5'	10/28/19	0944																										4	1	1	4	
6	-06	ENV 5A - 10'	10/28/19	0946																										4	1	1	4	
7	-07	ENV 16A - 5'	10/28/19	1015																										4	1	1	4	
8	-08	ENV 16A - 10'	10/28/19	1017																										4	1	1	4	
9	-09	ENV 6A - 5'	10/28/19	1000																										4	1	1	4	
10	-10	ENV 6A - 10'	10/28/19	1002																										4	1	1	4	

TERMS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples submitted AFTER 3:00 PM are considered received the following business day at 8:00 AM.
3. The following turnaround time conditions apply:
   - TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   - TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   - TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   - TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   - TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   - TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work --- ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20 sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformatted report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.
12. The laboratory will randomly select from all QC samples received the sample to spike for Matrix Spike/ Matrix Spike Duplicate (MS/MSD) at no cost. However, if you want the laboratory to additionally perform MS/MSD on your sample, a charge will be assessed for the specific sample used.

CUSTODY

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Steffani Seiler	10/28/19	1420		10/28/19	1420
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
	10/28/19	1500		10/28/19	1500
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Meredith Church (Printed Name) _____ (Signature)

ADVANCED TECHNOLOGY LABORATORIES
3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 2 of 2

Instruction: Complete all shaded areas.

For Laboratory Use Only ATLCOC Ver:20180415

Method of Transport: ☐ Client ☐ ATL ☐ FedEx ☐ OnTrac ☐ GSO ☐ Other: _____

Sample Conditions Upon Receipt

Condition	Y	N	Condition	Y	N
1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
2. HEADSPACE (VOA)	☐	☐	6. PRESERVED		
3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
4. SEALED	☐	☐			

CUSTOMER

Company: Leighton and Associates, Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: (949) 681-4208 Fax: (949) 250-1114

SEND REPORT TO:
Attn: Meredith Church Email: mchurch@leightongroup.com
Company: Leighton and Associates, Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Accounts Payable Email: Acctpayable@leightongroup.com
Company: Leighton and Associates, Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614

EDD: ☐ Excel ☐ EDF ☐ Equis ☐ _____

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV ☐ _____

PROJECT SAMPLES

Project Name: Brookfield - Moiola School, FV
Project No.: 12418.001
Sampler: KCH
Quote #: Leighton 2019
PO #: 12418.001
Special Instructions/Comments: 5075 For VOCs

ITEM	Laboratory ID (For Lab Use Only)	Sample Description: Sample ID / Location	Date	Time	8081 (Organochlorine Pesticides)	8260 / 624 (Volatiles)	8015 (DRO)	6010 / 7000 (Title 22 Metals)	Select Analysis	Select Analysis	Select Analysis	Select Analysis	Arsenic EPA 6010	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Select Soil Matrix	Select Solid Matrix	Select Water Matrix	Select Wastewater Matrix	Select Non-aqueous Matrix	Enter Custom Matrix	Turnaround Time (TAT)	Container: Quantity	Container: Type	Container: Material	Container: Preservative	Remarks
1	1903938-11	ENV 4A - 5'	10/28/19	1045		X																								4	VOA	1	4	
2	-12	ENV 4AD - 5'	10/28/19	1046		X																								4	VOA	1	4	
3	-13	ENV 4A - 10'	10/28/19	1049		X																								4	VOA	1	4	
4	-14	ENV 4AD - 10'	10/28/19	1050		X																								4	VOA	1	4	
5			10/28/19																											1	5	1	4	
6			10/28/19																											1	5	1	4	
7			10/28/19																											1	5	1	4	
8			10/28/19																											1	5	1	4	
9			10/28/19																											1	5	1	4	
10			10/28/19																											1	5	1	4	

TERMS

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   - TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   - TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   - TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   - TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   - TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
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7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
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   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20 sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformatted report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.
12. The laboratory will randomly select from all QC samples received the sample to spike for Matrix Spike/ Matrix Spike Duplicate (MS/MSD) at no cost. However, if you want the laboratory to additionally perform MS/MSD on your sample, a charge will be assessed for the specific sample used.

CUSTODY

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Steffani Seiler	10/28/19	1730		10/28/19	1420
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
	10/28/19			10/28/19	1500
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Meredith Church (Printed Name) _____ (Signature)

ADVANCED TECHNOLOGY LABORATORIES

November 04, 2019

Meredith Church
Leighton & Associates
17781 Cowan Street
Irvine, CA 92614
Tel: (949) 681-4208
Fax:(949) 757-7230

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

Re: ATL Work Order Number : 1903940

Client Reference : Brookfield - Moiola School, FV, 12418.001

Enclosed are the results for sample(s) received on October 28, 2019 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Edgar Caballero
President & Laboratory Director

Certificate of Analysis

Leighton & Associates		Project Number :	Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street		Report To :	Meredith Church
Irvine , CA 92614		Reported :	11/04/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ENV7A-GW	1903940-01	Water	10/28/19 11:00	10/28/19 14:20
ENV14A-GW	1903940-02	Water	10/28/19 11:10	10/28/19 14:20
ENV5A-GW	1903940-03	Water	10/28/19 11:05	10/28/19 14:20
ENV16A-GW	1903940-04	Water	10/28/19 11:15	10/28/19 14:20
ENV6A-GW	1903940-05	Water	10/28/19 11:20	10/28/19 14:20
ENV6A-GWD	1903940-06	Water	10/28/19 11:30	10/28/19 14:20
ENV4A-GW	1903940-07	Water	10/28/19 12:05	10/28/19 14:20

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

DETECTION SUMMARY

Client Sample ID ENV7A-GW

Lab ID: 1903940-01

Volatile Organic Compounds by EPA 8260B — **Analyst: VW**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	**2.7**	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
cis-1,2-Dichloroethene	**130**	5.0	10	B9J0922	10/30/2019	10/30/19 09:46	
Toluene	**2.8**	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
trans-1,2-Dichloroethene	**4.3**	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Trichloroethene	**1.6**	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Vinyl chloride	**1.5**	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	

Client Sample ID ENV14A-GW

Lab ID: 1903940-02

Volatile Organic Compounds by EPA 8260B — **Analyst: VW**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,2-Dichloroethene	**14**	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	

Client Sample ID ENV5A-GW

Lab ID: 1903940-03

Volatile Organic Compounds by EPA 8260B — **Analyst: VW**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Bromoform	**1.5**	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
cis-1,2-Dichloroethene	**35**	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Dibromochloromethane	**0.66**	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
trans-1,2-Dichloroethene	**1.0**	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Trichloroethene	**1.0**	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

DETECTION SUMMARY

Client Sample ID ENV16A-GW

Lab ID: 1903940-04

Volatile Organic Compounds by EPA 8260B — **Analyst: VW**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Bromodichloromethane	**0.86**	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Bromoform	**10**	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Dibromochloromethane	**3.6**	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Dibromomethane	**1.3**	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	

Client Sample ID ENV6A-GW

Lab ID: 1903940-05

Volatile Organic Compounds by EPA 8260B — **Analyst: VW**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,2-Dichloroethene	**19**	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Dibromochloromethane	**2.2**	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
trans-1,2-Dichloroethene	**0.83**	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	

Client Sample ID ENV6A-GWD

Lab ID: 1903940-06

Volatile Organic Compounds by EPA 8260B — **Analyst: VW**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Bromoform	**2.9**	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
cis-1,2-Dichloroethene	**26**	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Dibromochloromethane	**1.0**	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Dibromomethane	**0.75**	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
trans-1,2-Dichloroethene	**1.1**	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

DETECTION SUMMARY

Client Sample ID ENV4A-GW

Lab ID: 1903940-07

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	**1.7**	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Bromoform	**0.75**	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
cis-1,2-Dichloroethene	**170**	5.0	10	B9J0922	10/30/2019	10/30/19 10:11	
Naphthalene	**0.50**	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Toluene	**1.3**	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
trans-1,2-Dichloroethene	**3.8**	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Trichloroethene	**10**	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV7A-GW

Lab ID: 1903940-01

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,1,1-Trichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,1,2-Trichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,1-Dichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,1-Dichloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,1-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,2,3-Trichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,2,3-Trichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,2,4-Trichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,2,4-Trimethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,2-Dibromoethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,2-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,2-Dichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,2-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,3,5-Trimethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,3-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,3-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
1,4-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
2,2-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
2-Chlorotoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
4-Chlorotoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
4-Isopropyltoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Benzene	**2.7**	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Bromobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Bromochloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Bromodichloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Bromoform	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Bromomethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Carbon disulfide	ND	1.0	1	B9J0890	10/29/2019	10/29/19 16:26	
Carbon tetrachloride	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Chlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Chloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Chloroform	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Chloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
cis-1,2-Dichloroethene	**130**	5.0	10	B9J0922	10/30/2019	10/30/19 09:46	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV7A-GW

Lab ID: 1903940-01

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Di-isopropyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Dibromochloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Dibromomethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Dichlorodifluoromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Ethyl Acetate	ND	10	1	B9J0890	10/29/2019	10/29/19 16:26	
Ethyl Ether	ND	10	1	B9J0890	10/29/2019	10/29/19 16:26	
Ethyl tert-butyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Ethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Freon-113	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Hexachlorobutadiene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Isopropylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
m,p-Xylene	ND	1.0	1	B9J0890	10/29/2019	10/29/19 16:26	
Methylene chloride	ND	1.0	1	B9J0890	10/29/2019	10/29/19 16:26	
MTBE	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
n-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
n-Propylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Naphthalene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
o-Xylene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
sec-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Styrene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
tert-Amyl methyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
tert-Butanol	ND	10	1	B9J0890	10/29/2019	10/29/19 16:26	
tert-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Tetrachloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Toluene	**2.8**	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
trans-1,2-Dichloroethene	**4.3**	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
trans-1,3-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Trichloroethene	**1.6**	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Trichlorofluoromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Vinyl acetate	ND	10	1	B9J0890	10/29/2019	10/29/19 16:26	
Vinyl chloride	**1.5**	0.50	1	B9J0890	10/29/2019	10/29/19 16:26	
Surrogate: 1,2-Dichloroethane-d4	*86.4 %*	*59 - 158*		B9J0922	10/30/2019	*10/30/19 09:46*	
Surrogate: 1,2-Dichloroethane-d4	*84.6 %*	*59 - 158*		B9J0890	10/29/2019	*10/29/19 16:26*	
Surrogate: 4-Bromofluorobenzene	*100 %*	*71 - 127*		B9J0922	10/30/2019	*10/30/19 09:46*	
Surrogate: 4-Bromofluorobenzene	*101 %*	*71 - 127*		B9J0890	10/29/2019	*10/29/19 16:26*	
Surrogate: Dibromofluoromethane	*90.8 %*	*66 - 147*		B9J0890	10/29/2019	*10/29/19 16:26*	

Certificate of Analysis

Leighton & Associates		Project Number :	Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street		Report To :	Meredith Church
Irvine , CA 92614		Reported :	11/04/2019

Client Sample ID: ENV7A-GW

Lab ID: 1903940-01

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: Dibromofluoromethane	*91.6 %*	*66 - 147*		B9J0922	10/30/2019	*10/30/19 09:46*	
Surrogate: Toluene-d8	*106 %*	*77 - 138*		B9J0922	10/30/2019	*10/30/19 09:46*	
Surrogate: Toluene-d8	*106 %*	*77 - 138*		B9J0890	10/29/2019	*10/29/19 16:26*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV14A-GW

Lab ID: 1903940-02

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,1,1-Trichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,1,2-Trichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,1-Dichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,1-Dichloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,1-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,2,3-Trichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,2,3-Trichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,2,4-Trichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,2,4-Trimethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,2-Dibromoethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,2-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,2-Dichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,2-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,3,5-Trimethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,3-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,3-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
1,4-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
2,2-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
2-Chlorotoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
4-Chlorotoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
4-Isopropyltoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Benzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Bromobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Bromochloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Bromodichloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Bromoform	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Bromomethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Carbon disulfide	ND	1.0	1	B9J0890	10/29/2019	10/29/19 18:06	
Carbon tetrachloride	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Chlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Chloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Chloroform	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Chloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
cis-1,2-Dichloroethene	**14**	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV14A-GW

Lab ID: 1903940-02

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Di-isopropyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Dibromochloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Dibromomethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Dichlorodifluoromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Ethyl Acetate	ND	10	1	B9J0890	10/29/2019	10/29/19 18:06	
Ethyl Ether	ND	10	1	B9J0890	10/29/2019	10/29/19 18:06	
Ethyl tert-butyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Ethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Freon-113	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Hexachlorobutadiene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Isopropylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
m,p-Xylene	ND	1.0	1	B9J0890	10/29/2019	10/29/19 18:06	
Methylene chloride	ND	1.0	1	B9J0890	10/29/2019	10/29/19 18:06	
MTBE	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
n-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
n-Propylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Naphthalene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
o-Xylene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
sec-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Styrene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
tert-Amyl methyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
tert-Butanol	ND	10	1	B9J0890	10/29/2019	10/29/19 18:06	
tert-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Tetrachloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Toluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
trans-1,2-Dichloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
trans-1,3-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Trichloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Trichlorofluoromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Vinyl acetate	ND	10	1	B9J0890	10/29/2019	10/29/19 18:06	
Vinyl chloride	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:06	
Surrogate: 1,2-Dichloroethane-d4	*83.0 %*	*59 - 158*		B9J0890	10/29/2019	*10/29/19 18:06*	
Surrogate: 4-Bromofluorobenzene	*98.3 %*	*71 - 127*		B9J0890	10/29/2019	*10/29/19 18:06*	
Surrogate: Dibromofluoromethane	*90.3 %*	*66 - 147*		B9J0890	10/29/2019	*10/29/19 18:06*	
Surrogate: Toluene-d8	*103 %*	*77 - 138*		B9J0890	10/29/2019	*10/29/19 18:06*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV5A-GW

Lab ID: 1903940-03

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,1,1-Trichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,1,2-Trichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,1-Dichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,1-Dichloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,1-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,2,3-Trichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,2,3-Trichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,2,4-Trichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,2,4-Trimethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,2-Dibromoethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,2-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,2-Dichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,2-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,3,5-Trimethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,3-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,3-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
1,4-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
2,2-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
2-Chlorotoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
4-Chlorotoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
4-Isopropyltoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Benzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Bromobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Bromochloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Bromodichloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Bromoform	**1.5**	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Bromomethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Carbon disulfide	ND	1.0	1	B9J0890	10/29/2019	10/29/19 18:31	
Carbon tetrachloride	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Chlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Chloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Chloroform	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Chloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
cis-1,2-Dichloroethene	**35**	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV5A-GW

Lab ID: 1903940-03

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Di-isopropyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Dibromochloromethane	**0.66**	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Dibromomethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Dichlorodifluoromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Ethyl Acetate	ND	10	1	B9J0890	10/29/2019	10/29/19 18:31	
Ethyl Ether	ND	10	1	B9J0890	10/29/2019	10/29/19 18:31	
Ethyl tert-butyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Ethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Freon-113	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Hexachlorobutadiene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Isopropylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
m,p-Xylene	ND	1.0	1	B9J0890	10/29/2019	10/29/19 18:31	
Methylene chloride	ND	1.0	1	B9J0890	10/29/2019	10/29/19 18:31	
MTBE	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
n-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
n-Propylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Naphthalene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
o-Xylene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
sec-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Styrene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
tert-Amyl methyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
tert-Butanol	ND	10	1	B9J0890	10/29/2019	10/29/19 18:31	
tert-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Tetrachloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Toluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
trans-1,2-Dichloroethene	**1.0**	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
trans-1,3-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Trichloroethene	**1.0**	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Trichlorofluoromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Vinyl acetate	ND	10	1	B9J0890	10/29/2019	10/29/19 18:31	
Vinyl chloride	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:31	
Surrogate: 1,2-Dichloroethane-d4	*83.2 %*	*59 - 158*		B9J0890	10/29/2019	*10/29/19 18:31*	
Surrogate: 4-Bromofluorobenzene	*100 %*	*71 - 127*		B9J0890	10/29/2019	*10/29/19 18:31*	
Surrogate: Dibromofluoromethane	*91.5 %*	*66 - 147*		B9J0890	10/29/2019	*10/29/19 18:31*	
Surrogate: Toluene-d8	*105 %*	*77 - 138*		B9J0890	10/29/2019	*10/29/19 18:31*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV16A-GW

Lab ID: 1903940-04

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,1,1-Trichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,1,2-Trichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,1-Dichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,1-Dichloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,1-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,2,3-Trichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,2,3-Trichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,2,4-Trichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,2,4-Trimethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,2-Dibromoethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,2-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,2-Dichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,2-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,3,5-Trimethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,3-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,3-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
1,4-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
2,2-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
2-Chlorotoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
4-Chlorotoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
4-Isopropyltoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Benzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Bromobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Bromochloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Bromodichloromethane	**0.86**	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Bromoform	**10**	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Bromomethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Carbon disulfide	ND	1.0	1	B9J0890	10/29/2019	10/29/19 18:56	
Carbon tetrachloride	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Chlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Chloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Chloroform	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Chloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
cis-1,2-Dichloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV16A-GW

Lab ID: 1903940-04

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Di-isopropyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Dibromochloromethane	**3.6**	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Dibromomethane	**1.3**	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Dichlorodifluoromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Ethyl Acetate	ND	10	1	B9J0890	10/29/2019	10/29/19 18:56	
Ethyl Ether	ND	10	1	B9J0890	10/29/2019	10/29/19 18:56	
Ethyl tert-butyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Ethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Freon-113	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Hexachlorobutadiene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Isopropylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
m,p-Xylene	ND	1.0	1	B9J0890	10/29/2019	10/29/19 18:56	
Methylene chloride	ND	1.0	1	B9J0890	10/29/2019	10/29/19 18:56	
MTBE	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
n-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
n-Propylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Naphthalene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
o-Xylene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
sec-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Styrene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
tert-Amyl methyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
tert-Butanol	ND	10	1	B9J0890	10/29/2019	10/29/19 18:56	
tert-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Tetrachloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Toluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
trans-1,2-Dichloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
trans-1,3-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Trichloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Trichlorofluoromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Vinyl acetate	ND	10	1	B9J0890	10/29/2019	10/29/19 18:56	
Vinyl chloride	ND	0.50	1	B9J0890	10/29/2019	10/29/19 18:56	
Surrogate: 1,2-Dichloroethane-d4	*86.0 %*	*59 - 158*		B9J0890	10/29/2019	*10/29/19 18:56*	
Surrogate: 4-Bromofluorobenzene	*98.1 %*	*71 - 127*		B9J0890	10/29/2019	*10/29/19 18:56*	
Surrogate: Dibromofluoromethane	*92.0 %*	*66 - 147*		B9J0890	10/29/2019	*10/29/19 18:56*	
Surrogate: Toluene-d8	*104 %*	*77 - 138*		B9J0890	10/29/2019	*10/29/19 18:56*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV6A-GW

Lab ID: 1903940-05

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,1,1-Trichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,1,2-Trichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,1-Dichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,1-Dichloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,1-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,2,3-Trichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,2,3-Trichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,2,4-Trichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,2,4-Trimethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,2-Dibromoethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,2-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,2-Dichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,2-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,3,5-Trimethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,3-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,3-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
1,4-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
2,2-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
2-Chlorotoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
4-Chlorotoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
4-Isopropyltoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Benzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Bromobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Bromochloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Bromodichloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Bromoform	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Bromomethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Carbon disulfide	ND	1.0	1	B9J0890	10/29/2019	10/29/19 19:21	
Carbon tetrachloride	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Chlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Chloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Chloroform	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Chloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
cis-1,2-Dichloroethene	**19**	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV6A-GW

Lab ID: 1903940-05

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Di-isopropyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Dibromochloromethane	**2.2**	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Dibromomethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Dichlorodifluoromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Ethyl Acetate	ND	10	1	B9J0890	10/29/2019	10/29/19 19:21	
Ethyl Ether	ND	10	1	B9J0890	10/29/2019	10/29/19 19:21	
Ethyl tert-butyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Ethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Freon-113	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Hexachlorobutadiene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Isopropylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
m,p-Xylene	ND	1.0	1	B9J0890	10/29/2019	10/29/19 19:21	
Methylene chloride	ND	1.0	1	B9J0890	10/29/2019	10/29/19 19:21	
MTBE	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
n-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
n-Propylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Naphthalene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
o-Xylene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
sec-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Styrene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
tert-Amyl methyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
tert-Butanol	ND	10	1	B9J0890	10/29/2019	10/29/19 19:21	
tert-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Tetrachloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Toluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
trans-1,2-Dichloroethene	**0.83**	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
trans-1,3-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Trichloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Trichlorofluoromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Vinyl acetate	ND	10	1	B9J0890	10/29/2019	10/29/19 19:21	
Vinyl chloride	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:21	
Surrogate: 1,2-Dichloroethane-d4	*89.0 %*	*59 - 158*		B9J0890	10/29/2019	*10/29/19 19:21*	
Surrogate: 4-Bromofluorobenzene	*100 %*	*71 - 127*		B9J0890	10/29/2019	*10/29/19 19:21*	
Surrogate: Dibromofluoromethane	*91.3 %*	*66 - 147*		B9J0890	10/29/2019	*10/29/19 19:21*	
Surrogate: Toluene-d8	*106 %*	*77 - 138*		B9J0890	10/29/2019	*10/29/19 19:21*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV6A-GWD

Lab ID: 1903940-06

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,1,1-Trichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,1,2-Trichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,1-Dichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,1-Dichloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,1-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,2,3-Trichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,2,3-Trichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,2,4-Trichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,2,4-Trimethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,2-Dibromoethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,2-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,2-Dichloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,2-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,3,5-Trimethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,3-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,3-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
1,4-Dichlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
2,2-Dichloropropane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
2-Chlorotoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
4-Chlorotoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
4-Isopropyltoluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Benzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Bromobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Bromochloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Bromodichloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Bromoform	**2.9**	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Bromomethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Carbon disulfide	ND	1.0	1	B9J0890	10/29/2019	10/29/19 19:46	
Carbon tetrachloride	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Chlorobenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Chloroethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Chloroform	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Chloromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
cis-1,2-Dichloroethene	**26**	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV6A-GWD

Lab ID: 1903940-06

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Di-isopropyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Dibromochloromethane	**1.0**	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Dibromomethane	**0.75**	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Dichlorodifluoromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Ethyl Acetate	ND	10	1	B9J0890	10/29/2019	10/29/19 19:46	
Ethyl Ether	ND	10	1	B9J0890	10/29/2019	10/29/19 19:46	
Ethyl tert-butyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Ethylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Freon-113	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Hexachlorobutadiene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Isopropylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
m,p-Xylene	ND	1.0	1	B9J0890	10/29/2019	10/29/19 19:46	
Methylene chloride	ND	1.0	1	B9J0890	10/29/2019	10/29/19 19:46	
MTBE	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
n-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
n-Propylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Naphthalene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
o-Xylene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
sec-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Styrene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
tert-Amyl methyl ether	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
tert-Butanol	ND	10	1	B9J0890	10/29/2019	10/29/19 19:46	
tert-Butylbenzene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Tetrachloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Toluene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
trans-1,2-Dichloroethene	**1.1**	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
trans-1,3-Dichloropropene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Trichloroethene	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Trichlorofluoromethane	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Vinyl acetate	ND	10	1	B9J0890	10/29/2019	10/29/19 19:46	
Vinyl chloride	ND	0.50	1	B9J0890	10/29/2019	10/29/19 19:46	
Surrogate: 1,2-Dichloroethane-d4	*85.3 %*	*59 - 158*		B9J0890	10/29/2019	*10/29/19 19:46*	
Surrogate: 4-Bromofluorobenzene	*99.6 %*	*71 - 127*		B9J0890	10/29/2019	*10/29/19 19:46*	
Surrogate: Dibromofluoromethane	*91.7 %*	*66 - 147*		B9J0890	10/29/2019	*10/29/19 19:46*	
Surrogate: Toluene-d8	*104 %*	*77 - 138*		B9J0890	10/29/2019	*10/29/19 19:46*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV4A-GW

Lab ID: 1903940-07

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,1,1-Trichloroethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,1,2-Trichloroethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,1-Dichloroethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,1-Dichloroethene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,1-Dichloropropene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,2,3-Trichloropropane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,2,3-Trichlorobenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,2,4-Trichlorobenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,2,4-Trimethylbenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,2-Dibromoethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,2-Dichlorobenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,2-Dichloroethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,2-Dichloropropane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,3,5-Trimethylbenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,3-Dichlorobenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,3-Dichloropropane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
1,4-Dichlorobenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
2,2-Dichloropropane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
2-Chlorotoluene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
4-Chlorotoluene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
4-Isopropyltoluene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Benzene	**1.7**	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Bromobenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Bromochloromethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Bromodichloromethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Bromoform	**0.75**	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Bromomethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Carbon disulfide	ND	1.0	1	B9J0922	10/30/2019	10/30/19 10:36	
Carbon tetrachloride	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Chlorobenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Chloroethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Chloroform	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Chloromethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
cis-1,2-Dichloroethene	**170**	5.0	10	B9J0922	10/30/2019	10/30/19 10:11	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Client Sample ID: ENV4A-GW

Lab ID: 1903940-07

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Di-isopropyl ether	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Dibromochloromethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Dibromomethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Dichlorodifluoromethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Ethyl Acetate	ND	10	1	B9J0922	10/30/2019	10/30/19 10:36	
Ethyl Ether	ND	10	1	B9J0922	10/30/2019	10/30/19 10:36	
Ethyl tert-butyl ether	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Ethylbenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Freon-113	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Hexachlorobutadiene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Isopropylbenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
m,p-Xylene	ND	1.0	1	B9J0922	10/30/2019	10/30/19 10:36	
Methylene chloride	ND	1.0	1	B9J0922	10/30/2019	10/30/19 10:36	
MTBE	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
n-Butylbenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
n-Propylbenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Naphthalene	**0.50**	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
o-Xylene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
sec-Butylbenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Styrene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
tert-Amyl methyl ether	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
tert-Butanol	ND	10	1	B9J0922	10/30/2019	10/30/19 10:36	
tert-Butylbenzene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Tetrachloroethene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Toluene	**1.3**	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
trans-1,2-Dichloroethene	**3.8**	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
trans-1,3-Dichloropropene	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Trichloroethene	**10**	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Trichlorofluoromethane	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Vinyl acetate	ND	10	1	B9J0922	10/30/2019	10/30/19 10:36	
Vinyl chloride	ND	0.50	1	B9J0922	10/30/2019	10/30/19 10:36	
Surrogate: 1,2-Dichloroethane-d4	*82.6 %*	*59 - 158*		B9J0922	10/30/2019	*10/30/19 10:11*	
Surrogate: 1,2-Dichloroethane-d4	*85.8 %*	*59 - 158*		B9J0922	10/30/2019	*10/30/19 10:36*	
Surrogate: 4-Bromofluorobenzene	*97.7 %*	*71 - 127*		B9J0922	10/30/2019	*10/30/19 10:11*	
Surrogate: 4-Bromofluorobenzene	*98.1 %*	*71 - 127*		B9J0922	10/30/2019	*10/30/19 10:36*	
Surrogate: Dibromofluoromethane	*87.9 %*	*66 - 147*		B9J0922	10/30/2019	*10/30/19 10:36*	

Certificate of Analysis

Leighton & Associates		Project Number :	Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street		Report To :	Meredith Church
Irvine , CA 92614		Reported :	11/04/2019

Client Sample ID: ENV4A-GW

Lab ID: 1903940-07

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

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: Dibromofluoromethane	*90.3 %*	*66 - 147*		B9J0922	10/30/2019	*10/30/19 10:11*	
Surrogate: Toluene-d8	*104 %*	*77 - 138*		B9J0922	10/30/2019	*10/30/19 10:36*	
Surrogate: Toluene-d8	*104 %*	*77 - 138*		B9J0922	10/30/2019	*10/30/19 10:11*	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

QUALITY CONTROL SECTION

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0890 - MSVOA_LL_W										
Blank (B9J0890-BLK1)							Prepared: 10/29/2019 Analyzed: 10/29/2019			
1,1,1,2-Tetrachloroethane	ND	0.50	0.11							
1,1,1-Trichloroethane	ND	0.50	0.21							
1,1,2,2-Tetrachloroethane	ND	0.50	0.36							
1,1,2-Trichloroethane	ND	0.50	0.25							
1,1-Dichloroethane	ND	0.50	0.09							
1,1-Dichloroethene	ND	0.50	0.13							
1,1-Dichloropropene	ND	0.50	0.13							
1,2,3-Trichloropropane	ND	0.50	0.39							
1,2,3-Trichlorobenzene	ND	0.50	0.18							
1,2,4-Trichlorobenzene	ND	0.50	0.16							
1,2,4-Trimethylbenzene	ND	0.50	0.14							
1,2-Dibromo-3-chloropropane	ND	0.50	0.41							
1,2-Dibromoethane	ND	0.50	0.24							
1,2-Dichlorobenzene	ND	0.50	0.20							
1,2-Dichloroethane	ND	0.50	0.20							
1,2-Dichloropropane	ND	0.50	0.15							
1,3,5-Trimethylbenzene	ND	0.50	0.13							
1,3-Dichlorobenzene	ND	0.50	0.16							
1,3-Dichloropropane	ND	0.50	0.21							
1,4-Dichlorobenzene	ND	0.50	0.17							
2,2-Dichloropropane	ND	0.50	0.38							
2-Chlorotoluene	ND	0.50	0.11							
4-Chlorotoluene	ND	0.50	0.12							
4-Isopropyltoluene	ND	0.50	0.11							
Benzene	ND	0.50	0.13							
Bromobenzene	ND	0.50	0.21							
Bromochloromethane	ND	0.50	0.16							
Bromodichloromethane	ND	0.50	0.14							
Bromoform	ND	0.50	0.20							
Bromomethane	ND	0.50	0.40							
Carbon disulfide	ND	1.0	0.07							
Carbon tetrachloride	ND	0.50	0.09							
Chlorobenzene	ND	0.50	0.13							
Chloroethane	ND	0.50	0.15							
Chloroform	ND	0.50	0.11							
Chloromethane	ND	0.50	0.12							
cis-1,2-Dichloroethene	ND	0.50	0.14							
cis-1,3-Dichloropropene	ND	0.50	0.13							
Di-isopropyl ether	ND	0.50	0.15							

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

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

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0890 - MSVOA_LL_W (continued)										
Blank (B9J0890-BLK1) - Continued					Prepared: 10/29/2019 Analyzed: 10/29/2019					
Dibromochloromethane	ND	0.50	0.16							
Dibromomethane	ND	0.50	0.19							
Dichlorodifluoromethane	ND	0.50	0.18							
Ethyl Acetate	ND	10	8.7							
Ethyl Ether	ND	10	2.0							
Ethyl tert-butyl ether	ND	0.50	0.21							
Ethylbenzene	ND	0.50	0.13							
Freon-113	ND	0.50	0.13							
Hexachlorobutadiene	ND	0.50	0.15							
Isopropylbenzene	ND	0.50	0.10							
m,p-Xylene	ND	1.0	0.19							
Methylene chloride	ND	1.0	0.71							
MTBE	ND	0.50	0.26							
n-Butylbenzene	ND	0.50	0.11							
n-Propylbenzene	ND	0.50	0.10							
Naphthalene	ND	0.50	0.41							
o-Xylene	ND	0.50	0.13							
sec-Butylbenzene	ND	0.50	0.09							
Styrene	ND	0.50	0.13							
tert-Amyl methyl ether	ND	0.50	0.41							
tert-Butanol	ND	10	2.4							
tert-Butylbenzene	ND	0.50	0.09							
Tetrachloroethene	ND	0.50	0.10							
Toluene	ND	0.50	0.12							
trans-1,2-Dichloroethene	ND	0.50	0.09							
trans-1,3-Dichloropropene	ND	0.50	0.23							
Trichloroethene	ND	0.50	0.10							
Trichlorofluoromethane	ND	0.50	0.23							
Vinyl acetate	ND	10	1.7							
Vinyl chloride	ND	0.50	0.13							
Surrogate: 1,2-Dichloroethane-d4	*20.82*			*25.0000*		*83.3*	*59 - 158*			
Surrogate: 4-Bromofluorobenzene	*24.27*			*25.0000*		*97.1*	*71 - 127*			
Surrogate: Dibromofluoromethan	*22.37*			*25.0000*		*89.5*	*66 - 147*			
Surrogate: Toluene-d8	*25.77*			*25.0000*		*103*	*77 - 138*			
LCS (B9J0890-BS1)					Prepared: 10/29/2019 Analyzed: 10/29/2019					
1,1,1,2-Tetrachloroethane	20.0100	0.50	0.11	20.0000		100	71 - 133			
1,1,1-Trichloroethane	17.9200	0.50	0.21	20.0000		89.6	62 - 124			
1,1,2,2-Tetrachloroethane	17.0400	0.50	0.36	20.0000		85.2	50 - 131			
1,1,2-Trichloroethane	20.8000	0.50	0.25	20.0000		104	77 - 121			
1,1-Dichloroethane	16.7800	0.50	0.09	20.0000		83.9	52 - 130			

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

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

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0890 - MSVOA_LL_W (continued)										
LCS (B9J0890-BS1) - Continued					Prepared: 10/29/2019 Analyzed: 10/29/2019					
1,1-Dichloroethene	18.4500	0.50	0.13	20.0000		92.2	61 - 136			
1,1-Dichloropropene	21.5900	0.50	0.13	20.0000		108	80 - 128			
1,2,3-Trichloropropane	15.9300	0.50	0.39	20.0000		79.6	59 - 126			
1,2,3-Trichlorobenzene	20.3600	0.50	0.18	20.0000		102	69 - 138			
1,2,4-Trichlorobenzene	20.2600	0.50	0.16	20.0000		101	78 - 125			
1,2,4-Trimethylbenzene	18.0400	0.50	0.14	20.0000		90.2	70 - 126			
1,2-Dibromo-3-chloropropane	14.5800	0.50	0.41	20.0000		72.9	58 - 127			
1,2-Dibromoethane	20.9200	0.50	0.24	20.0000		105	76 - 120			
1,2-Dichlorobenzene	19.4400	0.50	0.20	20.0000		97.2	82 - 117			
1,2-Dichloroethane	18.4300	0.50	0.20	20.0000		92.2	66 - 126			
1,2-Dichloropropane	18.8400	0.50	0.15	20.0000		94.2	70 - 117			
1,3,5-Trimethylbenzene	18.0500	0.50	0.13	20.0000		90.2	71 - 125			
1,3-Dichlorobenzene	19.3100	0.50	0.16	20.0000		96.6	81 - 116			
1,3-Dichloropropane	17.9200	0.50	0.21	20.0000		89.6	69 - 124			
1,4-Dichlorobenzene	18.9100	0.50	0.17	20.0000		94.6	80 - 114			
2,2-Dichloropropane	17.4400	0.50	0.38	20.0000		87.2	58 - 132			
2-Chlorotoluene	17.2700	0.50	0.11	20.0000		86.4	71 - 119			
4-Chlorotoluene	17.4100	0.50	0.12	20.0000		87.0	72 - 122			
4-Isopropyltoluene	18.4500	0.50	0.11	20.0000		92.2	69 - 126			
Benzene	38.8300	0.50	0.13	40.0000		97.1	80 - 116			
Bromobenzene	19.1400	0.50	0.21	20.0000		95.7	77 - 118			
Bromochloromethane	20.3500	0.50	0.16	20.0000		102	68 - 121			
Bromodichloromethane	19.3900	0.50	0.14	20.0000		97.0	73 - 118			
Bromoform	20.4700	0.50	0.20	20.0000		102	65 - 133			
Bromomethane	19.8900	0.50	0.40	20.0000		99.4	7 - 205			
Carbon disulfide	15.2000	1.0	0.07	20.0000		76.0	55 - 131			
Carbon tetrachloride	20.5100	0.50	0.09	20.0000		103	63 - 133			
Chlorobenzene	19.2300	0.50	0.13	20.0000		96.2	86 - 113			
Chloroethane	16.2500	0.50	0.15	20.0000		81.2	66 - 141			
Chloroform	17.7100	0.50	0.11	20.0000		88.6	63 - 127			
Chloromethane	16.0700	0.50	0.12	20.0000		80.4	0 - 207			
cis-1,2-Dichloroethene	17.6400	0.50	0.14	20.0000		88.2	64 - 126			
cis-1,3-Dichloropropene	21.8600	0.50	0.13	20.0000		109	70 - 141			
Di-isopropyl ether	15.5500	0.50	0.15	20.0000		77.8	56 - 131			
Dibromochloromethane	20.2100	0.50	0.16	20.0000		101	67 - 135			
Dibromomethane	20.2800	0.50	0.19	20.0000		101	74 - 118			
Dichlorodifluoromethane	15.6600	0.50	0.18	20.0000		78.3	14 - 181			
Ethyl Acetate	152.050	10	8.7	200.000		76.0	49 - 128			
Ethyl Ether	166.790	10	2.0	200.000		83.4	53 - 143			
Ethyl tert-butyl ether	15.3300	0.50	0.21	20.0000		76.6	54 - 132			
Ethylbenzene	37.4700	0.50	0.13	40.0000		93.7	77 - 118			
Freon-113	17.7800	0.50	0.13	20.0000		88.9	68 - 145			

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

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

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0890 - MSVOA_LL_W (continued)										
LCS (B9J0890-BS1) - Continued					Prepared: 10/29/2019 Analyzed: 10/29/2019					
Hexachlorobutadiene	21.8800	0.50	0.15	20.0000		109	66 - 125			
Isopropylbenzene	19.0000	0.50	0.10	20.0000		95.0	68 - 137			
m,p-Xylene	37.8200	1.0	0.19	40.0000		94.6	78 - 126			
Methylene chloride	15.3700	1.0	0.71	20.0000		76.8	51 - 149			
MTBE	16.4700	0.50	0.26	20.0000		82.4	63 - 128			
n-Butylbenzene	18.0100	0.50	0.11	20.0000		90.0	63 - 127			
n-Propylbenzene	17.5400	0.50	0.10	20.0000		87.7	69 - 124			
Naphthalene	18.0000	0.50	0.41	20.0000		90.0	60 - 126			
o-Xylene	38.7200	0.50	0.13	40.0000		96.8	79 - 126			
sec-Butylbenzene	18.2300	0.50	0.09	20.0000		91.2	69 - 124			
Styrene	19.9400	0.50	0.13	20.0000		99.7	80 - 127			
tert-Amyl methyl ether	15.6400	0.50	0.41	20.0000		78.2	49 - 130			
tert-Butanol	72.1000	10	2.4	100.000		72.1	29 - 163			
tert-Butylbenzene	18.4000	0.50	0.09	20.0000		92.0	71 - 124			
Tetrachloroethene	20.9900	0.50	0.10	20.0000		105	73 - 129			
Toluene	41.8400	0.50	0.12	40.0000		105	78 - 121			
trans-1,2-Dichloroethene	17.1500	0.50	0.09	20.0000		85.8	58 - 141			
trans-1,3-Dichloropropene	19.4700	0.50	0.23	20.0000		97.4	68 - 128			
Trichloroethene	20.6200	0.50	0.10	20.0000		103	73 - 126			
Trichlorofluoromethane	17.4400	0.50	0.23	20.0000		87.2	62 - 146			
Vinyl acetate	172.820	10	1.7	200.000		86.4	53 - 153			
Vinyl chloride	16.5400	0.50	0.13	20.0000		82.7	61 - 137			
Surrogate: 1,2-Dichloroethane-d4	*20.78*			*25.0000*		*83.1*	*59 - 158*			
Surrogate: 4-Bromofluorobenzene	*25.30*			*25.0000*		*101*	*71 - 127*			
Surrogate: Dibromofluoromethan	*22.57*			*25.0000*		*90.3*	*66 - 147*			
Surrogate: Toluene-d8	*26.62*			*25.0000*		*106*	*77 - 138*			
LCS Dup (B9J0890-BSD1)					Prepared: 10/29/2019 Analyzed: 10/29/2019					
1,1,1,2-Tetrachloroethane	20.0800	0.50	0.11	20.0000		100	71 - 133	0.349	20	
1,1,1-Trichloroethane	18.2700	0.50	0.21	20.0000		91.4	62 - 124	1.93	20	
1,1,2,2-Tetrachloroethane	17.0300	0.50	0.36	20.0000		85.2	50 - 131	0.0587	20	
1,1,2-Trichloroethane	20.3300	0.50	0.25	20.0000		102	77 - 121	2.29	20	
1,1-Dichloroethane	17.0200	0.50	0.09	20.0000		85.1	52 - 130	1.42	20	
1,1-Dichloroethene	18.3500	0.50	0.13	20.0000		91.8	61 - 136	0.543	20	
1,1-Dichloropropene	21.6400	0.50	0.13	20.0000		108	80 - 128	0.231	20	
1,2,3-Trichloropropane	15.8200	0.50	0.39	20.0000		79.1	59 - 126	0.693	20	
1,2,3-Trichlorobenzene	20.5400	0.50	0.18	20.0000		103	69 - 138	0.880	20	
1,2,4-Trichlorobenzene	19.9500	0.50	0.16	20.0000		99.8	78 - 125	1.54	20	
1,2,4-Trimethylbenzene	17.9500	0.50	0.14	20.0000		89.8	70 - 126	0.500	20	
1,2-Dibromo-3-chloropropane	14.5500	0.50	0.41	20.0000		72.8	58 - 127	0.206	20	
1,2-Dibromoethane	20.7000	0.50	0.24	20.0000		104	76 - 120	1.06	20	

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

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

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0890 - MSVOA_LL_W (continued)										
LCS Dup (B9J0890-BSD1) - Continued					Prepared: 10/29/2019 Analyzed: 10/29/2019					
1,2-Dichlorobenzene	19.4700	0.50	0.20	20.0000		97.4	82 - 117	0.154	20	
1,2-Dichloroethane	18.3900	0.50	0.20	20.0000		92.0	66 - 126	0.217	20	
1,2-Dichloropropane	18.8600	0.50	0.15	20.0000		94.3	70 - 117	0.106	20	
1,3,5-Trimethylbenzene	18.0100	0.50	0.13	20.0000		90.0	71 - 125	0.222	20	
1,3-Dichlorobenzene	19.0200	0.50	0.16	20.0000		95.1	81 - 116	1.51	20	
1,3-Dichloropropane	18.1200	0.50	0.21	20.0000		90.6	69 - 124	1.11	20	
1,4-Dichlorobenzene	18.8400	0.50	0.17	20.0000		94.2	80 - 114	0.371	20	
2,2-Dichloropropane	17.1500	0.50	0.38	20.0000		85.8	58 - 132	1.68	20	
2-Chlorotoluene	17.2100	0.50	0.11	20.0000		86.0	71 - 119	0.348	20	
4-Chlorotoluene	17.3100	0.50	0.12	20.0000		86.6	72 - 122	0.576	20	
4-Isopropyltoluene	18.3300	0.50	0.11	20.0000		91.6	69 - 126	0.653	20	
Benzene	38.3800	0.50	0.13	40.0000		96.0	80 - 116	1.17	20	
Bromobenzene	18.8000	0.50	0.21	20.0000		94.0	77 - 118	1.79	20	
Bromochloromethane	19.6700	0.50	0.16	20.0000		98.4	68 - 121	3.40	20	
Bromodichloromethane	18.9900	0.50	0.14	20.0000		95.0	73 - 118	2.08	20	
Bromoform	20.5600	0.50	0.20	20.0000		103	65 - 133	0.439	20	
Bromomethane	19.5300	0.50	0.40	20.0000		97.6	7 - 205	1.83	20	
Carbon disulfide	15.0800	1.0	0.07	20.0000		75.4	55 - 131	0.793	20	
Carbon tetrachloride	20.3200	0.50	0.09	20.0000		102	63 - 133	0.931	20	
Chlorobenzene	19.8800	0.50	0.13	20.0000		99.4	86 - 113	3.32	20	
Chloroethane	16.1300	0.50	0.15	20.0000		80.6	66 - 141	0.741	20	
Chloroform	17.6400	0.50	0.11	20.0000		88.2	63 - 127	0.396	20	
Chloromethane	15.7300	0.50	0.12	20.0000		78.6	0 - 207	2.14	20	
cis-1,2-Dichloroethene	17.4800	0.50	0.14	20.0000		87.4	64 - 126	0.911	20	
cis-1,3-Dichloropropene	21.6900	0.50	0.13	20.0000		108	70 - 141	0.781	20	
Di-isopropyl ether	15.4500	0.50	0.15	20.0000		77.2	56 - 131	0.645	20	
Dibromochloromethane	20.2700	0.50	0.16	20.0000		101	67 - 135	0.296	20	
Dibromomethane	20.0400	0.50	0.19	20.0000		100	74 - 118	1.19	20	
Dichlorodifluoromethane	15.7800	0.50	0.18	20.0000		78.9	14 - 181	0.763	20	
Ethyl Acetate	150.000	10	8.7	200.000		75.0	49 - 128	1.36	20	
Ethyl Ether	168.560	10	2.0	200.000		84.3	53 - 143	1.06	20	
Ethyl tert-butyl ether	15.3000	0.50	0.21	20.0000		76.5	54 - 132	0.196	20	
Ethylbenzene	38.1300	0.50	0.13	40.0000		95.3	77 - 118	1.75	20	
Freon-113	17.7100	0.50	0.13	20.0000		88.6	68 - 145	0.394	20	
Hexachlorobutadiene	21.5100	0.50	0.15	20.0000		108	66 - 125	1.71	20	
Isopropylbenzene	18.9600	0.50	0.10	20.0000		94.8	68 - 137	0.211	20	
m,p-Xylene	38.4300	1.0	0.19	40.0000		96.1	78 - 126	1.60	20	
Methylene chloride	15.4700	1.0	0.71	20.0000		77.4	51 - 149	0.649	20	
MTBE	16.3200	0.50	0.26	20.0000		81.6	63 - 128	0.915	20	
n-Butylbenzene	17.7900	0.50	0.11	20.0000		89.0	63 - 127	1.23	20	
n-Propylbenzene	17.2500	0.50	0.10	20.0000		86.2	69 - 124	1.67	20	
Naphthalene	18.1300	0.50	0.41	20.0000		90.6	60 - 126	0.720	20	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

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

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0890 - MSVOA_LL_W (continued)										
LCS Dup (B9J0890-BSD1) - Continued					Prepared: 10/29/2019 Analyzed: 10/29/2019					
o-Xylene	39.4600	0.50	0.13	40.0000		98.6	79 - 126	1.89	20	
sec-Butylbenzene	18.0800	0.50	0.09	20.0000		90.4	69 - 124	0.826	20	
Styrene	20.2900	0.50	0.13	20.0000		101	80 - 127	1.74	20	
tert-Amyl methyl ether	15.6100	0.50	0.41	20.0000		78.0	49 - 130	0.192	20	
tert-Butanol	67.5900	10	2.4	100.000		67.6	29 - 163	6.46	20	
tert-Butylbenzene	18.4000	0.50	0.09	20.0000		92.0	71 - 124	0.00	20	
Tetrachloroethene	21.6800	0.50	0.10	20.0000		108	73 - 129	3.23	20	
Toluene	41.5500	0.50	0.12	40.0000		104	78 - 121	0.696	20	
trans-1,2-Dichloroethene	17.2300	0.50	0.09	20.0000		86.2	58 - 141	0.465	20	
trans-1,3-Dichloropropene	19.0600	0.50	0.23	20.0000		95.3	68 - 128	2.13	20	
Trichloroethene	21.1200	0.50	0.10	20.0000		106	73 - 126	2.40	20	
Trichlorofluoromethane	17.4700	0.50	0.23	20.0000		87.4	62 - 146	0.172	20	
Vinyl acetate	169.700	10	1.7	200.000		84.8	53 - 153	1.82	20	
Vinyl chloride	16.9500	0.50	0.13	20.0000		84.8	61 - 137	2.45	20	
Surrogate: 1,2-Dichloroethane-d4	*20.38*			*25.0000*		*81.5*	*59 - 158*			
Surrogate: 4-Bromofluorobenzene	*25.04*			*25.0000*		*100*	*71 - 127*			
Surrogate: Dibromofluoromethan	*22.78*			*25.0000*		*91.1*	*66 - 147*			
Surrogate: Toluene-d8	*25.74*			*25.0000*		*103*	*77 - 138*			

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0922 - MSVOA_LL_W										
Blank (B9J0922-BLK1)					Prepared: 10/30/2019 Analyzed: 10/30/2019					
1,1,1,2-Tetrachloroethane	ND	0.50	0.11							
1,1,1-Trichloroethane	ND	0.50	0.21							
1,1,2,2-Tetrachloroethane	ND	0.50	0.36							
1,1,2-Trichloroethane	ND	0.50	0.25							
1,1-Dichloroethane	ND	0.50	0.09							
1,1-Dichloroethene	ND	0.50	0.13							
1,1-Dichloropropene	ND	0.50	0.13							
1,2,3-Trichloropropane	ND	0.50	0.39							
1,2,3-Trichlorobenzene	ND	0.50	0.18							
1,2,4-Trichlorobenzene	ND	0.50	0.16							
1,2,4-Trimethylbenzene	ND	0.50	0.14							
1,2-Dibromo-3-chloropropane	ND	0.50	0.41							
1,2-Dibromoethane	ND	0.50	0.24							
1,2-Dichlorobenzene	ND	0.50	0.20							
1,2-Dichloroethane	ND	0.50	0.20							
1,2-Dichloropropane	ND	0.50	0.15							
1,3,5-Trimethylbenzene	ND	0.50	0.13							
1,3-Dichlorobenzene	ND	0.50	0.16							
1,3-Dichloropropane	ND	0.50	0.21							
1,4-Dichlorobenzene	ND	0.50	0.17							
2,2-Dichloropropane	ND	0.50	0.38							
2-Chlorotoluene	ND	0.50	0.11							
4-Chlorotoluene	ND	0.50	0.12							
4-Isopropyltoluene	ND	0.50	0.11							
Benzene	ND	0.50	0.13							
Bromobenzene	ND	0.50	0.21							
Bromochloromethane	ND	0.50	0.16							
Bromodichloromethane	ND	0.50	0.14							
Bromoform	ND	0.50	0.20							
Bromomethane	ND	0.50	0.40							
Carbon disulfide	ND	1.0	0.07							
Carbon tetrachloride	ND	0.50	0.09							
Chlorobenzene	ND	0.50	0.13							
Chloroethane	ND	0.50	0.15							
Chloroform	ND	0.50	0.11							
Chloromethane	ND	0.50	0.12							
cis-1,2-Dichloroethene	ND	0.50	0.14							
cis-1,3-Dichloropropene	ND	0.50	0.13							
Di-isopropyl ether	ND	0.50	0.15							
Dibromochloromethane	ND	0.50	0.16							
Dibromomethane	ND	0.50	0.19							

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

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

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0922 - MSVOA_LL_W (continued)										
Blank (B9J0922-BLK1) - Continued						Prepared: 10/30/2019 Analyzed: 10/30/2019				
Dichlorodifluoromethane	ND	0.50	0.18							
Ethyl Acetate	ND	10	8.7							
Ethyl Ether	ND	10	2.0							
Ethyl tert-butyl ether	ND	0.50	0.21							
Ethylbenzene	ND	0.50	0.13							
Freon-113	ND	0.50	0.13							
Hexachlorobutadiene	ND	0.50	0.15							
Isopropylbenzene	ND	0.50	0.10							
m,p-Xylene	ND	1.0	0.19							
Methylene chloride	ND	1.0	0.71							
MTBE	ND	0.50	0.26							
n-Butylbenzene	ND	0.50	0.11							
n-Propylbenzene	ND	0.50	0.10							
Naphthalene	ND	0.50	0.41							
o-Xylene	ND	0.50	0.13							
sec-Butylbenzene	ND	0.50	0.09							
Styrene	ND	0.50	0.13							
tert-Amyl methyl ether	ND	0.50	0.41							
tert-Butanol	ND	10	2.4							
tert-Butylbenzene	ND	0.50	0.09							
Tetrachloroethene	ND	0.50	0.10							
Toluene	ND	0.50	0.12							
trans-1,2-Dichloroethene	ND	0.50	0.09							
trans-1,3-Dichloropropene	ND	0.50	0.23							
Trichloroethene	ND	0.50	0.10							
Trichlorofluoromethane	ND	0.50	0.23							
Vinyl acetate	ND	10	1.7							
Vinyl chloride	ND	0.50	0.13							
Surrogate: 1,2-Dichloroethane-d4	*20.82*			*25.0000*		*83.3*	*59 - 158*			
Surrogate: 4-Bromofluorobenzene	*24.59*			*25.0000*		*98.4*	*71 - 127*			
Surrogate: Dibromofluoromethan	*22.80*			*25.0000*		*91.2*	*66 - 147*			
Surrogate: Toluene-d8	*25.75*			*25.0000*		*103*	*77 - 138*			
LCS (B9J0922-BS1)						Prepared: 10/30/2019 Analyzed: 10/30/2019				
1,1,1,2-Tetrachloroethane	17.4500	0.50	0.11	20.0000		87.2	71 - 133			
1,1,1-Trichloroethane	16.0600	0.50	0.21	20.0000		80.3	62 - 124			
1,1,2,2-Tetrachloroethane	13.7600	0.50	0.36	20.0000		68.8	50 - 131			
1,1,2-Trichloroethane	17.1700	0.50	0.25	20.0000		85.8	77 - 121			
1,1-Dichloroethane	15.0300	0.50	0.09	20.0000		75.2	52 - 130			
1,1-Dichloroethene	16.1900	0.50	0.13	20.0000		81.0	61 - 136			
1,1-Dichloropropene	18.9300	0.50	0.13	20.0000		94.6	80 - 128			

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

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

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0922 - MSVOA_LL_W (continued)										
LCS (B9J0922-BS1) - Continued					Prepared: 10/30/2019 Analyzed: 10/30/2019					
1,2,3-Trichloropropane	13.4300	0.50	0.39	20.0000		67.2	59 - 126			
1,2,3-Trichlorobenzene	17.1600	0.50	0.18	20.0000		85.8	69 - 138			
1,2,4-Trichlorobenzene	17.4600	0.50	0.16	20.0000		87.3	78 - 125			
1,2,4-Trimethylbenzene	16.0500	0.50	0.14	20.0000		80.2	70 - 126			
1,2-Dibromo-3-chloropropane	10.9600	0.50	0.41	20.0000		54.8	58 - 127			L4
1,2-Dibromoethane	17.7400	0.50	0.24	20.0000		88.7	76 - 120			
1,2-Dichlorobenzene	16.7800	0.50	0.20	20.0000		83.9	82 - 117			
1,2-Dichloroethane	15.9600	0.50	0.20	20.0000		79.8	66 - 126			
1,2-Dichloropropane	16.7300	0.50	0.15	20.0000		83.6	70 - 117			
1,3,5-Trimethylbenzene	16.3200	0.50	0.13	20.0000		81.6	71 - 125			
1,3-Dichlorobenzene	17.0000	0.50	0.16	20.0000		85.0	81 - 116			
1,3-Dichloropropane	15.5900	0.50	0.21	20.0000		78.0	69 - 124			
1,4-Dichlorobenzene	16.8800	0.50	0.17	20.0000		84.4	80 - 114			
2,2-Dichloropropane	16.1600	0.50	0.38	20.0000		80.8	58 - 132			
2-Chlorotoluene	15.5400	0.50	0.11	20.0000		77.7	71 - 119			
4-Chlorotoluene	15.7900	0.50	0.12	20.0000		79.0	72 - 122			
4-Isopropyltoluene	16.6900	0.50	0.11	20.0000		83.4	69 - 126			
Benzene	34.4400	0.50	0.13	40.0000		86.1	80 - 116			
Bromobenzene	16.4400	0.50	0.21	20.0000		82.2	77 - 118			
Bromochloromethane	17.2600	0.50	0.16	20.0000		86.3	68 - 121			
Bromodichloromethane	17.2000	0.50	0.14	20.0000		86.0	73 - 118			
Bromoform	16.9600	0.50	0.20	20.0000		84.8	65 - 133			
Bromomethane	18.7100	0.50	0.40	20.0000		93.6	7 - 205			
Carbon disulfide	13.5400	1.0	0.07	20.0000		67.7	55 - 131			
Carbon tetrachloride	18.2500	0.50	0.09	20.0000		91.2	63 - 133			
Chlorobenzene	17.1900	0.50	0.13	20.0000		86.0	86 - 113			L4
Chloroethane	14.2500	0.50	0.15	20.0000		71.2	66 - 141			
Chloroform	15.4900	0.50	0.11	20.0000		77.4	63 - 127			
Chloromethane	14.2700	0.50	0.12	20.0000		71.4	0 - 207			
cis-1,2-Dichloroethene	15.5500	0.50	0.14	20.0000		77.8	64 - 126			
cis-1,3-Dichloropropene	19.2300	0.50	0.13	20.0000		96.2	70 - 141			
Di-isopropyl ether	13.4500	0.50	0.15	20.0000		67.2	56 - 131			
Dibromochloromethane	17.3500	0.50	0.16	20.0000		86.8	67 - 135			
Dibromomethane	17.3500	0.50	0.19	20.0000		86.8	74 - 118			
Dichlorodifluoromethane	14.2400	0.50	0.18	20.0000		71.2	14 - 181			
Ethyl Acetate	123.060	10	8.7	200.000		61.5	49 - 128			
Ethyl Ether	141.170	10	2.0	200.000		70.6	53 - 143			
Ethyl tert-butyl ether	12.9100	0.50	0.21	20.0000		64.6	54 - 132			
Ethylbenzene	33.8000	0.50	0.13	40.0000		84.5	77 - 118			
Freon-113	16.1000	0.50	0.13	20.0000		80.5	68 - 145			
Hexachlorobutadiene	20.0600	0.50	0.15	20.0000		100	66 - 125			
Isopropylbenzene	16.8800	0.50	0.10	20.0000		84.4	68 - 137			

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

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

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0922 - MSVOA_LL_W (continued)										
LCS (B9J0922-BS1) - Continued					Prepared: 10/30/2019 Analyzed: 10/30/2019					
m,p-Xylene	33.9300	1.0	0.19	40.0000		84.8	78 - 126			
Methylene chloride	13.1800	1.0	0.71	20.0000		65.9	51 - 149			
MTBE	13.3900	0.50	0.26	20.0000		67.0	63 - 128			
n-Butylbenzene	16.2400	0.50	0.11	20.0000		81.2	63 - 127			
n-Propylbenzene	15.6700	0.50	0.10	20.0000		78.4	69 - 124			
Naphthalene	14.4400	0.50	0.41	20.0000		72.2	60 - 126			
o-Xylene	34.9900	0.50	0.13	40.0000		87.5	79 - 126			
sec-Butylbenzene	16.4200	0.50	0.09	20.0000		82.1	69 - 124			
Styrene	17.5400	0.50	0.13	20.0000		87.7	80 - 127			
tert-Amyl methyl ether	13.0200	0.50	0.41	20.0000		65.1	49 - 130			
tert-Butanol	55.6100	10	2.4	100.000		55.6	29 - 163			
tert-Butylbenzene	16.5700	0.50	0.09	20.0000		82.8	71 - 124			
Tetrachloroethene	19.2400	0.50	0.10	20.0000		96.2	73 - 129			
Toluene	37.5000	0.50	0.12	40.0000		93.8	78 - 121			
trans-1,2-Dichloroethene	15.4000	0.50	0.09	20.0000		77.0	58 - 141			
trans-1,3-Dichloropropene	16.6400	0.50	0.23	20.0000		83.2	68 - 128			
Trichloroethene	19.1000	0.50	0.10	20.0000		95.5	73 - 126			
Trichlorofluoromethane	15.8000	0.50	0.23	20.0000		79.0	62 - 146			
Vinyl acetate	143.730	10	1.7	200.000		71.9	53 - 153			
Vinyl chloride	14.8100	0.50	0.13	20.0000		74.0	61 - 137			
Surrogate: 1,2-Dichloroethane-d4	*20.39*			*25.0000*		*81.6*	*59 - 158*			
Surrogate: 4-Bromofluorobenzene	*24.53*			*25.0000*		*98.1*	*71 - 127*			
Surrogate: Dibromofluoromethan	*22.38*			*25.0000*		*89.5*	*66 - 147*			
Surrogate: Toluene-d8	*26.23*			*25.0000*		*105*	*77 - 138*			
LCS Dup (B9J0922-BSD1)					Prepared: 10/30/2019 Analyzed: 10/30/2019					
1,1,1,2-Tetrachloroethane	19.4600	0.50	0.11	20.0000		97.3	71 - 133	10.9	20	
1,1,1-Trichloroethane	17.7700	0.50	0.21	20.0000		88.8	62 - 124	10.1	20	
1,1,2,2-Tetrachloroethane	16.3000	0.50	0.36	20.0000		81.5	50 - 131	16.9	20	
1,1,2-Trichloroethane	19.1600	0.50	0.25	20.0000		95.8	77 - 121	11.0	20	
1,1-Dichloroethane	16.4700	0.50	0.09	20.0000		82.4	52 - 130	9.14	20	
1,1-Dichloroethene	18.1900	0.50	0.13	20.0000		91.0	61 - 136	11.6	20	
1,1-Dichloropropene	20.9100	0.50	0.13	20.0000		105	80 - 128	9.94	20	
1,2,3-Trichloropropane	15.4300	0.50	0.39	20.0000		77.2	59 - 126	13.9	20	
1,2,3-Trichlorobenzene	19.5200	0.50	0.18	20.0000		97.6	69 - 138	12.9	20	
1,2,4-Trichlorobenzene	19.8600	0.50	0.16	20.0000		99.3	78 - 125	12.9	20	
1,2,4-Trimethylbenzene	17.5600	0.50	0.14	20.0000		87.8	70 - 126	8.99	20	
1,2-Dibromo-3-chloropropane	13.8300	0.50	0.41	20.0000		69.2	58 - 127	23.2	20	R
1,2-Dibromoethane	20.0600	0.50	0.24	20.0000		100	76 - 120	12.3	20	
1,2-Dichlorobenzene	18.6500	0.50	0.20	20.0000		93.2	82 - 117	10.6	20	
1,2-Dichloroethane	17.3000	0.50	0.20	20.0000		86.5	66 - 126	8.06	20	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

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

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0922 - MSVOA_LL_W (continued)										
LCS Dup (B9J0922-BSD1) - Continued					Prepared: 10/30/2019 Analyzed: 10/30/2019					
1,2-Dichloropropane	18.3600	0.50	0.15	20.0000		91.8	70 - 117	9.29	20	
1,3,5-Trimethylbenzene	17.7000	0.50	0.13	20.0000		88.5	71 - 125	8.11	20	
1,3-Dichlorobenzene	18.7600	0.50	0.16	20.0000		93.8	81 - 116	9.84	20	
1,3-Dichloropropane	17.8300	0.50	0.21	20.0000		89.2	69 - 124	13.4	20	
1,4-Dichlorobenzene	18.4400	0.50	0.17	20.0000		92.2	80 - 114	8.83	20	
2,2-Dichloropropane	17.2800	0.50	0.38	20.0000		86.4	58 - 132	6.70	20	
2-Chlorotoluene	17.0300	0.50	0.11	20.0000		85.2	71 - 119	9.15	20	
4-Chlorotoluene	17.0900	0.50	0.12	20.0000		85.4	72 - 122	7.91	20	
4-Isopropyltoluene	18.2400	0.50	0.11	20.0000		91.2	69 - 126	8.87	20	
Benzene	37.6700	0.50	0.13	40.0000		94.2	80 - 116	8.96	20	
Bromobenzene	18.4300	0.50	0.21	20.0000		92.2	77 - 118	11.4	20	
Bromochloromethane	19.4200	0.50	0.16	20.0000		97.1	68 - 121	11.8	20	
Bromodichloromethane	18.6000	0.50	0.14	20.0000		93.0	73 - 118	7.82	20	
Bromoform	20.1700	0.50	0.20	20.0000		101	65 - 133	17.3	20	
Bromomethane	20.9100	0.50	0.40	20.0000		105	7 - 205	11.1	20	
Carbon disulfide	14.9500	1.0	0.07	20.0000		74.8	55 - 131	9.90	20	
Carbon tetrachloride	19.6200	0.50	0.09	20.0000		98.1	63 - 133	7.24	20	
Chlorobenzene	19.3100	0.50	0.13	20.0000		96.6	86 - 113	11.6	20	
Chloroethane	15.5500	0.50	0.15	20.0000		77.8	66 - 141	8.72	20	
Chloroform	17.1800	0.50	0.11	20.0000		85.9	63 - 127	10.3	20	
Chloromethane	16.2100	0.50	0.12	20.0000		81.0	0 - 207	12.7	20	
cis-1,2-Dichloroethene	17.3600	0.50	0.14	20.0000		86.8	64 - 126	11.0	20	
cis-1,3-Dichloropropene	21.3300	0.50	0.13	20.0000		107	70 - 141	10.4	20	
Di-isopropyl ether	14.9800	0.50	0.15	20.0000		74.9	56 - 131	10.8	20	
Dibromochloromethane	19.9000	0.50	0.16	20.0000		99.5	67 - 135	13.7	20	
Dibromomethane	19.2600	0.50	0.19	20.0000		96.3	74 - 118	10.4	20	
Dichlorodifluoromethane	15.6900	0.50	0.18	20.0000		78.4	14 - 181	9.69	20	
Ethyl Acetate	146.600	10	8.7	200.000		73.3	49 - 128	17.5	20	
Ethyl Ether	163.490	10	2.0	200.000		81.7	53 - 143	14.7	20	
Ethyl tert-butyl ether	14.5800	0.50	0.21	20.0000		72.9	54 - 132	12.1	20	
Ethylbenzene	37.5600	0.50	0.13	40.0000		93.9	77 - 118	10.5	20	
Freon-113	17.5200	0.50	0.13	20.0000		87.6	68 - 145	8.45	20	
Hexachlorobutadiene	21.6700	0.50	0.15	20.0000		108	66 - 125	7.72	20	
Isopropylbenzene	18.5800	0.50	0.10	20.0000		92.9	68 - 137	9.59	20	
m,p-Xylene	38.0000	1.0	0.19	40.0000		95.0	78 - 126	11.3	20	
Methylene chloride	14.7400	1.0	0.71	20.0000		73.7	51 - 149	11.2	20	
MTBE	15.7100	0.50	0.26	20.0000		78.6	63 - 128	15.9	20	
n-Butylbenzene	17.4700	0.50	0.11	20.0000		87.4	63 - 127	7.30	20	
n-Propylbenzene	17.0700	0.50	0.10	20.0000		85.4	69 - 124	8.55	20	
Naphthalene	17.3000	0.50	0.41	20.0000		86.5	60 - 126	18.0	20	
o-Xylene	38.8500	0.50	0.13	40.0000		97.1	79 - 126	10.5	20	
sec-Butylbenzene	17.7100	0.50	0.09	20.0000		88.6	69 - 124	7.56	20	

Certificate of Analysis

Leighton & Associates	Project Number : Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street	Report To : Meredith Church
Irvine , CA 92614	Reported : 11/04/2019

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

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9J0922 - MSVOA_LL_W (continued)										
LCS Dup (B9J0922-BSD1) - Continued					Prepared: 10/30/2019 Analyzed: 10/30/2019					
Styrene	19.7700	0.50	0.13	20.0000		98.8	80 - 127	12.0	20	
tert-Amyl methyl ether	14.7500	0.50	0.41	20.0000		73.8	49 - 130	12.5	20	
tert-Butanol	68.3300	10	2.4	100.000		68.3	29 - 163	20.5	20	R
tert-Butylbenzene	18.0600	0.50	0.09	20.0000		90.3	71 - 124	8.61	20	
Tetrachloroethene	20.5900	0.50	0.10	20.0000		103	73 - 129	6.78	20	
Toluene	40.6500	0.50	0.12	40.0000		102	78 - 121	8.06	20	
trans-1,2-Dichloroethene	16.9400	0.50	0.09	20.0000		84.7	58 - 141	9.52	20	
trans-1,3-Dichloropropene	18.6500	0.50	0.23	20.0000		93.2	68 - 128	11.4	20	
Trichloroethene	20.2900	0.50	0.10	20.0000		101	73 - 126	6.04	20	
Trichlorofluoromethane	17.4500	0.50	0.23	20.0000		87.2	62 - 146	9.92	20	
Vinyl acetate	166.380	10	1.7	200.000		83.2	53 - 153	14.6	20	
Vinyl chloride	16.2700	0.50	0.13	20.0000		81.4	61 - 137	9.40	20	
Surrogate: 1,2-Dichloroethane-d4	*20.31*			*25.0000*		*81.2*	*59 - 158*			
Surrogate: 4-Bromofluorobenzene	*24.73*			*25.0000*		*98.9*	*71 - 127*			
Surrogate: Dibromofluoromethan	*22.28*			*25.0000*		*89.1*	*66 - 147*			
Surrogate: Toluene-d8	*25.77*			*25.0000*		*103*	*77 - 138*			

Certificate of Analysis

Leighton & Associates		Project Number :	Brookfield - Moiola School, FV, 12418.00
17781 Cowan Street		Report To :	Meredith Church
Irvine , CA 92614		Reported :	11/04/2019

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

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

ADVANCED TECHNOLOGY LABORATORIES
3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 1

Instruction: Complete all shaded areas.

For Laboratory Use Only ATLCOC Ver:20180415

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED		
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other: _____	4. SEALED	☐	☐			

CUSTOMER

Company: Leighton and Associates, Inc.			Address: 17781 Cowan		Tel: (949) 681-4208
			City: Irvine	State: CA Zip: 92614	Fax: (949) 250-1114
SEND REPORT TO:			SEND INVOICE TO: ☐ same as SEND REPORT TO		
Attn: Meredith Church	Email: mchurch@leightongroup.com		Attn: Accounts Payable	Email: Acctpayable@leightongroup.com	
Company: Leighton and Associates, Inc.			Company: Leighton and Associates, Inc.		
Address: 17781 Cowan			Address: 17781 Cowan		
City: Irvine	State: CA	Zip: 92614	City: Irvine	State: CA	Zip: 92614

EDD: ☐ Excel ☐ EDF ☐ Equis ☐ _____

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV ☐ _____

PROJECT SAMPLES

Project Name:	Quote #:	Special Instructions/Comments:
Brookfield - Moiola School, FV	Leighton 2019	
Project No.: 12418.001	PO #: 12418.001	
Sampler: KCH		

ITEM	Laboratory ID (For Lab Use Only)	Sample Description: Sample ID / Location	Date	Time	8081 (Organochlorine Pesticides)	8260 / 624 (Volatiles)	8015 (DRO)	6010 / 7000 (Title 22 Metals)	Select Analysis	Select Analysis	Select Analysis	Select Analysis	Arsenic EPA 6010	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Enter Custom Analysis	Select Soil Matrix	Select Solid Matrix	Select Water Matrix	Select Wastewater Matrix	Select Non-aqueous Matrix	Enter Custom Matrix	Turnaround Time (TAT)	Container: Quantity	Container: Type	Container: Material	Container: Preservative	Remarks
1	1903940-01	ENV 7A - GW	10/28/19	1100		X																			X				5	6				
2	-02	ENV 14A - GW	10/28/19	1110																														
3	-03	ENV 5A - GW	10/28/19	1105																														
4	-04	ENV 16A - GW	10/28/19	1115																														
5	-05	ENV 6A - GW	10/28/19	1120																														
6	-06	ENV 6A - GW D	10/28/19	1130																														
7	-07	ENV 4A - GW	10/28/19	1205																														
8			10/28/19																															
9			10/28/19																															
10			10/28/19																															

TERMS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples submitted AFTER 3:00 PM are considered received the following business day at 8:00 AM.
3. The following turnaround time conditions apply:
   - TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   - TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   - TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   - TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   - TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   - TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work --- ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20 sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformatted report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.
12. The laboratory will randomly select from all QC samples received the sample to spike for Matrix Spike/ Matrix Spike Duplicate (MS/MSD) at no cost. However, if you want the laboratory to additionally perform MS/MSD on your sample, a charge will be assessed for the specific sample used.

CUSTODY

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Stefani Sandi 07/16/19	10/28/19	1020		10/28/19	1420
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
	10/28/19	1500		10/28/19	1500
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Meredith Church (Printed Name) _____ (Signature)