LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

Proposed Kaiser MOB
5940 Soquel Avenue
Santa Cruz, Santa Cruz County, California

October 25, 2018
Terracon Project No. NB187049A

Prepared for:
Kaiser Permanente
Oakland, California

Prepared by:
Terracon Consultants, Inc.
Sacramento, California

October 25, 2018

Terracon

Kaiser Permanente
1950 Franklin Street, 12th Floor
Oakland, CA 94612

Attn: Mr. Joseph Crist
P: (510) 414-5976
E: joseph.crist@kp.org

Re: Limited Phase II Enviornmental Site Assessment
Proposed Kaiser MOB
5940 Soquel Avenue
Santa Cruz, Santa Cruz County, California
Terracon Project No. NB187049A

Dear Mr. Crist:

Terracon Consultants, Inc. (Terracon) is pleased to submit the *Limited Phase II Environmental Site Assessment* for the above referenced site. The report presents data from recent field activities that included the completion of soil borings, and the collection of soil and soil vapor samples for chemical analysis. The activities were completed to address the findings of the Terracon's Phase I Environmental Site Assessment (ESA) of the property, dated June 15, 2018 (Terracon Project No. NB187049). Terracon conducted the Limited Phase II Environmental Site Assessment in general accordance with our Master Services Agreement, dated June 3, 2016, and your Work Authorization No. GL String 0201-20000-6587, dated April 30, 2018.

Terracon appreciates this opportunity to provide environmental services to Kaiser Permanente. Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.

Sadie Bodiford
Senior Staff Scientist

Scott Gable, P.G. 6636
Department Manager

Carl A. Parisi
Principal

TABLE OF CONTENTS

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT
PROPOSED KAISER MEDICAL OFFICE BUILDING (MOB)
5940 SOQUEL AVENUE
SANTA CRUZ, SANTA CRUZ COUNTY, CALIFORNIA

Terracon Project No. NB187049A
October 25, 2018

1.0 SITE DESCRIPTION

1.1 Site Description

Site Name	Proposed Kaiser MOB
Site Location/Address	5940 Soquel Avenue, Santa Cruz, Santa Cruz County, California APN 029-021-47
Land Area	Approximately 5 acres
Site Improvements	The site is improved with an approximately 2,300-square foot (SF) office with an attached shed, and three separate out buildings (sheds) ranging in size from approximately 215 to 1,300 SF. The site is primarily unpaved with concrete pavement on the northwestern portion of the site.

A Topographic Map showing the site location is included as Exhibit 1 and a Boring Location Map is included as Exhibit 2 in Appendix A.

1.2 Project Background

Terracon performed a Phase I Environmental Site Assessment (ESA) of the property for Kaiser Permanente (Terracon Project No. NB187049, dated June 15, 2018). We understand the site is planned to be redeveloped as a Medical Office Building (MOB) for Kaiser Permanente by the developer [Pacific Medical Buildings (PMB)]. Based on the findings of the ESA, Terracon identified the following recognized environmental conditions (RECs) in connection with the site:

- **Historical sump**: A drain and sump were reportedly historically located on the western portion of the site. Based on the presence of automotive dismantling operations and absence of subsurface investigation, the potential for undocumented spills or releases to have occurred in connection with the historical sump represents a REC.
- **Significant data gap**: The majority of the ground surface throughout the site was covered with vehicles, equipment, and storage containers that prevented the entire ground surface to be observed and represents a REC.
- **Automotive maintenance and dismantling operations**: Based on the unknown hazardous materials handling practices associated with the automotive storage, sales,

maintenance, and towing operations present at the site from the early 1960s through the present, the potential for undocumented spills or releases to have occurred in connection with the hazardous materials storage present at the site represents a potential vapor encroachment condition (VEC) and a REC.

Based on the scope of services, limitations, and findings of this assessment, Terracon recommended additional subsurface investigation to evaluate the identified RECs and VEC in support of proposed acquisition and redevelopment.

1.3 Standard of Care

Terracon's services were performed in accordance with the standard of care as stated in Article 9 of the Master Professional Services Agreement – Environmental Services, Agreement No. 2016EHSTERRACON. These assessment services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal and were not restricted by ASTM E1903-11 *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process*.

1.4 Limitations

Findings, conclusions, and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this assessment. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations, or exploratory services. The data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

1.4.1 Site Access Limitations:

- The site is currently occupied by a multitude of tenants that store vehicles, storage containers, and various equipment throughout the site. The site is divided with fences and a large portion of the site was not accessible due to the nature of the storage operations and site tenants not being present to allow Terracon access. The developer (PMB), could not provide access to the interior of the enclosed areas at the time of the Limited Phase II ESA. During an on-site meeting with CIF Property Management representative, Mr. Phillip Franlder, on August 16, 2018, Terracon was requested to move the proposed boring locations into communal roadways, and areas of the site that were not gated or obstructed

with equipment. This limited site access restricted access to interior areas/enclosures of the site, and areas beneath equipment, vehicles, and trailers were not investigated.

- During Terracon's field work, the ground surface throughout the site was covered with vehicles, equipment, and storage containers that prevented the entire ground surface to be observed and limited the placement of borings. Additionally, the geophysical survey in the vicinity of the historical drain and sump was limited due the presence of obstructing equipment and vehicle-covered surface areas.

1.5 Reliance

This report has been prepared for the exclusive use of Kaiser Permanente, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Kaiser Permanente and Terracon. Any unauthorized distribution or reuse is Kaiser Permanente's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, report, and our Master Services Agreement dated June 3, 2016. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to Kaiser Permanente and all relying parties unless otherwise agreed in writing.

2.0 SCOPE OF SERVICES

This Limited Phase II ESA was conducted to investigate the presence or absence of indicator contaminants at the site from the identified RECs. The scope of services was not intended to identify every chemical possibly associated with the site or surrounding facilities or to establish corrective action costs.

2.1 Permitting

Based on information obtained from the Santa Cruz County Department of Environmental Health, boring permits were not required.

2.2 Health and Safety Planning

Terracon has a commitment to the safety of all its employees. As such, and in accordance with our *Incident and Injury Free*® safety goals, Terracon conducted the fieldwork under a site-specific health and safety plan developed for this project. Work was performed using the Occupational Health and Safety Administration (OSHA) Level D work attire consisting of hard hats, safety glasses, protective gloves, and protective boots. In addition, a private utility location service was subcontracted by Terracon to identify the locations and depths of the various utilities located near the proposed borings.

2.3 Utility Clearance

Terracon performed public and private underground utility clearances prior to beginning invasive field work. The private utility clearance is discussed further in Section 3.1.

Terracon requested a site utility clearance form Underground Service Alert (USA) 811 North prior to beginning work in the field. On August 24, 2018, Terracon opened Ticket W823600095-00W notifying participating underground utilities providers of our work.

3.0 FIELD ACTIVITIES

Terracon's field activities were conducted on September 5, 6, and 7, 2018, by Terracon environmental professionals under the oversight of a Terracon California-licensed Professional Geologist (P.G.).

3.1 Geophysical Survey

On May 5, 2018, Terracon representative Mr. Patrick Keicher mobilized to the site with a subcontracted geophysical professional to perform a geophysical survey around each proposed boring location, and to explore the suspected location of the historic drain and sump. The geophysical survey utilized ground-penetrating radar (GPR) and magnetometer survey methods. The geophysical survey consisted of scanning the accessible areas of the proposed boring locations with an electromagnetic (EM) instrument followed by a GPR scan to further evaluate any EM anomalies, if present. The geophysical survey did not reveal subsurface indications of utilities and did not reveal the location of the suspected sump in the explored areas. However, as noted previously, access to the site was significantly obstructed due to the presence of equipment, vehicles and fenced enclosures where access was not permitted.

3.2 Soil Borings and Soil Sampling

Field activities were performed in 12 locations throughout accessible areas of the site. The approximate boring locations relative to site features are depicted on Exhibit 2 of Appendix A.

Terracon's field representative, Mr. Patrick Keicher, mobilized to the site on September 5 and 6, 2018 to oversee the drilling of 12 soil borings. Drilling activities were performed by PeneCore Drilling, Inc., a California State-licensed (C57) driller, using a limited access and track-mounted direct-push drilling rig. Borings were advanced using a hand auger in the upper 5-feet of each boring and a direct-push technology (DPT) drilling equipment with 2 ⅜-inch diameter hollow drill rods lined with disposable acetate sample sleeves.

Soil borings B1 through B6 were proposed to be advanced to 50 feet bgs; however, refusal was encountered and the borings were terminated at depths ranging approximately 30 to 45 feet bgs. Groundwater was not encountered during the advancement of the soil borings; therefore,

groundwater sampling and analysis was not performed at this time. Soil borings SV7 through SV10 were advanced using hand auger sampling equipment to a depth of 5 feet bgs and were completed as temporary soil vapor probes. The soil vapor sampling protocol is discussed further in Section 3.3. Two additional soil borings SB11 and SB12 were advanced to 5 feet bgs.

Throughout the drilling operation, soil samples were collected continuously from hand-auger sampling equipment or five-foot samplers with single-use acetate liners driven into the ground using a 90-foot-pound pneumatic hammer. Non-disposable sampling equipment was cleaned using a non-phosphate soap wash and potable water rinse prior to the beginning of the project and before collecting each soil sample.

Terracon field-screened soil samples for organic vapors using a calibrated photoionization detector (PID). This device provides a direct reading of organic vapors in parts per million by volume (ppmV) of isobutylene equivalents. Upon removal of the soil samples from the borehole, Terracon placed a portion of each sample in a sealable plastic bag and screened the headspace above the soil using the PID. The boring logs include the field screening results for each soil boring.

Two soil samples were collected from borings B1 through B6 and one soil sample was collected from borings SV7 through SV10, SB11, and SB12. Surface soil samples were collected at a depth of approximately 0.5-foot bgs from B1 through B6. Additionally, soil samples were collected based on changes in lithology and from the bottom of each boring. Additional soil samples were submitted to the laboratory and placed on hold pending initial laboratory results.

Soil samples were collected from the hand auger cuttings or extracted from the DPT acetate liners by hand using disposable gloves and placed directly into laboratory-supplied glassware. Each sample container was labeled with the project number, date, time, boring number, and sample number. Sample containers were placed in a chilled cooler immediately after sampling. The samples and the completed chain-of-custody form were relinquished to a California State-accredited laboratory under strict chain-of-custody procedures.

At the completion of soil sampling activities, the soil borings were filled with neat cement to grade and colored to match the existing surface.

3.3 Soil Vapor Sampling

Upon completion of hand augering activities, soil vapor probes were constructed in borings SV7 through SV10. Details of the soil vapor probe installation and sampling procedures are provided below.

Soil Vapor Probes

Terracon's temporary soil vapor sampling program was conducted in general accordance of the California Environmental Protection Agency (Cal-EPA), Department of Toxic Substance Control

(DTSC) and San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), as described in the following sections.

- At each vapor probe location, a ½-inch diameter probe tip approximately 1-inch long was installed at the target depth of approximately 4.5 feet bgs. The probe tips were placed approximately in the mid-point of a 1-foot thick sand pack extending from ½-foot above to ½-foot below the probe tip. Therefore, upon reaching the target depth of each soil boring (5.0 feet bgs), ½-foot of sand was added to the soil boring prior to installing the probe tip.

- At each vapor probe, the sampling line connected to the probe tip was comprised of new dedicated 0.25-inch outer-diameter nylon (Nylaflow) tubing cut to length leaving approximately one foot of tubing extending from the surface at each probe. A vapor tight three-way in-line check valve was fitted to the up-hole end of the tubing to prevent ambient air from infiltrating the probe installation through the sample line. The sample tubing was marked at the ground surface to indicate the probe location, depth, and time of installation.

- Sand was added to each boring to create a sand pack surrounding the probe tip to ½-foot above the top of the probe. Dry granular bentonite chips were used to fill the borehole annular space from above the sand and around the Nylaflow tubing to approximately three feet below grade. Hydrated granular bentonite chips were added from three feet below grade to the surface. Sufficient water was added to hydrate the bentonite to insure proper sealing, and care used in placement of the bentonite to prevent post-emplacement expansion which might compromise the probe seal.

Following probe emplacement, soil vapor sampling was performed at least 48 hours following temporary soil vapor probe installation to allow the bentonite seal to cure and to allow for subsurface conditions to equilibrate. The soil vapor samples were collected using the following procedures:

- Each temporary soil vapor probe was purged prior to sample collection. The purge volume of each soil vapor probe installation was estimated as the summation of the volumes of the tubing sample line and the sand pack around the tip of the tubing. After waiting for at least 48 hours following probe installation, the sampling assembly was purged a standard three volumes by drawing the soil vapor from the probe using a designated purge Summa canister.

- A leak test was performed in before each soil vapor sample was collected, to verify that ambient air was not diluting the sample or contaminating the sample with external contaminants. Prior to sample collection, the sampling train and soil vapor sampling point were tested for leaks using a shroud filled with helium. These locations included sample system connections and the surface bentonite seal. No helium was detected from within

the sample apparatus indicating the atmospheric gases were not entering the vapor sampling probe.

- Once the sampling assembly was purged and the leak detection test was conducted, a soil vapor sample was drawn from the sample line into a 1-Liter Summa canister. The flow rate during sampling was 100-200 milliliters per minute (mL/min) to minimize stripping of chemical compounds, prevent ambient air from diluting the soil vapor samples, and to reduce the variability of sampling rates. The Summa canister was immediately labeled and logged. The samples and the completed chain-of-custody form were and subsequently relinquished to a California State-accredited laboratory under strict chain-of-custody procedures.

At the completion of field activities, the soil vapor sampling equipment was removed from the borings. The sand and hydrated bentonite were left in place, and borings were patched with neat cement and colored to match the existing surface.

3.4 Investigation Derived Waste

Terracon generated minimal investigation derived waste (IDW) during the site visit and sample liner contents were placed in landscaped areas. Decontamination water was dispersed on site to infiltrate into soils and not create a runoff condition.

4.0 RESULTS OF THE FIELD INVESTIGATION

4.1 Geology/Hydrogeology

In general, Terracon encountered fill material consisting of silty sand with gravel in the upper three feet bgs underlain with intermittent layers of well- to poorly-graded sands, and silty clays to a maximum depth of 45 feet bgs. Groundwater was not encountered at a maximum depth of 45 feet bgs. The boring logs detail the observed soil stratigraphy and are included in Appendix C.

4.2 Field Screening

The PID readings indicated organic vapors were not detected above 0.1 parts per million (ppmV) in soil samples collected from borings B1 through B6, SV7 through SV10, B11, and B12. Additionally, no odors or other visual indications of chemical or petroleum impacts were observed in the sampled soils. The field screening results are summarized on the boring logs in Appendix C.

5.0 ANALYTICAL RESULTS

Select soil samples were analyzed for total petroleum hydrocarbons as gasoline range organics (TPH-g) [C5-C12], TPH as Stoddard solvent-range organics (TPH-ss) [C12-C22], TPH as diesel-range organics (TPH-d) [C22-C32], and TPH as oil-range organics (TPH-o) [C32-C40] by EPA Method 8015; VOCs by EPA Method 8260B; and California Administrative Manual (CAM) 17 metals by EPA Method 6010B/7471A. Based on the presence of tenants who perform landscaping and store pesticides/herbicides, one surface sample (B6-1') was analyzed for organochlorine pesticides (OCPs) by EPA Method 8081A.

The soil vapor samples were analyzed for VOCs by EPA Method TO-15 and fixed gases oxygen, carbon dioxide, and helium by ASTM Method D1946.

Reported soil results were compared with the San Francisco Bay Regional Water Quality Control Board's (SFBRWQCB) Environmental Screening Levels (ESLs) for Tier 1 conceptual site model and direct exposure human health risk levels (HHRLs) for shallow soils in a residential land use, commercial/industrial land use scenarios, and any land use/any depth soil exposure for construction workers scenario (Table S-1). Additionally, CAM 17 metal and OCP results were compared to the Title 22 of California Code of Regulations (CCR) CCR § 66261.24 Characteristic of Toxicity.

Reported soil vapor results were compared with the SFBRWQCB ESLs for Tier 1 conceptual site model and sub-slab vapor intrusion HHRLs for residential and commercial/industrial land use scenarios (Table SG-1).

The laboratory analytical report and chain-of-custody record are attached in Appendix D. Tables 1, 2, and 3 provide a summary of analytical results compared to relevant regulatory screening levels. The following sections describe the results of the testing, relative to these ESLs.

5.1 Soil Analytical Results

Soil analytical results are summarized below:

Total Petroleum Hydrocarbons

Concentrations of TPH-g and TPH-mo ranged from below the reported detection limits (RDL) to a maximum concentration reported as 0.121 milligrams per Kilogram (mg/Kg) in boring B2-0-0.5' and 1,280 mg/Kg in B6-0-0.5', respectively. The reported concentrations of TPH-g and TPH-mo do not exceed applicable ESLs in all soil samples analyzed.

Sample results for B1-0.5', B2-0.5', B4-0.5', and B6-0.5' were not detected above the RDL; however, the laboratory reporting limits for TPH-ss and TPH-d for these samples are greater than the ESLs for Tier 1 and residential land use, and are considered an exceedance. Soil samples

collected from B-2, B-4, and B-6 at depth of 0-0.5 feet which reported TPH-diesel concentrations ranging from 399 mg/Kg to 784 mg/Kg, which exceed the Tier 1 and residential land use ESLs of 230 mg/Kg. The reported concentrations of TPH-ss and TPH-d do not exceed the ESLs for commercial/industrial land use and direct exposure land uses for construction workers.

Volatile Organic Compounds

The following VOCs were reported above laboratory method detection limits (MDLs): acetone, methyl tert butyl ether (MTBE), chloroform, p-isopropyltoluene, toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, tetrachloroethene (PCE), ethylbenzene, xylenes, and styrene. The reported VOC concentrations do not exceed applicable ESLs for residential or commercial land use.

It should be noted that the presence of the various VOC compounds in the soil (i.e., PCE, a common chlorinated solvent) is an indication of a potential release of solvents in the on-site soils, and due to the limited accessibility to the interior portions of the site, higher concentrations of VOCs in soil may be present and require further investigation.

Organochlorine Pesticides

Soil sample SV10-1' was analyzed for OCPs. The following OCPs were reported above laboratory detection limits: 4,4-dichlorodiphenyldichloroethylene (4,4-DDE), 4,4-dichlorodiphenyltrichloroethane (4,4-DDT), dieldrin, endrin aldehyde, and chlordane. With the exception of dieldrin, the reported OCP concentrations do not exceed applicable ESLs for residential or commercial land use.

Dieldrin was reported as 0.000623 mg/Kg and was J-flagged by the laboratory as being greater than laboratory the MDL, but less than the RDL. The value is assumed to be an estimation. The reported concentration of dieldrin exceeds the Tier 1 ESL of 0.00017 mg/Kg but does not exceed the direct exposure HHRL ESLs for residential or commercial uses. Based on the limitation in where Terracon could collect soil samples, a source for the dieldrin is not known at this time.

California Administrative Manual 17 Metals

CAM 17 metals were reported in concentrations that do not exceed applicable ESLs, with the exception of arsenic and lead. Concentrations of arsenic ranged from between below MDLs to 13.9 mg/Kg. Based on a review of the USGS's Mineral Resources On-Line Spatial Data[1], average concentration for arsenic within the vicinity of the site ranges from approximately 4.3. to 5.2 mg/Kg. The average concentration of arsenic in soils collected from the site is 6.03 mg/Kg. The average of arsenic in soil samples collected from deeper intervals (4 to 5 feet bgs) is 4.4 mg/Kg and appears to be consistent with the USGS average concentration of arsenic. Shallow soil concentrations of arsenic appear to be more variable and exceed the USGS-established average.

[1] https://mrdata.usgs.gov/soilgeochemistry/#/detail/element/28

The soil metals analytical results are summarized in Tables 1 and 2 of Appendix B.

5.2 Soil Vapor Analytical Results

Several VOCs were reported above laboratory detection limits including the following: acetone, benzene, carbon disulfide, chloroform, chloromethane, cis-1,2-dichloroethene (cis-1,2-DCE), ethanol, ethylbenzene, n-hexane, isopropylbenzene, methylene chloride, 2-butanone (MEK), naphthalene, 2-propanol, propene, tetrachloroethene (PCE), tetrahydrofuran, toluene, trichloroethene (TCE), 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and m&p-xylene and o-xylenes (total xylenes). The detected VOC concentrations do not exceed applicable ESLs for residential and commercial land use.

Due to the nature and history of the site, the potential for releases of solvents and petroleum hydrocarbons exist. Of the reported VOC compounds, PCE is a chlorinated solvent potentially associated with automotive maintenance operations. PCE was detected in the soil gas sample collected from SV9 at a concentration of 101 µg/m^3 which does not exceed the applicable ESL; however, PCE was also detected in the soil vapor in the vicinity of soil boring B1, which may indicate higher concentrations of PCE in other portions of the site.

In addition to VOCs, soil vapor samples were analyzed for fixed gases oxygen, carbon dioxide, and helium. Oxygen concentrations ranged between 15.5 to 16.5%, below atmospheric concentrations. Additionally, carbon dioxide concentrations ranged from below laboratory reporting limits to 2.24%. Helium was not detected in the samples above laboratory reporting limits. Based on the reported absence of helium present in the soil vapor samples, as well as the sub-atmospheric oxygen concentration (19.5% to 21%), the sampling train does not appear to have leaked atmospheric air and the soil vapor data appears to be representative of subsurface conditions.

The soil vapor analytical results are summarized in Table 3 of Appendix B.

6.0 FINDINGS AND CONCLUSIONS

Based on the scope of services described in this report and subject to the limitations described herein, Terracon concludes the following:

- Based on a request from PMB, the proposed boring locations were moved into communal roadways, and areas of the site that were not gated or obstructed with equipment. Based on the restricted site access and current occupation of the site, the boring locations were advanced in accessible portions of the site and not in the proposed areas originally scoped to address the identified RECs.

- The geophysical survey did not reveal the location of the sump, subsurface utilities or other subsurface features. The geophysical survey was limited to accessible areas of the site and the suspected drain and sump may still be present. There is a potential that soils within the vicinity of the suspected drain and sump have been impacted by site operations, including the handling and disposal of petroleum hydrocarbons, solvents, and/or pesticides.
- Concentrations of TPH-g, TPH-mo, and VOCs were reported below Tier 1 and residential and commercial land use ESLs. Although the concentrations are below the residential and commercial land use ESLs, the on-site soil appears to be affected by a release of petroleum hydrocarbons, and due to limited site access, higher concentrations appear likely in the vicinity of B6.
- Three samples, B2-0.5', B4-0.5', and B6-0.5' were reported to have concentrations of TPH-d exceeding ESLs for Tier 1 and residential land use. The laboratory reporting limits for TPH-ss in soil samples B1, B2, and B6 at depth of 0-0.5 feet bgs exceeded ESLs for Tier 1 and residential land use, but are below the commercial land use ESL.
- With the exception of dieldrin, the reported concentrations of OCPs did not exceed applicable ESLs. The reported concentration of dieldrin exceeded the Tier 1 ESL of 0.00017 mg/Kg, but did not exceed direct exposure ESLs for all land uses.
- Concentrations of metals did not exceed applicable ESLs, with the exception of arsenic and lead. The soil sample B6-0.5' was reported to contain concentrations of lead exceeding the Tier 1 ESL and direct exposure ESLs for residential land use.
- The reported concentrations of VOCs in soil vapor did not exceed applicable Tier 1 and Human Health Risk Levels for soil vapor intrusion in residential and commercial/industrial land use scenarios. The PCE concentration detected in the soil vapor sample collected from SV9 is in the vicinity of soil boring B1, which may indicate PCE is present at other locations of the site that were inaccessible at the time of this investigation.
- Groundwater was not encountered at a maximum depth of 45 feet bgs in the borings advanced on the site. Groundwater sampling would be required to evaluate if site operations have impacted groundwater, which may be a concern for site occupation and off-site land uses.
- Based on the findings from the investigation, and due to the limited access to interior portions of the site (i.e., within the fenced tenant operations areas) and obstructions due to equipment and vehicles, further investigation of the RECs identified in the Phase I ESA appears warranted.

7.0 RECOMMENDATIONS

Based on the above findings and conclusions, and due to the intended use of the site as a MOB and the sensitive receptors anticipated for building occupancy, 'residential use' thresholds were used for screening at the site. Based on the findings of this investigation, Terracon recommends

additional investigation to further evaluate the presence and evaluate the magnitude and extent of the following:

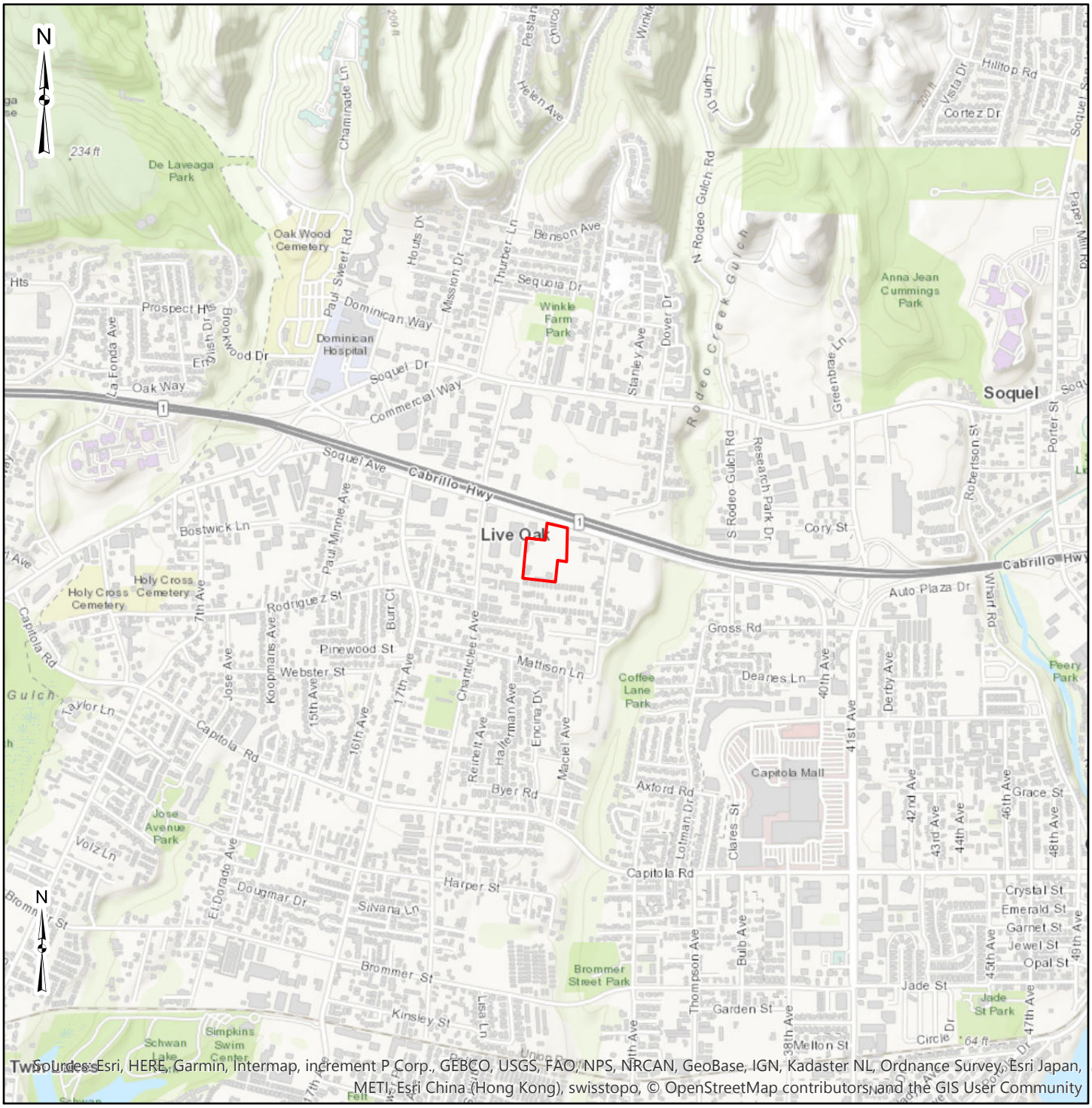
- Due to the limited site access, the geophysical survey performed at the site was inconclusive. Therefore, further evaluation of the location and conditions of the suspected drain and sump is recommended.
- Petroleum hydrocarbons, solvents and metals (TPH, VOCs and lead) in the soil in the vicinity of borings B1, B2, B4, and B6, and within the fenced/inaccessible areas of the site. Currently the majority of the ground surface throughout the site is covered with vehicles, equipment, and storage containers; therefore, access to interior of the enclosed areas of the site is recommended. Terracon recommends accessing the interior portions of the site with hand-sampling / limited access equipment to facilitate soil sampling within the site tenant operation areas.
- Due to the reported concentration of dieldrin above applicable screening criteria, Terracon recommends additional surface soil sampling in the vicinity of boring SV10 and inaccessible portions of the site, including tenants who perform landscaping operations, to further evaluate the presence or absence of OCPs above applicable screening criteria that could pose a potential risk for future site uses.
- Due to the presence of petroleum hydrocarbons and solvents identified in on-site soil, an evaluation of groundwater is recommended. Groundwater was not encountered beneath the site to a depth of 45 feet bgs using DPT equipment. Terracon recommends advancing a minimum of two deep soil borings using hollow-stem auger drilling equipment to a tentative depth of 75 feet bgs.
- Due to the potential for undocumented spills or releases to have occurred in connection with the hazardous materials storage present at the site represents a potential vapor encroachment condition (VEC) at the site. Further investigation of soil vapor in the interior of the tenant operation areas is recommended.
- The environmental risks to building and occupying a medical office could be managed through on-site remediation and engineering controls such as capping, vapor barrier, and proper air exchanges. However, the environmental risk to potential off-site impact from soil and groundwater contamination, the potential for a VEC, and the magnitude, extent, and source of TPH, metals contamination, and pesticides is unknown without additional subsurface assessment.
- The lack of access to all areas of the site did not allow for a complete Limited Phase II ESA and the lack of access to these areas for geophysical surveying and sampling represents a data gap. This data gap may be closed with additional assessment. The property owner, property manager, and/or property developer should provide access to all areas of the site needed to complete the Limited Phase II ESA.

If soils located on the site are to be disturbed during future excavations or construction activities, Terracon recommends the development of a Soil Management Plan. Proper procedures should

be followed with respect to worker health and safety, and any affected soil encountered should be properly characterized, treated, and/or disposed in accordance with applicable local, state or federal regulations.

APPENDIX A – EXHIBITS

Exhibit 1 – Topographic Map
Exhibit 2 – Boring Location Map



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

Legend

Approximate Site Boundary

0 1,250 2,500 5,000 Feet

Project No.: NB187049A Date: Sep 2018 Drawn By: SMB Reviewed By: CAP	Terracon 50 Goldenland Ct, Ste 100 Sacramento, CA 95834 PH. (916) 928-4690 terracon.com	**Boring Location Map** Proposed Kaiser MOB 5940 Soquel Avenue Santa Cruz, Santa Cruz County, California	**Exhibit** 1

N:\GIS\NB187049A_Kaiser_Santa_Cruz\Maps\NB187049A_Kaiser_Santa_Cruz.aprx

0 80 160 320 Feet

Legend

- Approximate Site Boundary
- Soil Vapor Probe
- Soil Boring

Project No.: NB187049A Date: Sep 2018 Drawn By: SMB Reviewed By: CAP	Terracon 50 Goldenland Ct, Ste 100 Sacramento, CA 95834 PH. (916) 928-4690 terracon.com	**Boring Location Map** Proposed Kaiser MOB 5940 Soquel Avenue Santa Cruz, Santa Cruz County, California	**Exhibit** **2**

N:\GIS\NB187049A_Kaiser_Santa_Cruz\Maps\NB187049A_Kaiser_Santa_Cruz.aprx

APPENDIX B – TABLES

Table 1 – Summary of Soil Analytical Results
Table 2 – Summary of Soil Vapor Analytical Results

Table 1 - Summary of Soil Analytical Results

Proposed Kaiser MOB
5940 Soquel Avenue, Santa Cruz, Santa Cruz County, California
Terracon Project No. NB187049A

Analytes	Units	Environmental Screening Levels: Any Land Use / Any Depth Soil Exposure: Construction Worker	Environmental Screening Levels: Commercial/ Industrial Shallow Soil Exposure	Environmental Screening Levels: Residential Shallow Soil Exposure	Environmental Screening Levels: Tier 1	Sample ID/Location																
						B1	B1	B2	B2	B3	B3	B4	B4	B5	B5	B6	SV7	SV8	SV9	SV10	SB11	SB12	SV10
					Sample Date	9/6/2018	9/6/2018	9/6/2018	9/6/2018	9/6/2018	9/6/2018	9/5/2018	9/5/2018	9/6/2018	9/6/2018	9/6/2018	9/5/2018	9/5/2018	9/5/2018	9/5/2018	9/5/2018	9/6/2018	9/5/2018
					Sample Interval	0 - 0.5'	14 - 15'	0 - 0.5'	6 - 7'	0 - 0.5'	7 - 8'	0 - 0.5'	5 - 6'	0 - 0.5'	6 - 7'	0 - 0.5'	4 - 5'	4 - 5'	4 - 5'	4 - 5'	4 - 5'	4 - 5'	0 - 1'
Total Petroleum Hydrocarbons - Carbon Chain (EPA Method 8015)																						
TPH-GASOLINE	mg/kg	2800	3900	740	100	0.0768 J	<0.134	0.121	<0.119	0.0521 J	<0.127	0.07	<0.120	0.08 J	<0.116	0.119	<0.115	0.0449 J	0.0473 J	<0.121	<0.112	0.0417 J	NA
TPH-STODDARD SOLVENT	mg/kg	630	820	160	100	<210	<5.40	<856	1.27 J	12.2 J	<5.07	39.1	<4.79	12.6 J	<4.64	<402	2.68 J	<4.88	5.87	<4.84	0.873 J	<4.67	NA
TPH-DIESEL	mg/kg	880	1100	230	230	98.8 J	<5.40	600 J	<4.76	127	<5.07	399	<4.79	115	<4.64	784	21.4	<4.88	14.8	<4.84	5	7.75	NA
TPH-MOTOR OIL	mg/kg	32000	140000	11000	5100	185 J	<5.40	1020	<4.76	175	<5.07	391	<4.79	161	<4.64	1280	21	<4.88	18.7	<4.84	6.28	10.2	NA
Volatile Organic Compounds (EPA Method 8260B)																						
ACETONE	mg/kg	260000	630000	59000	0.5	<0.0262	<0.0334	<0.0265	<0.0298	0.0184 J	<0.0317	0.0199 J	0.0186 J	0.0304	0.0212 J	<0.0259	0.0285 J	0.0226 J	<0.0286	<0.0302	0.0339	0.0358	NA
METHYL TERT-BUTYL ETHER	mg/kg	3700	180	42	0.023	0.0103	<0.00134	0.00817	<0.00119	0.00855	<0.00127	<0.00102	<0.00120	0.00905	<0.00116	0.00977	<0.00115	0.0094	0.0106	<0.00121	0.00678	0.0115	NA
CHLOROFORM	mg/kg	32	1.3	0.3	0.068	<0.00262	<0.00334	<0.00265	<0.00298	<0.00260	<0.00317	<0.00255	<0.00299	<0.00268	<0.00290	<0.00259	<0.00286	<0.00305	<0.00286	<0.00302	0.000771 J	<0.00292	NA
P-ISOPROPYLTOLUENE	mg/kg	NE	NE	NE	NE	<0.00525	<0.00668	<0.00530	<0.00595	<0.00520	<0.00634	<0.00509	<0.00598	<0.00536	<0.00580	<0.00517	<0.00573	<0.00611	<0.00572	<0.00605	0.00357 J	<0.00584	NA
TOLUENE	mg/kg	4100	4600	970	2.9	0.00138 J	<0.00668	0.00172 J	<0.00595	<0.00520	<0.00634	<0.00509	<0.00598	<0.00536	<0.00580	0.00549	<0.00573	<0.00611	<0.00572	<0.00605	<0.00560	<0.00584	NA
1,2,4-TRIMETHYLBENZENE	mg/kg	NE	NE	NE	NE	<0.00525	<0.00668	<0.00530	<0.00595	<0.00520	<0.00634	0.0057	<0.00598	<0.00536	<0.00580	<0.00517	<0.00573	<0.00611	<0.00572	<0.00605	<0.00560	<0.00584	NA
1,3,5-TRIMETHYLBENZENE	mg/kg	NE	NE	NE	NE	<0.00525	<0.00668	<0.00530	<0.00595	<0.00520	<0.00634	0.00257 J	<0.00598	<0.00536	<0.00580	<0.00517	<0.00573	<0.00611	<0.00572	<0.00605	<0.00560	<0.00584	NA
TETRACHLOROETHENE	mg/kg	33	2.7	0.6	0.42	0.00579	<0.00334	<0.00265	<0.00298	<0.00260	<0.00317	<0.00255	<0.00299	<0.00268	<0.00290	<0.00259	<0.00286	<0.00305	<0.00286	<0.00302	<0.00280	<0.00292	NA
ETHYLBENZENE	mg/kg	480	22	5.1	1.4	0.000622 J	<0.00334	0.000709 J	<0.00298	<0.00260	<0.00317	<0.00255	<0.00299	<0.00268	<0.00290	0.00263	<0.00286	<0.00305	<0.00286	<0.00302	<0.00280	<0.00292	NA
O-XYLENE	mg/kg	NE	NE	NE	NE	<0.00262	<0.00334	<0.00265	<0.00298	<0.00260	<0.00317	0.00156 J	<0.00299	<0.00268	<0.00290	<0.00259	<0.00286	<0.00305	<0.00286	<0.00302	<0.00280	<0.00292	NA
M&P-XYLENE	mg/kg	NE	NE	NE	NE	<0.00420	<0.00534	<0.00424	<0.00476	<0.00416	<0.00507	0.00284 J	<0.00479	<0.00429	<0.00464	<0.00414	<0.00458	<0.00488	<0.00458	<0.00484	<0.00448	<0.00467	NA
XYLENES, TOTAL	mg/kg	2400	2400	560	2.3	<0.00682	<0.00868	<0.00689	<0.00774	<0.00676	<0.00824	<0.00662	<0.00778	<0.00697	<0.00754	<0.00673	<0.00745	<0.00794	<0.00744	<0.00786	<0.00728	<0.00759	NA
STYRENE	mg/kg	29000	40000	6600	1.5	<0.0131	<0.0167	<0.0132	<0.0149	<0.0130	<0.0159	<0.0127	<0.0150	<0.0134	<0.0145	0.00362 J	<0.0143	<0.0153	<0.0143	<0.0151	<0.0140	<0.0146	NA
OTHER VOCs	mg/kg	Varies	Varies	Varies	Varies	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
California Administrative Manual 17 Metals (EPA Method 6020/7471A)																						
ANTIMONY	mg/kg	140	470	31	31	1.43 J	NA	1.98 J	NA	<2.08	NA	<2.04	NA	<2.15	NA	<2.01	<2.29	<2.44	<2.29	1.03 J	<2.24	<2.34	NA
ARSENIC [1]	mg/kg	0.98	0.31	0.067	0.067	0.936 J	NA	4.65	NA	13.9	NA	3.14	NA	12	NA	8.84	2.91	2.86	6.05	2.91	<2.24	3.04	NA
BARIUM	mg/kg	3000	220000	15000	3000	97.4	NA	130	NA	54.7	NA	71.7	NA	66.8	NA	99.6	141	235	195	253	106	244	NA
BERYLLIUM	mg/kg	42	2200	150	42	<0.210	NA	<0.212	NA	<0.208	NA	<0.204	NA	<0.215	NA	<0.201	0.135 J	<0.244	<0.229	<0.242	<0.224	<0.234	NA
CADMIUM	mg/kg	43	580	39	39	0.117 J	NA	0.292 J	NA	<0.520	NA	0.976	NA	0.25 J	NA	0.222	<0.573	<0.611	<0.572	<0.605	<0.560	<0.584	NA
CHROMIUM	mg/kg	530000	1800000	120000	120000	20.1	NA	20.2	NA	6.72	NA	19.7	NA	7.84	NA	13.4	21.1	59.4	42.7	52.4	21.8	34.9	NA
COBALT	mg/kg	28	350	23	23	6.58	NA	10.3	NA	3.16	NA	5.83	NA	5.38	NA	6.16	5.21	6.04	15.2	8.43	1.8	9.32	NA
COPPER	mg/kg	14000	47000	3100	3100	18.2	NA	39.5	NA	8.4	NA	52.3	NA	11.8	NA	15.8	11.2	15.3	17.3	14.1	8.82	17.7	NA
LEAD	mg/kg	160	320	80	80	12.5	NA	15.9	NA	6.55	NA	36.8	NA	16.6	NA	85.6	7.37	3.85	5.34	3.64	3.41	4.25	NA
MERCURY	mg/kg	44	190	13	13	0.0223	NA	0.054	NA	0.0137 J	NA	0.0271	NA	0.0214 J	NA	0.0412	0.0164 J	0.0331	0.0245	0.0218 J	<0.0224	0.0187 J	NA
MOLYBDENUM	mg/kg	1800	5800	390	390	0.734	NA	0.986	NA	0.941	NA	0.641	NA	0.882	NA	0.696	0.387 J	0.306 J	0.394 J	<0.605	<0.560	0.324 J	NA
NICKEL	mg/kg	86	11000	820	86	12.8	NA	13.6	NA	3.63	NA	10.4	NA	3.76	NA	12.6	11.1	26.2	32	22.7	7.54	22.6	NA
SELENIUM	mg/kg	1700	5800	390	390	<2.10	NA	<2.12	NA	<2.08	NA	0.92 J	NA	<2.15	NA	<2.01	<2.29	<2.44	<2.29	<2.42	<2.24	<2.34	NA
SILVER	mg/kg	1800	5800	390	390	<1.05	NA	<1.06	NA	<1.04	NA	<1.02	NA	<1.07	NA	<1.00	<1.15	<1.22	<1.14	<1.21	<1.12	<1.17	NA
THALLIUM	mg/kg	3.5	12	0.78	0.78	<2.10	NA	<2.12	NA	<2.08	NA	<2.04	NA	<2.15	NA	<2.01	<2.29	<2.44	<2.29	<2.42	<2.24	<2.34	NA
VANADIUM	mg/kg	470	5800	390	390	44.7	NA	74	NA	20.1	NA	38.2	NA	31.7	NA	43	33.5	67.6	68.3	58.4	28.9	56.3	NA
ZINC	mg/kg	110000	350000	23000	23000	57.1	NA	214	NA	40.8	NA	86.9	NA	74.5	NA	89.6	31.5	51.2	50	42.6	17.8	51.8	NA
Organochlorine Pesticides (EPA Method 8081A)																						
4,4-DDE	mg/kg	57	8.5	1.9	1.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000329 J
4,4-DDT	mg/kg	57	8.5	1.9	1.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0109 J
DIELDRIN	mg/kg	1.1	0.17	0.038	0.00017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000623 J
ENDRIN ALDEHYDE	mg/kg	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000749 J
CHLORDANE	mg/kg	14	2.2	0.48	0.48	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0744 J
OTHER OCPs	mg/kg	Varies	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND

Notes:
mg/kg = milligrams per kilogram
NA = Not analyzed
ND = Concentration below laboratory detection limit
NE = Not established
Analyte concentration exceeds the standards, established by the San Francisco Bay RWQCB ESL Workbook, dated February 2016 (rev 3), for:

- Tier 1 ESLs for a conceptual site model
- Direct Exposure Human Health Risk Level ESLs (Table S-1): Residential Shallow Soil Exposure
- Direct Exposure Human Health Risk Level ESLs (Table S-1): Commercial/Industrial Shallow Soil Exposure
- Direct Exposure Human Health Risk Level ESLs (Table S-1): Any Land Use / Any Depth Soil Exposure: Construction Worker

[1] Average background concentration for arsenic is 4.3 to 5.2 mg/kg, established by the USGS, dated May 16, 2014
https://mrdata.usgs.gov/soilgeochemistry/#/detail/element

Table 2 - Summary of Soil Vapor Analytical Results

Proposed Kaiser MOB
5940 Soquel Avenue, Santa Cruz, Santa Cruz County, California
Terracon Project No. NB187049A

			Sample Date	9/7/2018	9/7/2018	9/7/2018	9/7/2018
			Sample ID/Location	SV7	SV8	SV9	SV10
			Sample Depth	4.5-5'	4.5-5'	4.5-5'	4.5-5'
Analyte	**Environmental Screening Levels**			Value	Value	Value	Value
		Human Health Risk Levels					
	Tier 1 ESL	Residential Land Use	Commercial/ Industrial Land Use				
	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Volatile Organic Compounds (EPA Method TO-15)							
ACETONE	15,000,000	16,000,000	140,000,000	51.5	18	9.09	7.99
BENZENE	48	48	420	1.13	0.661	<0.400	<0.400
CARBON DISULFIDE	NE	NE	NE	36.5	8.86	6.39	10.1
CHLOROFORM	61	61	530	0.731	1.3	1.57	0.768
CHLOROMETHANE	47,000	47,000	390,000	0.756	<0.400	0.521	<0.400
CIS-1,2-DICHLOROETHENE	4,200	4,200	35,000	<0.400	<0.400	0.969	<0.400
ETHANOL	NE	NE	NE	7.46	5.32	5.39	7.53
ETHYLBENZENE	560	560	4,900	0.431	<0.400	<0.400	<0.400
N-HEXANE	NE	NE	NE	0.508	<0.400	<0.400	<0.400
ISOPROPYLBENZENE	NE	NE	NE	5.68	1.53	<0.400	<0.400
METHYLENE CHLORIDE	510	510	12,000	0.665	0.747	0.476	0.556
2-BUTANONE (MEK)	2,600,000	2,600,000	22,000,000	<2.50	<2.50	<2.50	2.67
NAPHTHALENE	41	41	360	1.52	<1.26	<1.26	<1.26
2-PROPANOL	NE	NE	NE	2.81	<2.50	3.86	2.64
PROPENE	NE	NE	NE	1.56	1.02	1.05	1.27
TETRACHLOROETHENE	240	240	2,100	1.14	<0.400	101	<0.400
TETRAHYDROFURAN	NE	NE	NE	1.11	<0.400	<0.400	<0.400
TOLUENE	160,000	160,000	1,300,000	11.2	7.06	3.68	2.73
TRICHLOROETHENE	240	240	3,000	<0.400	<0.400	0.479	<0.400
1,2,4-TRIMETHYLBENZENE	NE	NE	NE	12.1	4.32	1.07	0.428
1,3,5-TRIMETHYLBENZENE	NE	NE	NE	0.911	<0.400	<0.400	<0.400
M&P-XYLENE	NE	NE	NE	1.44	0.834	<0.800	<0.800
O-XYLENE	NE	NE	NE	0.405	<0.400	<0.400	<0.400
TOTAL XYLENES	52,000	52,000	440,000	1.845	0.834	<1.2	<1.2
Other VOCs	Varies	Varies	Varies	ND	ND	ND	ND
Fixed Gases (ASTM D1946-90)							
				%	%	%	%
HELIUM	NE	NE	NE	<0.100	<0.100	<0.100	<0.100
CARBON DIOXIDE	NE	NE	NE	2.24	0.511	<0.500	<1.26
OXYGEN	NE	NE	NE	15.5	16.3	16.5	15.8

Notes:
ug/m^3 = micrograms percubic meter
ND = Concentration below laboratory reporting limit
NE = Not established
Analyte concentration exceeds the standards, established by the San Francisco Bay RWQCB ESL Workbook, dated February 2016 (rev 3), for:

	Tier 1 ESLs for a conceptual site model
	Subslab/Soil Gas Vapor Intrusion: Human Health Risk Levels (Table SG-1), Residentail Land Use
	Subslab/Soil Gas Vapor Intrusion: Human Health Risk Levels (Table SG-1), Commercial/Industrial Land Use

APPENDIX C

SOIL BORING LOGS

BORING LOG NO. B1

PROJECT: Proposed Kaiser MOB

CLIENT: Kaiser Permanente
1950 Franklin Street, Oakland, California

SITE: 5940 Soquel Avenue
Santa Cruz, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
0.3	**SILTY GRAVEL (GM)**, tannish gray, dry, aggregate base, no odor or staining.				ND	B1-0.5
	SANDY SILT WITH GRAVEL (ML), nonplastic, medium dry strength, brownish gray, dry, medium stiff to stiff, no odor or staining.				ND	
3.5					ND	
4.5	**SILTY CLAY (CL-ML)**, low plasticity, medium dry strength, black, moist, soft to medium stiff, no odor or staining.				ND	
6.5	**SANDY LEAN CLAY (CL)**, low plasticity, medium dry strength, brown, moist, medium stiff to stiff, no odor or staining.	5			ND	
	CLAYEY SAND (SC), with silt, low plasticity, medium dry strength, gray/brown/tan, moist, soft to medium stiff, fining upwards sequences with varying degrees of fine grained composition ranging from tight sandy clays to looser silty sands with trace clay. Wet and soft soils between 13.5 and 16.0 feet bgs. Trace gravel at bottom of sequences below 16.0 feet bgs. No odor or staining.				ND	
		10			ND	
					ND	
					ND	
					ND	
					ND	
					ND	
					ND	
					ND	
					ND	
					ND	
		15			ND	B1-15
					ND	
					ND	
					ND	
					ND	
20.0					ND	
	SAND WITH SILT AND GRAVEL (SP-SM), nonplastic, medium dry strength, tannish brown, dry, hard, fining upwards sequences with varying degrees of fine grained composition ranging from tight silty sands with clay to silty sandy gravel. Very dry in absence of fines. No odor or staining.	20			ND	
					ND	
					ND	
					ND	
					ND	
					ND	
		25			ND	
27.0					ND	B1-27
	SAND WITH SILT AND GRAVEL (SP-SM), nonplastic, medium dry strength, tannish brown, dry, medium stiff to hard, fining upwards sequences approximately 12 inches in thickness with varying degrees of fine grained composition ranging from stiff, damp, clayey sands to silty, sandy gravel. Very dry in absence of fines. No odor or staining.				ND	
					ND	
					ND	
		30			ND	
					ND	
					ND	
					ND	
					ND	
		35			ND	
					ND	
					ND	
					ND	
39.0					ND	
	WELL GRADED SAND (SW), low dry strength, gray, dry, very soft to soft, no odor or staining.	40			ND	
41.5					ND	
	WELL GRADED SAND WITH SILT (SW-SM), trace clay, medium dry strength, gray brown, dry, soft to medium stiff, no odor or staining.				ND	
					ND	
45.0					ND	B1-45
	Refusal at 45 Feet	45				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Boring backfilled with cement-bentonite grout upon completion, cuttings used in upper five feet.

Notes:
ND indicates detection less than 1 PPM
Logged by P. Keicher

WATER LEVEL OBSERVATIONS

Groundwater not observed

Terracon
50 Golden Land Ct, Ste 100
Sacramento, CA

Boring Started: 09-06-2018 | Boring Completed: 09-06-2018
Drill Rig: Geoprobe | Driller: PeneCore
Project No.: NB187049A | Exhibit: C-1

BORING LOG NO. B2

PROJECT: Proposed Kaiser MOB

CLIENT: Kaiser Permanente
1950 Franklin Street, Oakland, California

SITE: 5940 Soquel Avenue
Santa Cruz, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
0.3	**ASPHALT**, black				ND	B2-0.5
0.7	**SILTY GRAVEL (GM)**, tannish gray, dry, aggregate base, no odor or staining.				ND	
	SILTY SAND WITH GRAVEL (SM), dark reddish brown, moist, sub-base fill, no odor or staining.				ND	
3.5	**SILT (ML)**, with clay, nonplastic, black, moist, soft to medium stiff, very thin, wet, sand stringers present between 6 and 7 feet bgs, no odor or staining.				ND	
		5			ND	
7.0					ND	B2-7
	SILTY SAND (SM), trace clay, nonplastic, medium dry strength, brown, dry, medium stiff to stiff, trace gravel, no odor or staining.				ND	
					ND	
					ND	
		10			ND	
					ND	
					ND	
13.0					ND	
	WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM), trace clay, low dry strength, brownish tan, dry, medium stiff, no odor or staining.				ND	
16.0		15			ND	
	WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM), nonplastic, medium dry strength, tannish brown, dry, medium stiff to stiff, wet sand with clay at 22.5 feet bgs. No odor or staining.				ND	
					ND	
					ND	
		20			ND	
					ND	
					ND	
					ND	B2-23
					ND	
					ND	
		25			ND	
					ND	
					ND	
					ND	
					ND	
		30			ND	
					ND	
					ND	
					ND	
34.0					ND	
35.0	**SILTY CLAY (CL-ML)**, trace sand, low plasticity, medium dry strength, grayish brown, moist, soft to medium stiff, no odor or staining.	35			ND	B2-35
	Refusal at 35 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Boring backfilled with cement-bentonite grout upon completion, cuttings used in upper five feet.

Notes:
ND indicates detection less than 1 PPM
Logged by P. Keicher

WATER LEVEL OBSERVATIONS

Groundwater not observed

Terracon
50 Golden Land Ct, Ste 100
Sacramento, CA

Boring Started: 09-06-2018 | Boring Completed: 09-06-2018
Drill Rig: Geoprobe | Driller: PeneCore
Project No.: NB187049A | Exhibit: C-2

BORING LOG NO. B3

PROJECT: Proposed Kaiser MOB

CLIENT: Kaiser Permanente
1950 Franklin Street, Oakland, California

SITE: 5940 Soquel Avenue
Santa Cruz, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
1.2	**SILTY GRAVEL (GM)**, tannish gray, dry, aggregate base, no odor or staining.				ND	B3-0.5
2.0	**SANDY SILT (ML)**, with clay, nonplastic, medium dry strength, black, moist, medium stiff to stiff, trace organics, no odor or staining.				ND	
	SANDY SILT (ML), with clay, nonplastic, medium dry strength, brown, moist, medium stiff to stiff, trace organics. Wet for 2 inches at 6.5 feet bgs, and dry beneath 6.7 feet bgs. no odor or staining.				ND	
		5			ND	
					ND	
					ND	
8.0					ND	B3-8
	SILTY CLAY WITH SAND (CL-ML), low plasticity, medium dry strength, brown, moist, soft to medium stiff, no odor or staining.				ND	
		10			ND	
					ND	
					ND	
					ND	
					ND	
15.0					ND	
	SILTY CLAY WITH SAND (CL-ML), low plasticity, medium dry strength, orange gray mottle, moist, soft to medium stiff, 6 inches of tan silty clay with trace sand at 22 feet bgs. No odor or staining.	15			ND	
					ND	
					ND	
					ND	
					ND	
		20			ND	
					ND	
					ND	
22.5					ND	B3-23
	WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM), trace clay, low dry strength, orange gray mottle, dry, medium stiff, grades tannish brown at 26 feet bgs. No odor or staining.				ND	
		25			ND	
					ND	
					ND	
					ND	
					ND	
		30			ND	
32.5					ND	B3-32.5
	Refusal at 32.5 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Boring backfilled with cement-bentonite grout upon completion, cuttings used in upper five feet.

Notes:
ND indicates detection less than 1 PPM
Logged by P. Keicher

WATER LEVEL OBSERVATIONS

Groundwater not observed

Terracon
50 Golden Land Ct, Ste 100
Sacramento, CA

Boring Started: 09-06-2018 | Boring Completed: 09-06-2018
Drill Rig: Geoprobe | Driller: PeneCore
Project No.: NB187049A | Exhibit: C-3

BORING LOG NO. B4

PROJECT: Proposed Kaiser MOB

CLIENT: Kaiser Permanente
1950 Franklin Street, Oakland, California

SITE: 5940 Soquel Avenue
Santa Cruz, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
0.7	**SANDY SILT WITH GRAVEL (ML)**, nonplastic, medium dry strength, grayish tan, dry, soft to medium stiff, no odor or staining.				ND	B4-0.5
					ND	
					ND	B4-2.5
2.8	**SILTY SAND (SM)**, with clay, nonplastic, medium dry strength, black, moist, medium stiff to stiff, sweet odor, no staining.				ND	
					ND	
4.8	**WELL GRADED SAND WITH CLAY (SW-SC)**, medium dry strength, orangish brown, dry, soft to medium stiff, sweet odor, no staining.				ND	
		5			ND	B4-6
	SILTY CLAYEY SAND (SC-SM), nonplastic, medium dry strength, grayish brown, moist, soft to medium stiff, no odor or staining.				ND	
					ND	
					ND	
					ND	
		10			ND	
11.0					ND	
	SILTY SAND (SM), trace clay, low plasticity, low dry strength, brown, moist, soft, no odor or staining				ND	
					ND	
14.0					ND	
	WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM), trace clay, low dry strength, brown, moist, hard, . Moisture observed in areas of sample with significant percentage fine grained particles. Significant resistance while pushing sampling sleeves and casing. Two inches of tan silty clay at 20 feet. Grades into intervals of well graded gravel with sand deeper than 22 feet bgs.	15			ND	
					ND	
					ND	
					ND	
					ND	
		20			ND	
					ND	
					ND	
					ND	
					ND	
		25			ND	
					ND	
					ND	
					ND	
30.0					ND	B4-30
	Refusal at 30 Feet	30				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Boring backfilled with cement-bentonite grout upon completion, cuttings used in upper five feet.

Notes:
ND indicates detection less than 1 PPM
Logged by P. Keicher

WATER LEVEL OBSERVATIONS

Groundwater not observed

Terracon
50 Golden Land Ct, Ste 100
Sacramento, CA

Boring Started: 09-05-2018 | Boring Completed: 09-05-2018
Drill Rig: Geoprobe | Driller: PeneCore
Project No.: NB187049A | Exhibit: C-4

BORING LOG NO. B5

PROJECT: Proposed Kaiser MOB

CLIENT: Kaiser Permanente
1950 Franklin Street, Oakland, California

SITE: 5940 Soquel Avenue
Santa Cruz, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
0.3	**ASPHALT**, black, dry				ND	B5-0.5
	SILTY SAND WITH GRAVEL (SM), low dry strength, brown, dry, stiff to hard, no odor or staining.				ND	
2.5	**SILTY SAND (SM)**, with clay, nonplastic, medium dry strength, dark brown, dry, medium stiff to stiff, grayish tan below 4 feet bgs. No odor or staining.				ND	
					ND	
5.5		5			ND	
7.0	**CLAYEY SAND (SC)**, with silt, low plasticity, medium dry strength, dark brown, wet, soft to medium stiff, clayey sand fining upwards into a silty clay trace sand. No odor or staining.				ND	B5-7
	CLAYEY SAND (SC), with silt, low plasticity, medium dry strength, orange brown mottle, moist, medium stiff to stiff, sequences of clayey sands fining upwards into a silty clays trace sand. Three inches of tan dry silty sand at 19 feet bgs. No odor or staining.				ND	
					ND	
		10			ND	
					ND	
					ND	
					ND	
		15			ND	
					ND	
					ND	
					ND	
20.5		20			ND	
22.0	**SILTY SAND (SM)**, trace clay, nonplastic, medium dry strength, brown, dry, soft to medium stiff, no odor or staining.				ND	
	WELL GRADED SAND WITH SILT (SW-SM), low dry strength, brown, dry, soft to medium stiff, no odor or staining.				ND	
					ND	B5-25
		25			ND	
					ND	
					ND	
29.0					ND	
30.5	**WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM)**, nonplastic, medium dry strength, grayish brown, dry, hard, no odor or staining.	30			ND	
	WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM), nonplastic, medium dry strength, grayish brown, dry, hard, fining upwards sequences ranging from 4 to 15 inches in thickness consisting of tight dry sand and gravel with silt to tight and damp silty sand with clay. Bottom of some sequences appears to contain clast-supported gravel with sand. Three inchs of moist soft silty sand with clay at 39 feet bgs. No odor or staining.				ND	
					ND	
		35			ND	
					ND	
					ND	
					ND	B5-39
40.0		40			ND	
	Refusal at 40 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Boring backfilled with cement-bentonite grout upon completion, cuttings used in upper five feet.

Notes:
ND indicates detection less than 1 PPM
Logged by P. Keicher

WATER LEVEL OBSERVATIONS

Groundwater not observed

Terracon
50 Golden Land Ct, Ste 100
Sacramento, CA

Boring Started: 09-06-2018 | Boring Completed: 09-06-2018
Drill Rig: Geoprobe | Driller: PeneCore
Project No.: NB187049A | Exhibit: C-5

BORING LOG NO. B6

PROJECT: Proposed Kaiser MOB

CLIENT: Kaiser Permanente
1950 Franklin Street, Oakland, California

SITE: 5940 Soquel Avenue
Santa Cruz, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
0.3	**SILTY SAND WITH GRAVEL (SM)**, low dry strength, brown, dry, stiff to hard, no odor or staining.				ND	B1-0.5
	SILTY CLAYEY SAND (SC-SM), nonplastic, medium dry strength, dark brown, moist, very stiff to hard, no odor or staining.				ND	
4.0					ND	
5.5	**CLAYEY SAND (SC)**, low plasticity, medium dry strength, orangish brown, dry, medium stiff to stiff, no odor or staining.				ND	
	SANDY FAT CLAY (CH), low plasticity, low dry strength, gray brown, moist, soft to medium stiff, no odor or staining.	5			ND	
					ND	
					ND	
					ND	
					ND	B6-10
		10			ND	
					ND	
					ND	
					ND	
					ND	
		15			ND	
					ND	
18.0					ND	
	SILTY SAND (SM), trace clay, nonplastic, low dry strength, tannish orange, moist, medium stiff to stiff, fining upwards sequences ranging from 10 to 30 inches in thickness consisting of somewhat tight and hard, dry, silty sand to somewhat soft and tight sandy silt. Wet between 25 and 26.25 feet bgs. No odor or staining.	20			ND	
					ND	
					ND	
					ND	
					ND	
					ND	
		25			ND	B6-26
26.0					ND	
	SAND WITH SILT (SP-SM), low dry strength, oraneish brown, dry, medium stiff to stiff, fining upwards sequences ranging from 8 to 16 inches in thickness consisting of hard, dry, coarse sand and gravel to somewhat tight silty sand. Three inches darker sand between at 29 feet bgs. No odor or staining.				ND	B6-29
30.0					ND	
	WELL GRADED GRAVEL WITH SAND (GW), trace fines, low dry strength, tannish brown, dry, hard, sections may be matrix support by sand. No odor or staining.	30			ND	
					ND	
					ND	
					ND	
35.0					ND	
36.0	**SILTY SAND (SM)**, orangish tan, soft to medium stiff, two sequences of 3 inch intervals of silty fine sand with clay above coarse sand with silt and small gravel. Soft to medium stiff, low plasticity. The rig pushed this interval with relative ease before struggling at 36 fet bgs. No odor or staining.	35			ND	
	WELL GRADED GRAVEL WITH SAND (GW), trace fines, low dry strength, tannish brown, dry, hard, trace cobbles, no odor or staining.				ND	
40.0					ND	B6-40
	Refusal at 40 Feet	40				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Boring backfilled with cement-bentonite grout upon completion, cuttings used in upper five feet.

Notes:
ND indicates detection less than 1 PPM
Logged by P. Keicher

WATER LEVEL OBSERVATIONS

Groundwater not observed

Terracon
50 Golden Land Ct, Ste 100
Sacramento, CA

Boring Started: 09-05-2018 | Boring Completed: 09-05-2018
Drill Rig: Geoprobe | Driller: PeneCore
Project No.: NB187049A | Exhibit: C-6

WELL LOG NO. SV7

PROJECT: Proposed Kaiser MOB

CLIENT: Kaiser Permanente
1950 Franklin Street, Oakland, California

SITE: 5940 Soquel Avenue
Santa Cruz, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	INSTALLATION DETAILS (Well Completion)	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
0.2	**ASPHALT**, gray, Milled asphalt surface						
	SILTY SAND (SM), with gravel, brown, moist, soft, no odor or staining					ND	
2.0						ND	
	SILTY CLAY WITH SAND (CL-ML), low plasticity, medium dry strength, brown, moist, soft to medium stiff, no odor or staining	Hydrated bentonite seal				ND	
3.5						ND	
	SILTY SAND (SM), with clay, dark brown, moist, soft to medium stiff, no odor or staining	Sand pack around vapor pin				ND	SV7-5
5.0	***Boring Terminated at 5 Feet***		5				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Hand Auger

Abandonment Method:
Soil Vapor Well abandoned, boring backfilled with bentonite, surface capped with gravel

Notes:
ND indicates detection less than 1 PPM
Logged by P. Keicher
Soil Vapor Well constucted

WATER LEVEL OBSERVATIONS

Groundwater not observed.

Terracon
50 Golden Land Ct, Ste 100
Sacramento, CA

Well Started: 09-05-2018 | Well Completed: 09-05-2018
Drill Rig: Hand Auger | Driller: PeneCore
Project No.: NB187049A | Exhibit: C-7

WELL LOG NO. SV8

PROJECT: Proposed Kaiser MOB

CLIENT: Kaiser Permanente
1950 Franklin Street, Oakland, California

SITE: 5940 Soquel Avenue
Santa Cruz, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	INSTALLATION DETAILS	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
0.5	**SILTY SAND WITH GRAVEL (SM)**, tan, dry, soft, no odor or staining	Well Completion:				ND	
2.5	**SILTY SAND (SM)**, trace clay, low dry strength, dark brown, moist, soft to medium stiff, no odor or staining	Hydrated bentonite seal				ND	
5.0	**SILTY SAND (SM)**, with gravel, low dry strength, brown, moist, very soft to soft, no odor or staining	Sand pack around vapor pin				ND	
						ND	
						ND	SV7-5
	Boring Terminated at 5 Feet		5				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Hand Auger

Abandonment Method:
Soil Vapor Well abandoned, boring backfilled with bentonite, surface capped with gravel

Notes:
ND indicates detection less than 1 PPM
Logged by P. Keicher
Soil Vapor Well constucted

WATER LEVEL OBSERVATIONS

Groundwater not observed.

Terracon
50 Golden Land Ct, Ste 100
Sacramento, CA

Well Started: 09-05-2018 | Well Completed: 09-05-2018
Drill Rig: Hand Auger | Driller: PeneCore
Project No.: NB187049A | Exhibit: C-8

WELL LOG NO. SV9

PROJECT: Proposed Kaiser MOB

CLIENT: Kaiser Permanente
1950 Franklin Street, Oakland, California

SITE: 5940 Soquel Avenue
Santa Cruz, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	INSTALLATION DETAILS (Well Completion)	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
1.5	**SILTY SAND WITH GRAVEL (SM)**, light brown, dry, medium stiff to stiff, no odor or staining, cinder-block debris at 0.75 feet					ND	
2.3	**SILTY SAND WITH GRAVEL (SM)**, dark brown, dry, medium stiff to stiff, no odor or staining	Hydrated bentonite seal				ND	
4.0	**SILTY SAND (SM)**, trace clay, high dry strength, orangish brown, moist, soft to medium stiff, no odor or staining					ND	
5.0	**CLAYEY SAND (SC)**, with organics, low plasticity, medium dry strength, dark gray, moist, very soft to soft, no odor or staining, small root pieces present	Sand pack around vapor pin				ND	SV7-5
	Boring Terminated at 5 Feet		5				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Hand Auger

Abandonment Method:
Soil Vapor Well abandoned, boring backfilled with bentonite, surface capped with gravel

Notes:
ND indicates detection less than 1 PPM
Logged by P. Keicher
Soil Vapor Well constucted

WATER LEVEL OBSERVATIONS

Groundwater not observed.

Terracon
50 Golden Land Ct, Ste 100
Sacramento, CA

Well Started: 09-05-2018	Well Completed: 09-05-2018
Drill Rig: Hand Auger	Driller: PeneCore
Project No.: NB187049A	Exhibit: C-9

WELL LOG NO. SV10

PROJECT: Proposed Kaiser MOB

CLIENT: Kaiser Permanente
1950 Franklin Street, Oakland, California

SITE: 5940 Soquel Avenue
Santa Cruz, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	INSTALLATION DETAILS (Well Completion:)	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
0.3	**SILTY GRAVEL (GM)**, tannish gray, dry, no odor or staining					ND	
1.3	**SILTY SAND (SM)**, trace clay, medium dry strength, dark brown, dry, medium stiff to stiff, no odor or staining, abundant root pieces					ND	SV10-1
4.0	**SILTY SAND (SM)**, with clay, nonplastic, low dry strength, orangish brown, moist, soft to medium stiff, no odor or staining	Hydrated bentonite seal				ND	
5.0	**SILTY SAND (SM)**, with clay, nonplastic, low dry strength, brown, moist, very soft to soft, no odor or staining	Sand pack around vapor pin				ND	SV10-5
	Boring Terminated at 5 Feet		5				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Hand Auger

Abandonment Method:
Soil Vapor Well abandoned, boring backfilled with bentonite, surface capped with gravel

Notes:
ND indicates detection less than 1 PPM
Logged by P. Keicher
Soil Vapor Well constucted

WATER LEVEL OBSERVATIONS

Groundwater not observed.

Terracon
50 Golden Land Ct, Ste 100
Sacramento, CA

Well Started: 09-05-2018 | Well Completed: 09-05-2018
Drill Rig: Hand Auger | Driller: PeneCore
Project No.: NB187049A | Exhibit: C-10

BORING LOG NO. SB11

PROJECT: Proposed Kaiser MOB

CLIENT: Kaiser Permanente
1950 Franklin Street, Oakland, California

SITE: 5940 Soquel Avenue
Santa Cruz, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
1.7	**SILTY GRAVEL (GM)**, tannish gray, dry, Aggregate Base, no odor or staining				ND	
2.5	**SILTY SAND WITH GRAVEL (SM)**, with clay, no dry strength, brown, dry, soft to medium stiff, no odor or staining				ND	
3.8	**SILTY SAND (SM)**, trace clay, low plasticity, low dry strength, dark gray, moist, soft to medium stiff, no odor or staining				ND	
4.0	**SAND WITH SILT (SP-SM)**, no dry strength, gray, moist, very soft to soft, no odor or staining				ND	
5.0	**CLAYEY SAND (SC)**, low plasticity, medium dry strength, gray, moist, soft to medium stiff, no odor or staining				ND	SB11-5
	Boring Terminated at 5 Feet	5				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Hand Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

Notes:
ND indicates detection less than 1 PPM
Logged by P. Keicher

WATER LEVEL OBSERVATIONS

Groundwater not observed.

Terracon
50 Golden Land Ct, Ste 100
Sacramento, CA

Boring Started: 09-05-2018 | Boring Completed: 09-05-2018
Drill Rig: Hand Auger | Driller: PeneCore
Project No.: NB187049A | Exhibit: C-11

BORING LOG NO. SB12

PROJECT: Proposed Kaiser MOB

CLIENT: Kaiser Permanente
1950 Franklin Street, Oakland, California

SITE: 5940 Soquel Avenue
Santa Cruz, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
0.3	**ASPHALT**, gray, Milled asphalt surface					
1.3	**SILTY GRAVEL (GM)**, tannish gray, dry, Aggregate Base, no odor or staining				ND	
4.0	**SILTY CLAY WITH SAND (CL-ML)**, low plasticity, medium dry strength, black, moist, soft to medium stiff, no odor or staining, some plasticity near bottom of interval				ND ND ND	SB12-2
5.0	**SANDY SILT/SILTY SAND (ML)**, with clay, low plasticity, low dry strength, orange/gray, moist, soft to medium stiff, no odor or staining				ND	SB12-5
	Boring Terminated at 5 Feet	5				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Hand Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

Notes:
ND indicates detection less than 1 PPM
Logged by P. Keicher

WATER LEVEL OBSERVATIONS

Groundwater not observed.

Terracon
50 Golden Land Ct, Ste 100
Sacramento, CA

Boring Started: 09-06-2018 | Boring Completed: 09-06-2018
Drill Rig: Hand Auger | Driller: PeneCore
Project No.: NB187049A | Exhibit: C-12

APPENDIX D

ANALYTICAL REPORT AND CHAIN OF CUSTODY

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 18, 2018

Terracon - Sacramento, CA

Sample Delivery Group:	L1024264
Samples Received:	09/08/2018
Project Number:	NB187049A
Description:	
Site:	5940 SOQUEL AVE, SANTA CRUZ,CA
Report To:	Scott Gable 50 Goldenland Ct Suite 100 Sacramento, CA 95834

Entire Report Reviewed By:

Brian Ford

Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

B1-0.5 L1024264-01 Solid

Collected by: Patrick Keicher
Collected date/time: 09/06/18 14:00
Received date/time: 09/08/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164900	1	09/12/18 12:38	09/12/18 12:47	JD
Mercury by Method 7471A	WG1163773	1	09/10/18 09:13	09/10/18 14:06	TCT
Metals (ICP) by Method 6010B	WG1163616	1	09/09/18 18:07	09/11/18 02:58	CCE
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/06/18 14:00	09/10/18 20:07	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1166573	1	09/06/18 14:00	09/15/18 16:20	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167253	1	09/06/18 14:00	09/17/18 12:56	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1165817	50	09/13/18 17:03	09/14/18 20:01	AAT

B1-15 L1024264-02 Solid

Collected by: Patrick Keicher
Collected date/time: 09/06/18 13:05
Received date/time: 09/08/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164900	1	09/12/18 12:38	09/12/18 12:47	JD
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/06/18 13:05	09/10/18 20:29	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1166573	1	09/06/18 13:05	09/15/18 16:38	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167253	1	09/06/18 13:05	09/17/18 13:16	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1165817	1.01	09/13/18 17:03	09/14/18 19:47	AAT

B2-0.5 L1024264-03 Solid

Collected by: Patrick Keicher
Collected date/time: 09/06/18 14:30
Received date/time: 09/08/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164903	1	09/12/18 12:50	09/12/18 12:58	JD
Mercury by Method 7471A	WG1163773	1	09/10/18 09:13	09/10/18 14:13	TCT
Metals (ICP) by Method 6010B	WG1163616	1	09/09/18 18:07	09/11/18 03:01	CCE
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/06/18 14:30	09/10/18 20:50	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1166573	1	09/06/18 14:30	09/15/18 16:57	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1165817	202	09/13/18 17:03	09/14/18 20:14	AAT

B2-7 L1024264-04 Solid

Collected by: Patrick Keicher
Collected date/time: 09/06/18 15:00
Received date/time: 09/08/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164903	1	09/12/18 12:50	09/12/18 12:58	JD
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/06/18 15:00	09/10/18 21:12	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1166573	1	09/06/18 15:00	09/15/18 17:15	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1166673	1	09/17/18 10:40	09/17/18 19:57	MTJ

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.3		1	09/12/2018 12:47	WG1164900

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0223		0.00294	0.0210	1	09/10/2018 14:06	WG1163773

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	1.43	J	0.787	2.10	1	09/11/2018 02:58	WG1163616
Arsenic	0.936	J	0.483	2.10	1	09/11/2018 02:58	WG1163616
Barium	97.4		0.178	0.525	1	09/11/2018 02:58	WG1163616
Beryllium	U		0.0735	0.210	1	09/11/2018 02:58	WG1163616
Cadmium	0.117	J	0.0735	0.525	1	09/11/2018 02:58	WG1163616
Chromium	20.1		0.147	1.05	1	09/11/2018 02:58	WG1163616
Cobalt	6.58		0.241	1.05	1	09/11/2018 02:58	WG1163616
Copper	18.2		0.556	2.10	1	09/11/2018 02:58	WG1163616
Lead	12.5		0.199	0.525	1	09/11/2018 02:58	WG1163616
Molybdenum	0.734		0.168	0.525	1	09/11/2018 02:58	WG1163616
Nickel	12.8		0.514	2.10	1	09/11/2018 02:58	WG1163616
Selenium	U		0.651	2.10	1	09/11/2018 02:58	WG1163616
Silver	U		0.126	1.05	1	09/11/2018 02:58	WG1163616
Thallium	U		0.682	2.10	1	09/11/2018 02:58	WG1163616
Vanadium	44.7		0.252	2.10	1	09/11/2018 02:58	WG1163616
Zinc	57.1		0.619	5.25	1	09/11/2018 02:58	WG1163616

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	0.0768	J	0.0348	0.105	1	09/10/2018 20:07	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*		*09/10/2018 20:07*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0144	0.0262	1	09/17/2018 12:56	WG1167253
Acrylonitrile	U		0.00199	0.0131	1	09/15/2018 16:20	WG1166573
Benzene	U		0.000420	0.00105	1	09/15/2018 16:20	WG1166573
Bromobenzene	U		0.00110	0.0131	1	09/15/2018 16:20	WG1166573
Bromochloromethane	U	J4	0.00119	0.00525	1	09/15/2018 16:20	WG1166573
Bromodichloromethane	U		0.000827	0.00262	1	09/15/2018 16:20	WG1166573
Bromoform	U		0.00628	0.0262	1	09/15/2018 16:20	WG1166573
Bromomethane	U		0.00388	0.0131	1	09/15/2018 16:20	WG1166573
n-Butylbenzene	U		0.00403	0.0131	1	09/15/2018 16:20	WG1166573
sec-Butylbenzene	U		0.00265	0.0131	1	09/15/2018 16:20	WG1166573
tert-Butylbenzene	U		0.00163	0.00525	1	09/15/2018 16:20	WG1166573
Carbon tetrachloride	U		0.00113	0.00525	1	09/15/2018 16:20	WG1166573
Chlorobenzene	U		0.000601	0.00262	1	09/15/2018 16:20	WG1166573
Chlorodibromomethane	U		0.000472	0.00262	1	09/15/2018 16:20	WG1166573
Chloroethane	U		0.00113	0.00525	1	09/15/2018 16:20	WG1166573
Chloroform	U		0.000435	0.00262	1	09/15/2018 16:20	WG1166573
Chloromethane	U		0.00146	0.0131	1	09/15/2018 16:20	WG1166573
2-Chlorotoluene	U		0.000965	0.00262	1	09/15/2018 16:20	WG1166573

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.00119	0.00525	1	09/15/2018 16:20	WG1166573
1,2-Dibromo-3-Chloropropane	U		0.00535	0.0262	1	09/15/2018 16:20	WG1166573
1,2-Dibromoethane	U		0.000551	0.00262	1	09/15/2018 16:20	WG1166573
Dibromomethane	U		0.00105	0.00525	1	09/15/2018 16:20	WG1166573
1,2-Dichlorobenzene	U		0.00152	0.00525	1	09/15/2018 16:20	WG1166573
1,3-Dichlorobenzene	U		0.00178	0.00525	1	09/15/2018 16:20	WG1166573
1,4-Dichlorobenzene	U		0.00207	0.00525	1	09/15/2018 16:20	WG1166573
Dichlorodifluoromethane	U		0.000858	0.00262	1	09/15/2018 16:20	WG1166573
1,1-Dichloroethane	U		0.000603	0.00262	1	09/15/2018 16:20	WG1166573
1,2-Dichloroethane	U		0.000498	0.00262	1	09/15/2018 16:20	WG1166573
1,1-Dichloroethene	U		0.000525	0.00262	1	09/15/2018 16:20	WG1166573
cis-1,2-Dichloroethene	U		0.000724	0.00262	1	09/15/2018 16:20	WG1166573
trans-1,2-Dichloroethene	U		0.00150	0.00525	1	09/15/2018 16:20	WG1166573
1,2-Dichloropropane	U		0.00133	0.00525	1	09/15/2018 16:20	WG1166573
1,1-Dichloropropene	U		0.000735	0.00262	1	09/15/2018 16:20	WG1166573
1,3-Dichloropropane	U		0.00184	0.00525	1	09/15/2018 16:20	WG1166573
cis-1,3-Dichloropropene	U		0.000711	0.00262	1	09/15/2018 16:20	WG1166573
trans-1,3-Dichloropropene	U		0.00161	0.00525	1	09/15/2018 16:20	WG1166573
2,2-Dichloropropane	U		0.000832	0.00262	1	09/15/2018 16:20	WG1166573
Di-isopropyl ether	U		0.000367	0.00105	1	09/15/2018 16:20	WG1166573
Ethylbenzene	0.000622	J	0.000556	0.00262	1	09/15/2018 16:20	WG1166573
2-Hexanone	U		0.0105	0.0262	1	09/15/2018 16:20	WG1166573
Hexachloro-1,3-butadiene	U		0.0133	0.0262	1	09/15/2018 16:20	WG1166573
Isopropylbenzene	U		0.000906	0.00262	1	09/15/2018 16:20	WG1166573
p-Isopropyltoluene	U		0.00244	0.00525	1	09/15/2018 16:20	WG1166573
2-Butanone (MEK)	U		0.0131	0.0262	1	09/15/2018 16:20	WG1166573
Methylene Chloride	U		0.00697	0.0262	1	09/15/2018 16:20	WG1166573
4-Methyl-2-pentanone (MIBK)	U		0.0105	0.0262	1	09/15/2018 16:20	WG1166573
Methyl tert-butyl ether	0.0103		0.000310	0.00105	1	09/15/2018 16:20	WG1166573
Naphthalene	U		0.00327	0.0131	1	09/15/2018 16:20	WG1166573
n-Propylbenzene	U		0.00124	0.00525	1	09/15/2018 16:20	WG1166573
Styrene	U		0.00286	0.0131	1	09/15/2018 16:20	WG1166573
1,1,1,2-Tetrachloroethane	U		0.000525	0.00262	1	09/15/2018 16:20	WG1166573
1,1,2,2-Tetrachloroethane	U		0.000409	0.00262	1	09/15/2018 16:20	WG1166573
1,1,2-Trichlorotrifluoroethane	U		0.000708	0.00262	1	09/15/2018 16:20	WG1166573
Tetrachloroethene	0.00579		0.000735	0.00262	1	09/15/2018 16:20	WG1166573
Toluene	0.00138	J	0.00131	0.00525	1	09/15/2018 16:20	WG1166573
1,2,3-Trichlorobenzene	U		0.000656	0.00262	1	09/15/2018 16:20	WG1166573
1,2,4-Trichlorobenzene	U		0.00506	0.0131	1	09/15/2018 16:20	WG1166573
1,1,1-Trichloroethane	U		0.000289	0.00262	1	09/15/2018 16:20	WG1166573
1,1,2-Trichloroethane	U		0.000927	0.00262	1	09/15/2018 16:20	WG1166573
Trichloroethene	U		0.000420	0.00105	1	09/15/2018 16:20	WG1166573
Tetrahydrofuran	U		0.00236	0.0131	1	09/15/2018 16:20	WG1166573
Trichlorofluoromethane	U		0.000525	0.00262	1	09/15/2018 16:20	WG1166573
1,2,3-Trichloropropane	U		0.00535	0.0131	1	09/15/2018 16:20	WG1166573
1,2,4-Trimethylbenzene	U		0.00122	0.00525	1	09/15/2018 16:20	WG1166573
1,3,5-Trimethylbenzene	U		0.00113	0.00525	1	09/15/2018 16:20	WG1166573
Vinyl chloride	U		0.000717	0.00262	1	09/15/2018 16:20	WG1166573
o-Xylene	U		0.00105	0.00262	1	09/15/2018 16:20	WG1166573
m&p-Xylene	U		0.00157	0.00420	1	09/15/2018 16:20	WG1166573
Xylenes, Total	U		0.00502	0.00682	1	09/15/2018 16:20	WG1166573
(S) Toluene-d8	*97.2*			*75.0-131*		*09/15/2018 16:20*	WG1166573
(S) Toluene-d8	*106*			*75.0-131*		*09/17/2018 12:56*	WG1167253
(S) Dibromofluoromethane	*114*			*65.0-129*		*09/15/2018 16:20*	WG1166573
(S) Dibromofluoromethane	*102*			*65.0-129*		*09/17/2018 12:56*	WG1167253
(S) 4-Bromofluorobenzene	*100*			*67.0-138*		*09/15/2018 16:20*	WG1166573

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	*106*			*67.0-138*		*09/17/2018 12:56*	WG1167253

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	U		38.5	210	50	09/14/2018 20:01	WG1165817
C22-C32 Hydrocarbons	98.8	J	69.8	210	50	09/14/2018 20:01	WG1165817
C32-C40 Hydrocarbons	185	J	69.8	210	50	09/14/2018 20:01	WG1165817
(S) o-Terphenyl	*80.3*	J7		*18.0-148*		*09/14/2018 20:01*	WG1165817

Sample Narrative:

L1024264-01 WG1165817: Dilution due to sample viscosity

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	74.9		1	09/12/2018 12:47	WG1164900

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	U		0.0444	0.134	1	09/10/2018 20:29	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*		*09/10/2018 20:29*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0183	0.0334	1	09/17/2018 13:16	WG1167253
Acrylonitrile	U		0.00254	0.0167	1	09/15/2018 16:38	WG1166573
Benzene	U		0.000534	0.00134	1	09/15/2018 16:38	WG1166573
Bromobenzene	U		0.00140	0.0167	1	09/15/2018 16:38	WG1166573
Bromochloromethane	U	J4	0.00151	0.00668	1	09/15/2018 16:38	WG1166573
Bromodichloromethane	U		0.00105	0.00334	1	09/15/2018 16:38	WG1166573
Bromoform	U		0.00799	0.0334	1	09/15/2018 16:38	WG1166573
Bromomethane	U		0.00494	0.0167	1	09/15/2018 16:38	WG1166573
n-Butylbenzene	U		0.00513	0.0167	1	09/15/2018 16:38	WG1166573
sec-Butylbenzene	U		0.00338	0.0167	1	09/15/2018 16:38	WG1166573
tert-Butylbenzene	U		0.00207	0.00668	1	09/15/2018 16:38	WG1166573
Carbon tetrachloride	U		0.00144	0.00668	1	09/15/2018 16:38	WG1166573
Chlorobenzene	U		0.000765	0.00334	1	09/15/2018 16:38	WG1166573
Chlorodibromomethane	U		0.000601	0.00334	1	09/15/2018 16:38	WG1166573
Chloroethane	U		0.00144	0.00668	1	09/15/2018 16:38	WG1166573
Chloroform	U		0.000554	0.00334	1	09/15/2018 16:38	WG1166573
Chloromethane	U		0.00186	0.0167	1	09/15/2018 16:38	WG1166573
2-Chlorotoluene	U		0.00123	0.00334	1	09/15/2018 16:38	WG1166573
4-Chlorotoluene	U		0.00151	0.00668	1	09/15/2018 16:38	WG1166573
1,2-Dibromo-3-Chloropropane	U		0.00681	0.0334	1	09/15/2018 16:38	WG1166573
1,2-Dibromoethane	U		0.000701	0.00334	1	09/15/2018 16:38	WG1166573
Dibromomethane	U		0.00134	0.00668	1	09/15/2018 16:38	WG1166573
1,2-Dichlorobenzene	U		0.00194	0.00668	1	09/15/2018 16:38	WG1166573
1,3-Dichlorobenzene	U		0.00227	0.00668	1	09/15/2018 16:38	WG1166573
1,4-Dichlorobenzene	U		0.00263	0.00668	1	09/15/2018 16:38	WG1166573
Dichlorodifluoromethane	U		0.00109	0.00334	1	09/15/2018 16:38	WG1166573
1,1-Dichloroethane	U		0.000768	0.00334	1	09/15/2018 16:38	WG1166573
1,2-Dichloroethane	U		0.000635	0.00334	1	09/15/2018 16:38	WG1166573
1,1-Dichloroethene	U		0.000668	0.00334	1	09/15/2018 16:38	WG1166573
cis-1,2-Dichloroethene	U		0.000922	0.00334	1	09/15/2018 16:38	WG1166573
trans-1,2-Dichloroethene	U		0.00191	0.00668	1	09/15/2018 16:38	WG1166573
1,2-Dichloropropane	U		0.00170	0.00668	1	09/15/2018 16:38	WG1166573
1,1-Dichloropropene	U		0.000935	0.00334	1	09/15/2018 16:38	WG1166573
1,3-Dichloropropane	U		0.00234	0.00668	1	09/15/2018 16:38	WG1166573
cis-1,3-Dichloropropene	U		0.000906	0.00334	1	09/15/2018 16:38	WG1166573
trans-1,3-Dichloropropene	U		0.00204	0.00668	1	09/15/2018 16:38	WG1166573
2,2-Dichloropropane	U		0.00106	0.00334	1	09/15/2018 16:38	WG1166573
Di-isopropyl ether	U		0.000468	0.00134	1	09/15/2018 16:38	WG1166573
Ethylbenzene	U		0.000708	0.00334	1	09/15/2018 16:38	WG1166573
2-Hexanone	U		0.0134	0.0334	1	09/15/2018 16:38	WG1166573
Hexachloro-1,3-butadiene	U		0.0170	0.0334	1	09/15/2018 16:38	WG1166573
Isopropylbenzene	U		0.00115	0.00334	1	09/15/2018 16:38	WG1166573
p-Isopropyltoluene	U		0.00311	0.00668	1	09/15/2018 16:38	WG1166573
2-Butanone (MEK)	U		0.0167	0.0334	1	09/15/2018 16:38	WG1166573

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.00887	0.0334	1	09/15/2018 16:38	WG1166573
4-Methyl-2-pentanone (MIBK)	U		0.0134	0.0334	1	09/15/2018 16:38	WG1166573
Methyl tert-butyl ether	U		0.000394	0.00134	1	09/15/2018 16:38	WG1166573
Naphthalene	U		0.00417	0.0167	1	09/15/2018 16:38	WG1166573
n-Propylbenzene	U		0.00158	0.00668	1	09/15/2018 16:38	WG1166573
Styrene	U		0.00365	0.0167	1	09/15/2018 16:38	WG1166573
1,1,1,2-Tetrachloroethane	U		0.000668	0.00334	1	09/15/2018 16:38	WG1166573
1,1,2,2-Tetrachloroethane	U		0.000521	0.00334	1	09/15/2018 16:38	WG1166573
1,1,2-Trichlorotrifluoroethane	U		0.000902	0.00334	1	09/15/2018 16:38	WG1166573
Tetrachloroethene	U		0.000935	0.00334	1	09/15/2018 16:38	WG1166573
Toluene	U		0.00167	0.00668	1	09/15/2018 16:38	WG1166573
1,2,3-Trichlorobenzene	U		0.000835	0.00334	1	09/15/2018 16:38	WG1166573
1,2,4-Trichlorobenzene	U		0.00644	0.0167	1	09/15/2018 16:38	WG1166573
1,1,1-Trichloroethane	U		0.000367	0.00334	1	09/15/2018 16:38	WG1166573
1,1,2-Trichloroethane	U		0.00118	0.00334	1	09/15/2018 16:38	WG1166573
Trichloroethene	U		0.000534	0.00134	1	09/15/2018 16:38	WG1166573
Tetrahydrofuran	U		0.00301	0.0167	1	09/15/2018 16:38	WG1166573
Trichlorofluoromethane	U		0.000668	0.00334	1	09/15/2018 16:38	WG1166573
1,2,3-Trichloropropane	U		0.00681	0.0167	1	09/15/2018 16:38	WG1166573
1,2,4-Trimethylbenzene	U		0.00155	0.00668	1	09/15/2018 16:38	WG1166573
1,3,5-Trimethylbenzene	U		0.00144	0.00668	1	09/15/2018 16:38	WG1166573
Vinyl chloride	U		0.000912	0.00334	1	09/15/2018 16:38	WG1166573
o-Xylene	U		0.00134	0.00334	1	09/15/2018 16:38	WG1166573
m&p-Xylene	U		0.00200	0.00534	1	09/15/2018 16:38	WG1166573
Xylenes, Total	U		0.00639	0.00868	1	09/15/2018 16:38	WG1166573
(S) Toluene-d8	*97.2*			*75.0-131*		*09/15/2018 16:38*	WG1166573
(S) Toluene-d8	*106*			*75.0-131*		*09/17/2018 13:16*	WG1167253
(S) Dibromofluoromethane	*115*			*65.0-129*		*09/15/2018 16:38*	WG1166573
(S) Dibromofluoromethane	*102*			*65.0-129*		*09/17/2018 13:16*	WG1167253
(S) 4-Bromofluorobenzene	*109*			*67.0-138*		*09/15/2018 16:38*	WG1166573
(S) 4-Bromofluorobenzene	*105*			*67.0-138*		*09/17/2018 13:16*	WG1167253

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	U		0.989	5.40	1.01	09/14/2018 19:47	WG1165817
C22-C32 Hydrocarbons	U		1.79	5.40	1.01	09/14/2018 19:47	WG1165817
C32-C40 Hydrocarbons	U		1.79	5.40	1.01	09/14/2018 19:47	WG1165817
(S) o-Terphenyl	*68.8*			*18.0-148*		*09/14/2018 19:47*	WG1165817

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.4		1	09/12/2018 12:58	WG1164903

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0540		0.00297	0.0212	1	09/10/2018 14:13	WG1163773

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	1.98	J	0.795	2.12	1	09/11/2018 03:01	WG1163616
Arsenic	4.65		0.487	2.12	1	09/11/2018 03:01	WG1163616
Barium	130		0.180	0.530	1	09/11/2018 03:01	WG1163616
Beryllium	U		0.0742	0.212	1	09/11/2018 03:01	WG1163616
Cadmium	0.292	J	0.0742	0.530	1	09/11/2018 03:01	WG1163616
Chromium	20.2		0.148	1.06	1	09/11/2018 03:01	WG1163616
Cobalt	10.3		0.244	1.06	1	09/11/2018 03:01	WG1163616
Copper	39.5		0.562	2.12	1	09/11/2018 03:01	WG1163616
Lead	15.9		0.201	0.530	1	09/11/2018 03:01	WG1163616
Molybdenum	0.986		0.170	0.530	1	09/11/2018 03:01	WG1163616
Nickel	13.6		0.519	2.12	1	09/11/2018 03:01	WG1163616
Selenium	U		0.657	2.12	1	09/11/2018 03:01	WG1163616
Silver	U		0.127	1.06	1	09/11/2018 03:01	WG1163616
Thallium	U		0.689	2.12	1	09/11/2018 03:01	WG1163616
Vanadium	74.0		0.254	2.12	1	09/11/2018 03:01	WG1163616
Zinc	214		0.625	5.30	1	09/11/2018 03:01	WG1163616

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	0.121		0.0352	0.106	1	09/10/2018 20:50	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*		*09/10/2018 20:50*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0145	0.0265	1	09/15/2018 16:57	WG1166573
Acrylonitrile	U		0.00201	0.0132	1	09/15/2018 16:57	WG1166573
Benzene	U		0.000424	0.00106	1	09/15/2018 16:57	WG1166573
Bromobenzene	U		0.00111	0.0132	1	09/15/2018 16:57	WG1166573
Bromochloromethane	U	J4	0.00120	0.00530	1	09/15/2018 16:57	WG1166573
Bromodichloromethane	U		0.000835	0.00265	1	09/15/2018 16:57	WG1166573
Bromoform	U		0.00634	0.0265	1	09/15/2018 16:57	WG1166573
Bromomethane	U		0.00392	0.0132	1	09/15/2018 16:57	WG1166573
n-Butylbenzene	U		0.00407	0.0132	1	09/15/2018 16:57	WG1166573
sec-Butylbenzene	U		0.00268	0.0132	1	09/15/2018 16:57	WG1166573
tert-Butylbenzene	U		0.00164	0.00530	1	09/15/2018 16:57	WG1166573
Carbon tetrachloride	U		0.00114	0.00530	1	09/15/2018 16:57	WG1166573
Chlorobenzene	U		0.000607	0.00265	1	09/15/2018 16:57	WG1166573
Chlorodibromomethane	U		0.000477	0.00265	1	09/15/2018 16:57	WG1166573
Chloroethane	U		0.00114	0.00530	1	09/15/2018 16:57	WG1166573
Chloroform	U		0.000440	0.00265	1	09/15/2018 16:57	WG1166573
Chloromethane	U		0.00147	0.0132	1	09/15/2018 16:57	WG1166573
2-Chlorotoluene	U		0.000975	0.00265	1	09/15/2018 16:57	WG1166573

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.00120	0.00530	1	09/15/2018 16:57	WG1166573
1,2-Dibromo-3-Chloropropane	U		0.00540	0.0265	1	09/15/2018 16:57	WG1166573
1,2-Dibromoethane	U		0.000556	0.00265	1	09/15/2018 16:57	WG1166573
Dibromomethane	U		0.00106	0.00530	1	09/15/2018 16:57	WG1166573
1,2-Dichlorobenzene	U		0.00154	0.00530	1	09/15/2018 16:57	WG1166573
1,3-Dichlorobenzene	U		0.00180	0.00530	1	09/15/2018 16:57	WG1166573
1,4-Dichlorobenzene	U		0.00209	0.00530	1	09/15/2018 16:57	WG1166573
Dichlorodifluoromethane	U		0.000867	0.00265	1	09/15/2018 16:57	WG1166573
1,1-Dichloroethane	U		0.000609	0.00265	1	09/15/2018 16:57	WG1166573
1,2-Dichloroethane	U		0.000503	0.00265	1	09/15/2018 16:57	WG1166573
1,1-Dichloroethene	U		0.000530	0.00265	1	09/15/2018 16:57	WG1166573
cis-1,2-Dichloroethene	U		0.000731	0.00265	1	09/15/2018 16:57	WG1166573
trans-1,2-Dichloroethene	U		0.00152	0.00530	1	09/15/2018 16:57	WG1166573
1,2-Dichloropropane	U		0.00135	0.00530	1	09/15/2018 16:57	WG1166573
1,1-Dichloropropene	U		0.000742	0.00265	1	09/15/2018 16:57	WG1166573
1,3-Dichloropropane	U		0.00185	0.00530	1	09/15/2018 16:57	WG1166573
cis-1,3-Dichloropropene	U		0.000718	0.00265	1	09/15/2018 16:57	WG1166573
trans-1,3-Dichloropropene	U		0.00162	0.00530	1	09/15/2018 16:57	WG1166573
2,2-Dichloropropane	U		0.000840	0.00265	1	09/15/2018 16:57	WG1166573
Di-isopropyl ether	U		0.000371	0.00106	1	09/15/2018 16:57	WG1166573
Ethylbenzene	0.000709	J	0.000562	0.00265	1	09/15/2018 16:57	WG1166573
2-Hexanone	U		0.0106	0.0265	1	09/15/2018 16:57	WG1166573
Hexachloro-1,3-butadiene	U		0.0135	0.0265	1	09/15/2018 16:57	WG1166573
Isopropylbenzene	U		0.000914	0.00265	1	09/15/2018 16:57	WG1166573
p-Isopropyltoluene	U		0.00247	0.00530	1	09/15/2018 16:57	WG1166573
2-Butanone (MEK)	U		0.0132	0.0265	1	09/15/2018 16:57	WG1166573
Methylene Chloride	U		0.00704	0.0265	1	09/15/2018 16:57	WG1166573
4-Methyl-2-pentanone (MIBK)	U		0.0106	0.0265	1	09/15/2018 16:57	WG1166573
Methyl tert-butyl ether	0.00817		0.000313	0.00106	1	09/15/2018 16:57	WG1166573
Naphthalene	U		0.00331	0.0132	1	09/15/2018 16:57	WG1166573
n-Propylbenzene	U		0.00125	0.00530	1	09/15/2018 16:57	WG1166573
Styrene	U		0.00289	0.0132	1	09/15/2018 16:57	WG1166573
1,1,1,2-Tetrachloroethane	U		0.000530	0.00265	1	09/15/2018 16:57	WG1166573
1,1,2,2-Tetrachloroethane	U		0.000413	0.00265	1	09/15/2018 16:57	WG1166573
1,1,2-Trichlorotrifluoroethane	U		0.000715	0.00265	1	09/15/2018 16:57	WG1166573
Tetrachloroethene	U		0.000742	0.00265	1	09/15/2018 16:57	WG1166573
Toluene	0.00172	J	0.00132	0.00530	1	09/15/2018 16:57	WG1166573
1,2,3-Trichlorobenzene	U		0.000662	0.00265	1	09/15/2018 16:57	WG1166573
1,2,4-Trichlorobenzene	U		0.00511	0.0132	1	09/15/2018 16:57	WG1166573
1,1,1-Trichloroethane	U		0.000291	0.00265	1	09/15/2018 16:57	WG1166573
1,1,2-Trichloroethane	U		0.000936	0.00265	1	09/15/2018 16:57	WG1166573
Trichloroethene	U		0.000424	0.00106	1	09/15/2018 16:57	WG1166573
Tetrahydrofuran	U		0.00238	0.0132	1	09/15/2018 16:57	WG1166573
Trichlorofluoromethane	U		0.000530	0.00265	1	09/15/2018 16:57	WG1166573
1,2,3-Trichloropropane	U		0.00540	0.0132	1	09/15/2018 16:57	WG1166573
1,2,4-Trimethylbenzene	U		0.00123	0.00530	1	09/15/2018 16:57	WG1166573
1,3,5-Trimethylbenzene	U		0.00114	0.00530	1	09/15/2018 16:57	WG1166573
Vinyl chloride	U		0.000724	0.00265	1	09/15/2018 16:57	WG1166573
o-Xylene	U		0.00106	0.00265	1	09/15/2018 16:57	WG1166573
m&p-Xylene	U		0.00159	0.00424	1	09/15/2018 16:57	WG1166573
Xylenes, Total	U		0.00507	0.00689	1	09/15/2018 16:57	WG1166573
(S) Toluene-d8	*100*			*75.0-131*		*09/15/2018 16:57*	WG1166573
(S) Dibromofluoromethane	*107*			*65.0-129*		*09/15/2018 16:57*	WG1166573
(S) 4-Bromofluorobenzene	*105*			*67.0-138*		*09/15/2018 16:57*	WG1166573

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	U		157	856	202	09/14/2018 20:14	WG1165817
C22-C32 Hydrocarbons	600	J	285	856	202	09/14/2018 20:14	WG1165817
C32-C40 Hydrocarbons	1020		285	856	202	09/14/2018 20:14	WG1165817
(S) o-Terphenyl	*80.0*	J7		*18.0-148*		*09/14/2018 20:14*	WG1165817

Sample Narrative:

L1024264-03 WG1165817: Dilution due to sample viscosity

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	84.0		1	09/12/2018 12:58	WG1164903

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	U		0.0395	0.119	1	09/10/2018 21:12	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*		*09/10/2018 21:12*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0163	0.0298	1	09/15/2018 17:15	WG1166573
Acrylonitrile	U		0.00226	0.0149	1	09/15/2018 17:15	WG1166573
Benzene	U		0.000476	0.00119	1	09/15/2018 17:15	WG1166573
Bromobenzene	U		0.00125	0.0149	1	09/15/2018 17:15	WG1166573
Bromochloromethane	U	J4	0.00135	0.00595	1	09/15/2018 17:15	WG1166573
Bromodichloromethane	U		0.000938	0.00298	1	09/15/2018 17:15	WG1166573
Bromoform	U		0.00712	0.0298	1	09/15/2018 17:15	WG1166573
Bromomethane	U		0.00440	0.0149	1	09/15/2018 17:15	WG1166573
n-Butylbenzene	U		0.00457	0.0149	1	09/15/2018 17:15	WG1166573
sec-Butylbenzene	U		0.00301	0.0149	1	09/15/2018 17:15	WG1166573
tert-Butylbenzene	U		0.00184	0.00595	1	09/15/2018 17:15	WG1166573
Carbon tetrachloride	U		0.00129	0.00595	1	09/15/2018 17:15	WG1166573
Chlorobenzene	U		0.000682	0.00298	1	09/15/2018 17:15	WG1166573
Chlorodibromomethane	U		0.000536	0.00298	1	09/15/2018 17:15	WG1166573
Chloroethane	U		0.00129	0.00595	1	09/15/2018 17:15	WG1166573
Chloroform	U		0.000494	0.00298	1	09/15/2018 17:15	WG1166573
Chloromethane	U		0.00165	0.0149	1	09/15/2018 17:15	WG1166573
2-Chlorotoluene	U		0.00110	0.00298	1	09/15/2018 17:15	WG1166573
4-Chlorotoluene	U		0.00135	0.00595	1	09/15/2018 17:15	WG1166573
1,2-Dibromo-3-Chloropropane	U		0.00607	0.0298	1	09/15/2018 17:15	WG1166573
1,2-Dibromoethane	U		0.000625	0.00298	1	09/15/2018 17:15	WG1166573
Dibromomethane	U		0.00119	0.00595	1	09/15/2018 17:15	WG1166573
1,2-Dichlorobenzene	U		0.00173	0.00595	1	09/15/2018 17:15	WG1166573
1,3-Dichlorobenzene	U		0.00202	0.00595	1	09/15/2018 17:15	WG1166573
1,4-Dichlorobenzene	U		0.00234	0.00595	1	09/15/2018 17:15	WG1166573
Dichlorodifluoromethane	U		0.000974	0.00298	1	09/15/2018 17:15	WG1166573
1,1-Dichloroethane	U		0.000684	0.00298	1	09/15/2018 17:15	WG1166573
1,2-Dichloroethane	U		0.000565	0.00298	1	09/15/2018 17:15	WG1166573
1,1-Dichloroethene	U		0.000595	0.00298	1	09/15/2018 17:15	WG1166573
cis-1,2-Dichloroethene	U		0.000821	0.00298	1	09/15/2018 17:15	WG1166573
trans-1,2-Dichloroethene	U		0.00170	0.00595	1	09/15/2018 17:15	WG1166573
1,2-Dichloropropane	U		0.00151	0.00595	1	09/15/2018 17:15	WG1166573
1,1-Dichloropropene	U		0.000833	0.00298	1	09/15/2018 17:15	WG1166573
1,3-Dichloropropane	U		0.00208	0.00595	1	09/15/2018 17:15	WG1166573
cis-1,3-Dichloropropene	U		0.000807	0.00298	1	09/15/2018 17:15	WG1166573
trans-1,3-Dichloropropene	U		0.00182	0.00595	1	09/15/2018 17:15	WG1166573
2,2-Dichloropropane	U		0.000944	0.00298	1	09/15/2018 17:15	WG1166573
Di-isopropyl ether	U		0.000417	0.00119	1	09/15/2018 17:15	WG1166573
Ethylbenzene	U		0.000631	0.00298	1	09/15/2018 17:15	WG1166573
2-Hexanone	U		0.0119	0.0298	1	09/15/2018 17:15	WG1166573
Hexachloro-1,3-butadiene	U		0.0151	0.0298	1	09/15/2018 17:15	WG1166573
Isopropylbenzene	U		0.00103	0.00298	1	09/15/2018 17:15	WG1166573
p-Isopropyltoluene	U		0.00277	0.00595	1	09/15/2018 17:15	WG1166573
2-Butanone (MEK)	U		0.0149	0.0298	1	09/15/2018 17:15	WG1166573

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.00790	0.0298	1	09/15/2018 17:15	WG1166573
4-Methyl-2-pentanone (MIBK)	U		0.0119	0.0298	1	09/15/2018 17:15	WG1166573
Methyl tert-butyl ether	U		0.000351	0.00119	1	09/15/2018 17:15	WG1166573
Naphthalene	U		0.00371	0.0149	1	09/15/2018 17:15	WG1166573
n-Propylbenzene	U		0.00140	0.00595	1	09/15/2018 17:15	WG1166573
Styrene	U		0.00325	0.0149	1	09/15/2018 17:15	WG1166573
1,1,1,2-Tetrachloroethane	U		0.000595	0.00298	1	09/15/2018 17:15	WG1166573
1,1,2,2-Tetrachloroethane	U		0.000464	0.00298	1	09/15/2018 17:15	WG1166573
1,1,2-Trichlorotrifluoroethane	U		0.000803	0.00298	1	09/15/2018 17:15	WG1166573
Tetrachloroethene	U		0.000833	0.00298	1	09/15/2018 17:15	WG1166573
Toluene	U		0.00149	0.00595	1	09/15/2018 17:15	WG1166573
1,2,3-Trichlorobenzene	U		0.000744	0.00298	1	09/15/2018 17:15	WG1166573
1,2,4-Trichlorobenzene	U		0.00574	0.0149	1	09/15/2018 17:15	WG1166573
1,1,1-Trichloroethane	U		0.000327	0.00298	1	09/15/2018 17:15	WG1166573
1,1,2-Trichloroethane	U		0.00105	0.00298	1	09/15/2018 17:15	WG1166573
Trichloroethene	U		0.000476	0.00119	1	09/15/2018 17:15	WG1166573
Tetrahydrofuran	U		0.00268	0.0149	1	09/15/2018 17:15	WG1166573
Trichlorofluoromethane	U		0.000595	0.00298	1	09/15/2018 17:15	WG1166573
1,2,3-Trichloropropane	U		0.00607	0.0149	1	09/15/2018 17:15	WG1166573
1,2,4-Trimethylbenzene	U		0.00138	0.00595	1	09/15/2018 17:15	WG1166573
1,3,5-Trimethylbenzene	U		0.00129	0.00595	1	09/15/2018 17:15	WG1166573
Vinyl chloride	U		0.000813	0.00298	1	09/15/2018 17:15	WG1166573
o-Xylene	U		0.00119	0.00298	1	09/15/2018 17:15	WG1166573
m&p-Xylene	U		0.00179	0.00476	1	09/15/2018 17:15	WG1166573
Xylenes, Total	U		0.00569	0.00774	1	09/15/2018 17:15	WG1166573
(S) Toluene-d8	*98.6*			*75.0-131*		*09/15/2018 17:15*	WG1166573
(S) Dibromofluoromethane	*112*			*65.0-129*		*09/15/2018 17:15*	WG1166573
(S) 4-Bromofluorobenzene	*103*			*67.0-138*		*09/15/2018 17:15*	WG1166573

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	1.27	J	0.873	4.76	1	09/17/2018 19:57	WG1166673
C22-C32 Hydrocarbons	U		1.58	4.76	1	09/17/2018 19:57	WG1166673
C32-C40 Hydrocarbons	U		1.58	4.76	1	09/17/2018 19:57	WG1166673
(S) o-Terphenyl	*96.4*			*18.0-148*		*09/17/2018 19:57*	WG1166673

Method Blank (MB)

(MB) R3341493-1 09/12/18 12:47

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1024258-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1024258-01 09/12/18 12:47 • (DUP) R3341493-3 09/12/18 12:47

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	85.2	85.7	1	0.469		10

Laboratory Control Sample (LCS)

(LCS) R3341493-2 09/12/18 12:47

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3341496-1 09/12/18 12:58

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1024268-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1024268-05 09/12/18 12:58 • (DUP) R3341496-3 09/12/18 12:58

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	78.1	77.9	1	0.230		10

Laboratory Control Sample (LCS)

(LCS) R3341496-2 09/12/18 12:58

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3340617-1 09/10/18 12:56

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.00280	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3340617-2 09/10/18 12:59 • (LCSD) R3340617-3 09/10/18 13:02

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.273	0.261	91.1	87.1	80.0-120			4.47	20

L1023995-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1023995-01 09/10/18 13:09 • (MS) R3340617-4 09/10/18 13:12 • (MSD) R3340617-5 09/10/18 13:14

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.319	0.191	0.492	0.533	94.4	107	1	75.0-125			8.00	20

Method Blank (MB)

(MB) R3340753-1 09/11/18 01:49

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Antimony	U		0.750	2.00
Arsenic	U		0.460	2.00
Barium	U		0.170	0.500
Beryllium	U		0.0700	0.200
Cadmium	U		0.0700	0.500
Chromium	U		0.140	1.00
Cobalt	U		0.230	1.00
Copper	1.28	J	0.530	2.00
Lead	U		0.190	0.500
Molybdenum	U		0.160	0.500
Nickel	U		0.490	2.00
Selenium	U		0.620	2.00
Silver	U		0.120	1.00
Thallium	U		0.650	2.00
Vanadium	0.276	J	0.240	2.00
Zinc	U		0.590	5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3340753-2 09/11/18 01:52 • (LCSD) R3340753-3 09/11/18 01:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	100	99.5	97.1	99.5	97.1	80.0-120			2.47	20
Arsenic	100	98.7	96.1	98.7	96.1	80.0-120			2.58	20
Barium	100	101	97.7	101	97.7	80.0-120			3.03	20
Beryllium	100	98.6	95.4	98.6	95.4	80.0-120			3.30	20
Cadmium	100	99.3	96.2	99.3	96.2	80.0-120			3.21	20
Chromium	100	100	96.2	100	96.2	80.0-120			3.86	20
Cobalt	100	100	97.1	100	97.1	80.0-120			3.21	20
Copper	100	98.4	95.1	98.4	95.1	80.0-120			3.45	20
Lead	100	99.0	96.8	99.0	96.8	80.0-120			2.18	20
Molybdenum	100	107	103	107	103	80.0-120			3.75	20
Nickel	100	99.6	96.8	99.6	96.8	80.0-120			2.92	20
Selenium	100	99.5	95.5	99.5	95.5	80.0-120			4.09	20
Silver	20.0	19.6	18.8	98.2	94.2	80.0-120			4.24	20
Thallium	100	96.6	93.5	96.6	93.5	80.0-120			3.30	20
Vanadium	100	98.2	94.1	98.2	94.1	80.0-120			4.18	20
Zinc	100	102	99.1	102	99.1	80.0-120			3.25	20

L1024166-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1024166-01 09/11/18 01:57 • (MS) R3340753-6 09/11/18 02:04 • (MSD) R3340753-7 09/11/18 02:07

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	131	1.12	57.2	52.9	42.7	39.4	1	75.0-125	J6	J6	7.81	20
Arsenic	131	17.7	137	132	90.6	87.0	1	75.0-125			3.53	20
Barium	131	308	718	740	312	329	1	75.0-125	J5	J5	3.05	20
Beryllium	131	1.32	115	117	86.8	88.3	1	75.0-125			1.69	20
Cadmium	131	0.446	119	121	90.0	91.5	1	75.0-125			1.67	20
Chromium	131	30.3	145	152	87.6	92.6	1	75.0-125			4.45	20
Cobalt	131	19.9	129	142	82.9	93.0	1	75.0-125			9.77	20
Copper	131	16.3	138	145	92.9	98.3	1	75.0-125			4.96	20
Lead	131	45.0	202	187	120	108	1	75.0-125			7.60	20
Molybdenum	131	0.566	121	121	91.8	91.8	1	75.0-125			0.0289	20
Nickel	131	29.6	138	150	82.9	91.5	1	75.0-125			7.84	20
Selenium	131	0.933	116	116	87.5	87.9	1	75.0-125			0.496	20
Silver	26.3	U	23.6	23.9	89.7	91.0	1	75.0-125			1.40	20
Thallium	131	0.951	121	123	91.6	93.2	1	75.0-125			1.73	20
Vanadium	131	38.9	148	159	83.4	91.2	1	75.0-125			6.62	20
Zinc	131	171	462	353	222	139	1	75.0-125	J5	J3 J5	26.9	20

Method Blank (MB)

(MB) R3341659-3 09/10/18 12:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPHG C5 - C12	U		0.0332	0.100
(S) a,a,a-Trifluorotoluene(FID)	*105*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3341659-1 09/10/18 10:59 • (LCSD) R3341659-2 09/10/18 11:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHG C5 - C12	5.50	5.43	5.92	98.8	108	72.0-125			8.61	20
(S) a,a,a-Trifluorotoluene(FID)				*99.9*	*100*	*77.0-120*				

L1024182-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1024182-03 09/10/18 19:24 • (MS) R3341659-4 09/10/18 21:33 • (MSD) R3341659-5 09/10/18 21:55

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPHG C5 - C12	7.11	520	1060	1180	75.6	92.6	100	10.0-141			10.8	29
(S) a,a,a-Trifluorotoluene(FID)					*108*	*109*		*77.0-120*				

Method Blank (MB)

(MB) R3342277-2 09/15/18 15:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0137	0.0250
Acrylonitrile	U		0.00190	0.0125
Benzene	U		0.000400	0.00100
Bromobenzene	U		0.00105	0.0125
Bromodichloromethane	U		0.000788	0.00250
Bromochloromethane	U		0.00113	0.00500
Bromoform	U		0.00598	0.0250
Bromomethane	U		0.00370	0.0125
n-Butylbenzene	U		0.00384	0.0125
sec-Butylbenzene	U		0.00253	0.0125
tert-Butylbenzene	U		0.00155	0.00500
Carbon tetrachloride	U		0.00108	0.00500
Chlorobenzene	U		0.000573	0.00250
Chlorodibromomethane	U		0.000450	0.00250
Chloroethane	U		0.00108	0.00500
Chloroform	U		0.000415	0.00250
Chloromethane	U		0.00139	0.0125
2-Chlorotoluene	U		0.000920	0.00250
4-Chlorotoluene	U		0.00113	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00510	0.0250
1,2-Dibromoethane	U		0.000525	0.00250
Dibromomethane	U		0.00100	0.00500
1,2-Dichlorobenzene	U		0.00145	0.00500
1,3-Dichlorobenzene	U		0.00170	0.00500
1,4-Dichlorobenzene	U		0.00197	0.00500
Dichlorodifluoromethane	U		0.000818	0.00250
1,1-Dichloroethane	U		0.000575	0.00250
1,2-Dichloroethane	U		0.000475	0.00250
1,1-Dichloroethene	U		0.000500	0.00250
cis-1,2-Dichloroethene	U		0.000690	0.00250
trans-1,2-Dichloroethene	U		0.00143	0.00500
1,2-Dichloropropane	U		0.00127	0.00500
1,1-Dichloropropene	U		0.000700	0.00250
1,3-Dichloropropane	U		0.00175	0.00500
cis-1,3-Dichloropropene	U		0.000678	0.00250
trans-1,3-Dichloropropene	U		0.00153	0.00500
2,2-Dichloropropane	U		0.000793	0.00250
Di-isopropyl ether	U		0.000350	0.00100
Ethylbenzene	U		0.000530	0.00250
Hexachloro-1,3-butadiene	U		0.0127	0.0250

Method Blank (MB)

(MB) R3342277-2 09/15/18 15:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
2-Hexanone	U		0.0100	0.0250
Isopropylbenzene	U		0.000863	0.00250
p-Isopropyltoluene	U		0.00233	0.00500
2-Butanone (MEK)	U		0.0125	0.0250
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.0100	0.0250
Methyl tert-butyl ether	U		0.000295	0.00100
Naphthalene	U		0.00312	0.0125
n-Propylbenzene	U		0.00118	0.00500
Styrene	U		0.00273	0.0125
1,1,1,2-Tetrachloroethane	U		0.000500	0.00250
1,1,2,2-Tetrachloroethane	U		0.000390	0.00250
Tetrachloroethene	U		0.000700	0.00250
Tetrahydrofuran	U		0.00225	0.0125
Toluene	U		0.00125	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000675	0.00250
1,2,3-Trichlorobenzene	U		0.000625	0.00250
1,2,4-Trichlorobenzene	U		0.00482	0.0125
1,1,1-Trichloroethane	U		0.000275	0.00250
1,1,2-Trichloroethane	U		0.000883	0.00250
Trichloroethene	U		0.000400	0.00100
Trichlorofluoromethane	U		0.000500	0.00250
1,2,3-Trichloropropane	U		0.00510	0.0125
1,2,4-Trimethylbenzene	U		0.00116	0.00500
1,3,5-Trimethylbenzene	U		0.00108	0.00500
Vinyl chloride	U		0.000683	0.00250
Xylenes, Total	U		0.00478	0.00650
o-Xylene	U		0.00100	0.00250
m&p-Xylenes	U		0.00150	0.00400
(S) Toluene-d8	*98.5*			*75.0-131*
(S) Dibromofluoromethane	*112*			*65.0-129*
(S) 4-Bromofluorobenzene	*105*			*67.0-138*

Laboratory Control Sample (LCS)

(LCS) R3342277-1 09/15/18 14:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.625	1.67	266	10.0-160	J4
Acrylonitrile	0.625	0.855	137	45.0-153	
Benzene	0.125	0.136	108	70.0-123	
Bromobenzene	0.125	0.130	104	73.0-121	
Bromodichloromethane	0.125	0.136	109	73.0-121	
Bromochloromethane	0.125	0.168	134	77.0-128	J4
Bromoform	0.125	0.136	109	64.0-132	
Bromomethane	0.125	0.0958	76.7	56.0-147	
n-Butylbenzene	0.125	0.114	91.2	68.0-135	
sec-Butylbenzene	0.125	0.118	94.0	74.0-130	
tert-Butylbenzene	0.125	0.110	88.2	75.0-127	
Carbon tetrachloride	0.125	0.145	116	66.0-128	
Chlorobenzene	0.125	0.123	98.5	76.0-128	
Chlorodibromomethane	0.125	0.135	108	74.0-127	
Chloroethane	0.125	0.104	83.3	61.0-134	
Chloroform	0.125	0.142	113	72.0-123	
Chloromethane	0.125	0.117	93.3	51.0-138	
2-Chlorotoluene	0.125	0.130	104	75.0-124	
4-Chlorotoluene	0.125	0.120	96.4	75.0-124	
1,2-Dibromo-3-Chloropropane	0.125	0.138	111	59.0-130	
1,2-Dibromoethane	0.125	0.129	104	74.0-128	
Dibromomethane	0.125	0.140	112	75.0-122	
1,2-Dichlorobenzene	0.125	0.133	107	76.0-124	
1,3-Dichlorobenzene	0.125	0.127	101	76.0-125	
1,4-Dichlorobenzene	0.125	0.125	100	77.0-121	
Dichlorodifluoromethane	0.125	0.103	82.6	43.0-156	
1,1-Dichloroethane	0.125	0.147	118	70.0-127	
1,2-Dichloroethane	0.125	0.136	109	65.0-131	
1,1-Dichloroethene	0.125	0.133	106	65.0-131	
cis-1,2-Dichloroethene	0.125	0.145	116	73.0-125	
trans-1,2-Dichloroethene	0.125	0.144	115	71.0-125	
1,2-Dichloropropane	0.125	0.142	113	74.0-125	
1,1-Dichloropropene	0.125	0.133	106	73.0-125	
1,3-Dichloropropane	0.125	0.136	109	80.0-125	
cis-1,3-Dichloropropene	0.125	0.130	104	76.0-127	
trans-1,3-Dichloropropene	0.125	0.127	102	73.0-127	
2,2-Dichloropropane	0.125	0.158	126	59.0-135	
Di-isopropyl ether	0.125	0.132	106	60.0-136	
Ethylbenzene	0.125	0.122	97.9	74.0-126	
Hexachloro-1,3-butadiene	0.125	0.109	86.8	57.0-150	

Laboratory Control Sample (LCS)

(LCS) R3342277-1 09/15/18 14:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
2-Hexanone	0.625	0.656	105	54.0-147	
Isopropylbenzene	0.125	0.120	95.7	72.0-127	
p-Isopropyltoluene	0.125	0.117	93.4	72.0-133	
2-Butanone (MEK)	0.625	0.802	128	30.0-160	
Methylene Chloride	0.125	0.139	111	68.0-123	
4-Methyl-2-pentanone (MIBK)	0.625	0.609	97.5	56.0-143	
Methyl tert-butyl ether	0.125	0.147	118	66.0-132	
Naphthalene	0.125	0.121	96.9	59.0-130	
n-Propylbenzene	0.125	0.118	94.8	74.0-126	
Styrene	0.125	0.126	101	72.0-127	
1,1,1,2-Tetrachloroethane	0.125	0.123	98.4	74.0-129	
1,1,2,2-Tetrachloroethane	0.125	0.129	103	68.0-128	
Tetrachloroethene	0.125	0.115	92.0	70.0-136	
Tetrahydrofuran	0.125	0.157	125	37.0-146	
Toluene	0.125	0.118	94.7	75.0-121	
1,1,2-Trichlorotrifluoroethane	0.125	0.131	105	61.0-139	
1,2,3-Trichlorobenzene	0.125	0.111	89.1	59.0-139	
1,2,4-Trichlorobenzene	0.125	0.113	90.4	62.0-137	
1,1,1-Trichloroethane	0.125	0.131	105	69.0-126	
1,1,2-Trichloroethane	0.125	0.134	107	78.0-123	
Trichloroethene	0.125	0.136	109	76.0-126	
Trichlorofluoromethane	0.125	0.128	102	61.0-142	
1,2,3-Trichloropropane	0.125	0.138	111	67.0-129	
1,2,4-Trimethylbenzene	0.125	0.118	94.5	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.120	96.0	73.0-127	
Vinyl chloride	0.125	0.118	94.4	63.0-134	
Xylenes, Total	0.375	0.363	96.8	72.0-127	
o-Xylene	0.125	0.123	98.1	79.0-124	
m&p-Xylenes	0.250	0.240	96.2	76.0-126	
(S) Toluene-d8			*96.7*	*75.0-131*	
(S) Dibromofluoromethane			*116*	*65.0-129*	
(S) 4-Bromofluorobenzene			*101*	*67.0-138*	

L1024286-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1024286-05 09/15/18 20:37 • (MS) R3342277-3 09/15/18 22:28 • (MSD) R3342277-4 09/15/18 22:46

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.625	ND	0.651	8.86	104	1420	1	10.0-160		J3 J5	173	40
Acrylonitrile	0.625	ND	0.532	0.735	85.2	118	1	10.0-160			32.0	40
Benzene	0.125	ND	0.0806	0.0833	64.5	66.6	1	10.0-149			3.30	37
Bromobenzene	0.125	ND	0.120	0.107	96.3	85.9	1	10.0-156			11.3	38
Bromodichloromethane	0.125	ND	0.111	0.122	88.7	97.3	1	10.0-143			9.25	37
Bromochloromethane	0.125	ND	0.0952	0.108	76.2	86.5	1	10.0-155			12.7	33
Bromoform	0.125	ND	0.127	0.121	101	96.7	1	10.0-146			4.60	36
Bromomethane	0.125	ND	0.0186	0.0208	14.9	16.6	1	10.0-149			11.4	38
n-Butylbenzene	0.125	ND	0.0920	0.104	73.6	83.5	1	10.0-160			12.6	40
sec-Butylbenzene	0.125	ND	0.0927	0.0993	74.2	79.5	1	10.0-159			6.91	39
tert-Butylbenzene	0.125	ND	0.0887	0.0930	70.9	74.4	1	10.0-156			4.71	39
Carbon tetrachloride	0.125	ND	0.0877	0.0968	70.2	77.4	1	10.0-145			9.83	37
Chlorobenzene	0.125	ND	0.0874	0.0950	69.9	76.0	1	10.0-152			8.28	39
Chlorodibromomethane	0.125	ND	0.105	0.118	84.3	94.3	1	10.0-146			11.2	37
Chloroethane	0.125	ND	0.0246	0.0229	19.6	18.3	1	10.0-146			7.12	40
Chloroform	0.125	ND	0.105	0.116	84.2	93.0	1	10.0-146			9.91	37
Chloromethane	0.125	ND	0.0243	0.0303	19.5	24.3	1	10.0-159			22.0	37
2-Chlorotoluene	0.125	ND	0.110	0.106	87.7	84.5	1	10.0-159			3.76	38
4-Chlorotoluene	0.125	ND	0.0959	0.0970	76.7	77.6	1	10.0-155			1.15	39
1,2-Dibromo-3-Chloropropane	0.125	ND	0.0869	0.125	69.5	100	1	10.0-151			36.1	39
1,2-Dibromoethane	0.125	ND	0.0848	0.0929	67.8	74.3	1	10.0-148			9.17	34
Dibromomethane	0.125	ND	0.0902	0.101	72.2	80.8	1	10.0-147			11.2	35
1,2-Dichlorobenzene	0.125	ND	0.103	0.122	82.1	98.0	1	10.0-155			17.6	37
1,3-Dichlorobenzene	0.125	ND	0.0992	0.112	79.4	89.4	1	10.0-153			11.9	38
1,4-Dichlorobenzene	0.125	ND	0.0977	0.108	78.2	86.6	1	10.0-151			10.2	38
Dichlorodifluoromethane	0.125	ND	0.0310	0.0480	24.8	38.4	1	10.0-160		J3	43.2	35
1,1-Dichloroethane	0.125	ND	0.0972	0.108	77.7	86.1	1	10.0-147			10.2	37
1,2-Dichloroethane	0.125	ND	0.0941	0.0984	75.3	78.7	1	10.0-148			4.40	35
1,1-Dichloroethene	0.125	ND	0.0508	0.0371	40.7	29.7	1	10.0-155			31.2	37
cis-1,2-Dichloroethene	0.125	ND	0.0857	0.0934	68.5	74.8	1	10.0-149			8.69	37
trans-1,2-Dichloroethene	0.125	ND	0.0506	0.0560	40.4	44.8	1	10.0-150			10.3	37
1,2-Dichloropropane	0.125	ND	0.102	0.115	81.4	92.0	1	10.0-148			12.3	37
1,1-Dichloropropene	0.125	ND	0.0569	0.0573	45.5	45.9	1	10.0-153			0.786	35
1,3-Dichloropropane	0.125	ND	0.104	0.108	82.8	86.2	1	10.0-154			4.05	35
cis-1,3-Dichloropropene	0.125	ND	0.0900	0.0951	72.0	76.1	1	10.0-151			5.47	37
trans-1,3-Dichloropropene	0.125	ND	0.0913	0.0951	73.0	76.1	1	10.0-148			4.11	37
2,2-Dichloropropane	0.125	ND	0.0956	0.112	76.5	89.8	1	10.0-138			16.0	36
Di-isopropyl ether	0.125	ND	0.0990	0.116	79.2	92.9	1	10.0-147			15.9	36
Ethylbenzene	0.125	ND	0.0801	0.0848	64.1	67.8	1	10.0-160			5.73	38
Hexachloro-1,3-butadiene	0.125	ND	0.0840	0.116	67.2	92.6	1	10.0-160			31.8	40

L1024286-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1024286-05 09/15/18 20:37 • (MS) R3342277-3 09/15/18 22:28 • (MSD) R3342277-4 09/15/18 22:46

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2-Hexanone	0.625	ND	0.451	0.543	72.2	86.9	1	10.0-160			18.5	36
Isopropylbenzene	0.125	ND	0.104	0.0948	83.4	75.9	1	10.0-155			9.51	38
p-Isopropyltoluene	0.125	ND	0.0910	0.0998	72.8	79.8	1	10.0-160			9.22	40
2-Butanone (MEK)	0.625	ND	0.991	1.12	159	179	1	10.0-160		J5	12.0	40
Methylene Chloride	0.125	ND	0.0827	0.0664	57.6	44.7	1	10.0-141			21.8	37
4-Methyl-2-pentanone (MIBK)	0.625	ND	0.451	0.541	72.2	86.6	1	10.0-160			18.1	35
Methyl tert-butyl ether	0.125	ND	0.107	0.123	85.9	98.4	1	11.0-147			13.6	35
Naphthalene	0.125	ND	0.0941	0.142	75.3	114	1	10.0-160		J3	40.7	36
n-Propylbenzene	0.125	ND	0.101	0.0935	80.9	74.8	1	10.0-158			7.89	38
Styrene	0.125	ND	0.115	0.102	92.0	81.6	1	10.0-160			12.0	40
1,1,1,2-Tetrachloroethane	0.125	ND	0.0951	0.114	76.1	91.4	1	10.0-149			18.4	39
1,1,2,2-Tetrachloroethane	0.125	ND	0.121	0.118	96.8	94.5	1	10.0-160			2.37	35
Tetrachloroethene	0.125	ND	0.0574	0.0642	45.9	51.4	1	10.0-156			11.2	39
Tetrahydrofuran	0.125	ND	0.286	0.316	229	253	1	10.0-158	J5	J5	9.97	33
Toluene	0.125	ND	0.0722	0.0762	57.8	60.9	1	10.0-156			5.27	38
1,1,2-Trichlorotrifluoroethane	0.125	ND	0.0685	0.0487	54.8	39.0	1	10.0-160			33.7	36
1,2,3-Trichlorobenzene	0.125	ND	0.0890	0.133	71.2	106	1	10.0-160			39.8	40
1,2,4-Trichlorobenzene	0.125	ND	0.0883	0.128	70.6	103	1	10.0-160			36.9	40
1,1,1-Trichloroethane	0.125	ND	0.0866	0.0959	69.3	76.7	1	10.0-144			10.2	35
1,1,2-Trichloroethane	0.125	ND	0.108	0.116	86.7	93.1	1	10.0-160			7.17	35
Trichloroethene	0.125	ND	0.0723	0.0813	57.9	65.0	1	10.0-156			11.7	38
Trichlorofluoromethane	0.125	ND	0.0533	0.0446	42.6	35.7	1	10.0-160			17.8	40
1,2,3-Trichloropropane	0.125	ND	0.107	0.117	85.9	93.3	1	10.0-156			8.29	35
1,2,4-Trimethylbenzene	0.125	ND	0.0889	0.0991	71.1	79.3	1	10.0-160			10.9	36
1,3,5-Trimethylbenzene	0.125	ND	0.0998	0.0954	79.9	76.3	1	10.0-160			4.53	38
Vinyl chloride	0.125	ND	0.0235	0.0353	18.8	28.2	1	10.0-160		J3	40.1	37
Xylenes, Total	0.375	ND	0.241	0.270	64.3	71.9	1	10.0-160			11.2	38
o-Xylene	0.125	ND	0.0851	0.0976	68.1	78.1	1	10.0-156			13.7	40
m&p-Xylenes	0.250	ND	0.156	0.172	62.3	68.7	1	10.0-156			9.88	40
(S) Toluene-d8					*99.2*	*97.4*		*75.0-131*				
(S) Dibromofluoromethane					*113*	*118*		*65.0-129*				
(S) 4-Bromofluorobenzene					*122*	*99.3*		*67.0-138*				

Method Blank (MB)

(MB) R3342534-1 09/17/18 11:24

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0137	0.0250
(S) Toluene-d8	*109*			*75.0-131*
(S) Dibromofluoromethane	*104*			*65.0-129*
(S) 4-Bromofluorobenzene	*103*			*67.0-138*

Laboratory Control Sample (LCS)

(LCS) R3342534-2 09/17/18 11:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.625	0.426	68.2	10.0-160	
(S) Toluene-d8			*104*	*75.0-131*	
(S) Dibromofluoromethane			*100*	*65.0-129*	
(S) 4-Bromofluorobenzene			*104*	*67.0-138*	

Method Blank (MB)

(MB) R3342113-1 09/14/18 13:15

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C12-C22 Hydrocarbons	U		0.733	4.00
C22-C32 Hydrocarbons	U		1.33	4.00
C32-C40 Hydrocarbons	U		1.33	4.00
(S) o-Terphenyl	*79.1*			*18.0-148*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3342113-2 09/14/18 13:29 • (LCSD) R3342113-3 09/14/18 13:43

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C22-C32 Hydrocarbons	25.0	16.6	18.3	66.4	73.2	50.0-150			9.74	20
C12-C22 Hydrocarbons	25.0	15.3	16.8	61.2	67.2	50.0-150			9.35	20
(S) o-Terphenyl				*66.1*	*67.0*	*18.0-148*				

Method Blank (MB)

(MB) R3342611-1 09/17/18 19:04

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C12-C22 Hydrocarbons	U		0.733	4.00
C22-C32 Hydrocarbons	U		1.33	4.00
C32-C40 Hydrocarbons	U		1.33	4.00
(S) o-Terphenyl	*92.3*			*18.0-148*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3342611-2 09/17/18 19:17 • (LCSD) R3342611-3 09/17/18 19:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C22-C32 Hydrocarbons	25.0	18.6	22.5	74.4	90.0	50.0-150			19.0	20
C12-C22 Hydrocarbons	25.0	21.6	24.1	86.4	96.4	50.0-150			10.9	20
(S) o-Terphenyl				*76.0*	*86.9*	*18.0-148*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

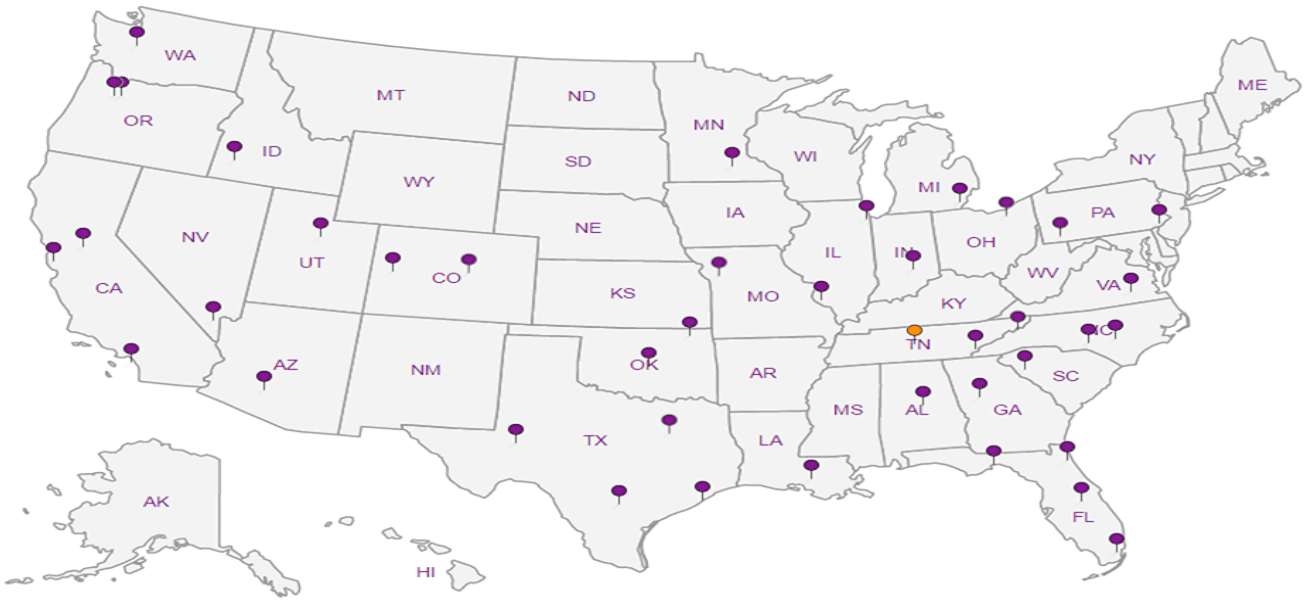
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Terracon - Sacramento, CA

50 Goldenland Ct
Suite 100
Sacramento, CA 95834

Billing Information:
Accounts Payable
50 Goldenland Ct, Ste. 100
Sacramento, CA 95834

Report to: **Scott Gable**

Email To: **scott.gable@terracon.com;** **pat.keicher@terracon.com;**

Project Description:

City/State Collected:

Phone: **916-246-5079**
Fax:

Client Project # **NB187049A**

Lab Project # **TERRSCA-NB187049A**

Collected by (print): Patrick Keicher

Site/Facility ID # **5940 SOQUEL AVE, SANTA**

P.O. #

Collected by (signature): Patrick Keicher

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: 5 Day TAT

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CAM17 Metals 4ozClr-NoPres	DRO/ORO DROCAER 4ozClr-NoPres	GRO-CA 40ml/NaHSO4/Syr/MeOH	OCPs SV8081CA 4ozClr-NoPres	VOCs V8260 2ozClr-NoPres	VOCs V8260 40ml/NaHSO4/Syr/MeOH	Remarks	Sample # (lab only)
B1-0.5	G	SS	0.5	9/6/18	14:00	6	/	/	/		/	/		01
B1-15	G	SS	15	9/6/18	13:05	5		/	/		/	/		02
B1-27	G	SS	27	9/6/18	13:30	1							hold	
B1-45	G	SS	45	9/6/18	13:45	1							hold	
B2-0.5	G	SS	0.5	9/6/18	14:30	6	/	/	/		/	/		03
B2-7	G	SS	7	9/6/18	15:00	5	/	/	/		/	/	no CAM17	04
B2-23	G	SS	23	9/6/18	15:15	1							hold	
B2-35	G	SS	35	9/6/18	15:30	1							hold	
		SS												
		SS												

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1024264
G243

Acctnum: **TERRSCA**
Template: **T139970**
Prelogin: **P668684**
TSR: **110 - Brian Ford**
PB:
Shipped Via:

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier __ _____

Tracking # 4510 1650 3997

Sample Receipt Checklist
COC Seal Present/Intact: ✓NP __Y __N
COC Signed/Accurate: ✓ __Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Patrick Keicher	9/7/18	11:45			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.2 °C Bottles Received: 26	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Kathryn Cirone	Date: 9/8/18 Time: 0845	Hold: Condition: NCF / OK

Pace Analytical® National Center for Testing & Innovation	Document Name: **CA Regulated Soil Notification**	Document Revised: 19July2018 Page 1 of 1
	Document No.: **F-DAV-C-044-Rev.04**	Issuing Authority: Pace National – Davis Quality Office

USDA / APHIS regulates material with organic matter, including soil, from specific counties that have invasive species, pests, or plant diseases present in the county. In order to process your project, we need to determine if special handling applies to your project.

Any soils received without this completed form cannot be received or processed until the site address is confirmed. For all Terracon NB1870494 Samples

Receipt of Soils from California:

Are samples soil or other regulated material?

☑ Yes ☐ No If no, matrix description: _____

County:

☐ Alameda ☐ Contra Costa ☐ Humboldt ☐ Lake ☐ Los Angeles ☐ Marin
☐ Mendocino ☐ Monterey ☐ Napa ☐ Orange ☐ Riverside ☐ San Diego
☐ San Francisco ☐ San Mateo ☐ Santa Clara ☑ Santa Cruz ☐ Solano
☐ Sonoma ☐ Trinity

☐ Other (specify): _____

(If soils are from one of the 19 counties specified above, the site address is required.)

Site Address: 5940 Soquel Avenue, Santa Cruz CA

To be completed by Pace National – Davis: Lab # (or Client): _____

(Permit # P330-18-00230 / Compliance Agreement #PS25-180629-001 CAF)

Are Samples Regulated? ☐ No ☐ Yes (If yes, complete form)

Regulated for? ☐ Phytophthora Ramorum ☐ Fire Ants ☐ Fruit Flies

Amount of soil received: ~_____ grams

Received on: _____

Will any analysis be done at another lab? ☐ Yes ☐ No

If yes, complete the following for each lab that will receive the regulated samples:

Receiving Lab	Amount shipped	**Receiving lab notified soils are regulated? Shipment sent with receiving lab's Soil Permit / Compliance Agreement?**
		☐ Yes _____ (initial / date)
		☐ Yes _____ (initial / date)
		☐ Yes _____ (initial / date)
		☐ Yes _____ (initial / date)

Initial / date after a copy of form has been sent to Anthony Jackson, USDA APHIS PPQ _____

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 18, 2018

Terracon - Sacramento, CA

Sample Delivery Group:	L1024028
Samples Received:	09/07/2018
Project Number:	NB187049A
Description:	
Site:	5940 SOQUEL AVE, SANTA CRUZ,CA
Report To:	Scott Gable 50 Goldenland Ct Suite 100 Sacramento, CA 95834

Entire Report Reviewed By: Brian Ford

Brian Ford
Project Manager

SV9-5 L1024028-01 Solid

Collected by: Patrick Keicher | Collected date/time: 09/05/18 10:15 | Received date/time: 09/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164532	1	09/12/18 09:40	09/12/18 09:45	JD
Mercury by Method 7471A	WG1163524	1	09/09/18 12:01	09/10/18 11:52	TCT
Metals (ICP) by Method 6010B	WG1163621	1	09/10/18 13:01	09/11/18 14:48	ST
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/05/18 10:15	09/10/18 14:22	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1164598	1	09/05/18 10:15	09/12/18 00:59	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1164441	1	09/12/18 10:44	09/13/18 19:15	AAT

SV10-5 L1024028-02 Solid

Collected by: Patrick Keicher | Collected date/time: 09/05/18 10:55 | Received date/time: 09/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164532	1	09/12/18 09:40	09/12/18 09:45	JD
Mercury by Method 7471A	WG1163524	1	09/09/18 12:01	09/10/18 11:55	TCT
Metals (ICP) by Method 6010B	WG1163621	1	09/10/18 13:01	09/11/18 14:51	ST
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/05/18 10:55	09/10/18 14:44	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1164598	1	09/05/18 10:55	09/12/18 01:20	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1164441	1	09/12/18 10:44	09/13/18 18:33	AAT

SV7-5 L1024028-03 Solid

Collected by: Patrick Keicher | Collected date/time: 09/05/18 11:30 | Received date/time: 09/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164532	1	09/12/18 09:40	09/12/18 09:45	JD
Mercury by Method 7471A	WG1163524	1	09/09/18 12:01	09/10/18 12:54	TCT
Metals (ICP) by Method 6010B	WG1163621	1	09/10/18 13:01	09/11/18 14:58	ST
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/05/18 11:30	09/10/18 15:05	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1164598	1	09/05/18 11:30	09/12/18 01:40	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1164441	1	09/12/18 10:44	09/13/18 20:23	AAT

SV8-5 L1024028-04 Solid

Collected by: Patrick Keicher | Collected date/time: 09/05/18 12:30 | Received date/time: 09/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164532	1	09/12/18 09:40	09/12/18 09:45	JD
Mercury by Method 7471A	WG1163524	1	09/09/18 12:01	09/10/18 12:08	TCT
Metals (ICP) by Method 6010B	WG1163621	1	09/10/18 13:01	09/11/18 15:01	ST
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/05/18 12:30	09/10/18 15:27	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1164598	1	09/05/18 12:30	09/12/18 02:00	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1164441	1	09/12/18 10:44	09/13/18 18:47	AAT

B4-0.5 L1024028-05 Solid

Collected by: Patrick Keicher | Collected date/time: 09/05/18 13:15 | Received date/time: 09/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164532	1	09/12/18 09:40	09/12/18 09:45	JD
Mercury by Method 7471A	WG1163524	1	09/09/18 12:01	09/10/18 12:10	TCT
Metals (ICP) by Method 6010B	WG1163621	1	09/10/18 13:01	09/11/18 14:05	ST
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/05/18 13:15	09/10/18 15:49	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1164598	1	09/05/18 13:15	09/12/18 02:21	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1164441	20	09/12/18 10:44	09/13/18 20:51	AAT

B4-6 L1024028-06 Solid

Collected by: Patrick Keicher | Collected date/time: 09/05/18 13:45 | Received date/time: 09/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164532	1	09/12/18 09:40	09/12/18 09:45	JD
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/05/18 13:45	09/10/18 16:10	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1164598	1	09/05/18 13:45	09/12/18 02:41	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1164441	1	09/12/18 10:44	09/13/18 16:39	AAT

SB11-5 L1024028-07 Solid

Collected by: Patrick Keicher | Collected date/time: 09/05/18 15:00 | Received date/time: 09/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164532	1	09/12/18 09:40	09/12/18 09:45	JD
Mercury by Method 7471A	WG1163524	1	09/09/18 12:01	09/10/18 12:13	TCT
Metals (ICP) by Method 6010B	WG1163621	1	09/10/18 13:01	09/11/18 15:04	ST
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/05/18 15:00	09/10/18 16:31	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1164598	1	09/05/18 15:00	09/12/18 03:02	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1164441	1	09/12/18 10:44	09/13/18 15:41	AAT

B6-0.5 L1024028-08 Solid

Collected by: Patrick Keicher | Collected date/time: 09/05/18 15:15 | Received date/time: 09/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164532	1	09/12/18 09:40	09/12/18 09:45	JD
Mercury by Method 7471A	WG1163524	1	09/09/18 12:01	09/10/18 12:15	TCT
Metals (ICP) by Method 6010B	WG1163621	1	09/10/18 13:01	09/11/18 15:06	ST
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/05/18 15:15	09/10/18 16:53	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1164598	1.03	09/05/18 15:15	09/12/18 03:22	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1164441	100	09/12/18 10:44	09/13/18 21:04	AAT

B3-0.5 L1024028-09 Solid

Collected by: Patrick Keicher | Collected date/time: 09/06/18 10:00 | Received date/time: 09/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164532	1	09/12/18 09:40	09/12/18 09:45	JD
Mercury by Method 7471A	WG1163524	1	09/09/18 12:01	09/10/18 12:18	TCT
Metals (ICP) by Method 6010B	WG1163621	1	09/10/18 13:01	09/11/18 15:09	ST
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/06/18 10:00	09/10/18 17:14	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1164598	1	09/06/18 10:00	09/12/18 03:42	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1164441	10	09/12/18 10:44	09/13/18 20:37	AAT

B3-8 L1024028-10 Solid

Collected by: Patrick Keicher | Collected date/time: 09/06/18 10:20 | Received date/time: 09/10/18 09:22

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164891	1	09/14/18 11:26	09/14/18 11:36	KDW
Volatile Organic Compounds (GC) by Method 8015	WG1163853	1	09/06/18 10:20	09/11/18 13:03	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1165209	1	09/06/18 10:20	09/13/18 22:27	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1164441	1	09/12/18 10:44	09/13/18 16:53	AAT

SB12-5 L1024028-11 Solid

Collected by: Patrick Keicher
Collected date/time: 09/06/18 08:15
Received date/time: 09/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164532	1	09/12/18 09:40	09/12/18 09:45	JD
Mercury by Method 7471A	WG1163524	1	09/09/18 12:01	09/10/18 12:20	TCT
Metals (ICP) by Method 6010B	WG1163621	1	09/10/18 13:01	09/11/18 15:11	ST
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/06/18 08:15	09/10/18 17:36	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1164598	1	09/06/18 08:15	09/12/18 04:03	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1164441	1	09/12/18 10:44	09/13/18 19:42	AAT

SB5-0.5 L1024028-12 Solid

Collected by: Patrick Keicher
Collected date/time: 09/06/18 09:45
Received date/time: 09/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164534	1	09/12/18 09:31	09/12/18 09:37	JD
Mercury by Method 7471A	WG1163524	1	09/09/18 12:01	09/10/18 12:23	TCT
Metals (ICP) by Method 6010B	WG1163621	1	09/10/18 13:01	09/11/18 15:14	ST
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/06/18 09:45	09/10/18 17:57	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1164598	1	09/06/18 09:45	09/12/18 04:23	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1166673	10	09/17/18 10:40	09/17/18 21:45	MTJ

SB5-7 L1024028-13 Solid

Collected by: Patrick Keicher
Collected date/time: 09/06/18 09:00
Received date/time: 09/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1164534	1	09/12/18 09:31	09/12/18 09:37	JD
Volatile Organic Compounds (GC) by Method 8015	WG1163845	1	09/06/18 09:00	09/10/18 18:19	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1164598	1	09/06/18 09:00	09/12/18 04:43	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1166673	1	09/17/18 10:40	09/17/18 19:43	MTJ

SV10-1 L1024028-14 Solid

Collected by: Patrick Keicher
Collected date/time: 09/05/18 10:50
Received date/time: 09/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1165356	1	09/13/18 05:30	09/13/18 05:39	JD
Pesticides (GC) by Method 8081	WG1164473	1	09/12/18 15:26	09/13/18 01:04	VKS

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	87.3		1	09/12/2018 09:45	WG1164532

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0245		0.00321	0.0229	1	09/10/2018 11:52	WG1163524

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U		0.859	2.29	1	09/11/2018 14:48	WG1163621
Arsenic	6.05		0.527	2.29	1	09/11/2018 14:48	WG1163621
Barium	195		0.195	0.572	1	09/11/2018 14:48	WG1163621
Beryllium	U		0.0801	0.229	1	09/11/2018 14:48	WG1163621
Cadmium	U		0.0801	0.572	1	09/11/2018 14:48	WG1163621
Chromium	42.7		0.160	1.14	1	09/11/2018 14:48	WG1163621
Cobalt	15.2		0.263	1.14	1	09/11/2018 14:48	WG1163621
Copper	17.3		0.607	2.29	1	09/11/2018 14:48	WG1163621
Lead	5.34		0.218	0.572	1	09/11/2018 14:48	WG1163621
Molybdenum	0.394	J	0.183	0.572	1	09/11/2018 14:48	WG1163621
Nickel	32.0		0.561	2.29	1	09/11/2018 14:48	WG1163621
Selenium	U		0.710	2.29	1	09/11/2018 14:48	WG1163621
Silver	U		0.137	1.14	1	09/11/2018 14:48	WG1163621
Thallium	U		0.744	2.29	1	09/11/2018 14:48	WG1163621
Vanadium	68.3		0.275	2.29	1	09/11/2018 14:48	WG1163621
Zinc	50.0		0.675	5.72	1	09/11/2018 14:48	WG1163621

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	0.0473	J	0.0380	0.114	1	09/10/2018 14:22	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*106*			*77.0-120*		*09/10/2018 14:22*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0157	0.0286	1	09/12/2018 00:59	WG1164598
Acrylonitrile	U		0.00218	0.0143	1	09/12/2018 00:59	WG1164598
Benzene	U		0.000458	0.00114	1	09/12/2018 00:59	WG1164598
Bromobenzene	U		0.00120	0.0143	1	09/12/2018 00:59	WG1164598
Bromochloromethane	U		0.00129	0.00572	1	09/12/2018 00:59	WG1164598
Bromodichloromethane	U	J4	0.000902	0.00286	1	09/12/2018 00:59	WG1164598
Bromoform	U		0.00685	0.0286	1	09/12/2018 00:59	WG1164598
Bromomethane	U		0.00424	0.0143	1	09/12/2018 00:59	WG1164598
n-Butylbenzene	U		0.00440	0.0143	1	09/12/2018 00:59	WG1164598
sec-Butylbenzene	U		0.00290	0.0143	1	09/12/2018 00:59	WG1164598
tert-Butylbenzene	U		0.00177	0.00572	1	09/12/2018 00:59	WG1164598
Carbon tetrachloride	U		0.00124	0.00572	1	09/12/2018 00:59	WG1164598
Chlorobenzene	U		0.000656	0.00286	1	09/12/2018 00:59	WG1164598
Chlorodibromomethane	U		0.000515	0.00286	1	09/12/2018 00:59	WG1164598
Chloroethane	U		0.00124	0.00572	1	09/12/2018 00:59	WG1164598
Chloroform	U		0.000475	0.00286	1	09/12/2018 00:59	WG1164598
Chloromethane	U	J4	0.00159	0.0143	1	09/12/2018 00:59	WG1164598
2-Chlorotoluene	U		0.00105	0.00286	1	09/12/2018 00:59	WG1164598

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.00129	0.00572	1	09/12/2018 00:59	WG1164598
1,2-Dibromo-3-Chloropropane	U		0.00584	0.0286	1	09/12/2018 00:59	WG1164598
1,2-Dibromoethane	U		0.000601	0.00286	1	09/12/2018 00:59	WG1164598
Dibromomethane	U		0.00114	0.00572	1	09/12/2018 00:59	WG1164598
1,2-Dichlorobenzene	U		0.00166	0.00572	1	09/12/2018 00:59	WG1164598
1,3-Dichlorobenzene	U		0.00195	0.00572	1	09/12/2018 00:59	WG1164598
1,4-Dichlorobenzene	U		0.00226	0.00572	1	09/12/2018 00:59	WG1164598
Dichlorodifluoromethane	U		0.000936	0.00286	1	09/12/2018 00:59	WG1164598
1,1-Dichloroethane	U		0.000658	0.00286	1	09/12/2018 00:59	WG1164598
1,2-Dichloroethane	U		0.000544	0.00286	1	09/12/2018 00:59	WG1164598
1,1-Dichloroethene	U		0.000572	0.00286	1	09/12/2018 00:59	WG1164598
cis-1,2-Dichloroethene	U		0.000790	0.00286	1	09/12/2018 00:59	WG1164598
trans-1,2-Dichloroethene	U		0.00164	0.00572	1	09/12/2018 00:59	WG1164598
1,2-Dichloropropane	U	J4	0.00145	0.00572	1	09/12/2018 00:59	WG1164598
1,1-Dichloropropene	U		0.000801	0.00286	1	09/12/2018 00:59	WG1164598
1,3-Dichloropropane	U		0.00200	0.00572	1	09/12/2018 00:59	WG1164598
cis-1,3-Dichloropropene	U		0.000776	0.00286	1	09/12/2018 00:59	WG1164598
trans-1,3-Dichloropropene	U		0.00175	0.00572	1	09/12/2018 00:59	WG1164598
2,2-Dichloropropane	U	J4	0.000908	0.00286	1	09/12/2018 00:59	WG1164598
Di-isopropyl ether	U		0.000401	0.00114	1	09/12/2018 00:59	WG1164598
Ethylbenzene	U		0.000607	0.00286	1	09/12/2018 00:59	WG1164598
2-Hexanone	U		0.0114	0.0286	1	09/12/2018 00:59	WG1164598
Hexachloro-1,3-butadiene	U		0.0145	0.0286	1	09/12/2018 00:59	WG1164598
Isopropylbenzene	U		0.000988	0.00286	1	09/12/2018 00:59	WG1164598
p-Isopropyltoluene	U		0.00267	0.00572	1	09/12/2018 00:59	WG1164598
2-Butanone (MEK)	U		0.0143	0.0286	1	09/12/2018 00:59	WG1164598
Methylene Chloride	U		0.00760	0.0286	1	09/12/2018 00:59	WG1164598
4-Methyl-2-pentanone (MIBK)	U		0.0114	0.0286	1	09/12/2018 00:59	WG1164598
Methyl tert-butyl ether	0.0106		0.000338	0.00114	1	09/12/2018 00:59	WG1164598
Naphthalene	U		0.00357	0.0143	1	09/12/2018 00:59	WG1164598
n-Propylbenzene	U		0.00135	0.00572	1	09/12/2018 00:59	WG1164598
Styrene	U		0.00313	0.0143	1	09/12/2018 00:59	WG1164598
1,1,1,2-Tetrachloroethane	U		0.000572	0.00286	1	09/12/2018 00:59	WG1164598
1,1,2,2-Tetrachloroethane	U		0.000446	0.00286	1	09/12/2018 00:59	WG1164598
1,1,2-Trichlorotrifluoroethane	U		0.000773	0.00286	1	09/12/2018 00:59	WG1164598
Tetrachloroethene	U		0.000801	0.00286	1	09/12/2018 00:59	WG1164598
Toluene	U		0.00143	0.00572	1	09/12/2018 00:59	WG1164598
1,2,3-Trichlorobenzene	U		0.000716	0.00286	1	09/12/2018 00:59	WG1164598
1,2,4-Trichlorobenzene	U		0.00552	0.0143	1	09/12/2018 00:59	WG1164598
1,1,1-Trichloroethane	U		0.000315	0.00286	1	09/12/2018 00:59	WG1164598
1,1,2-Trichloroethane	U		0.00101	0.00286	1	09/12/2018 00:59	WG1164598
Trichloroethene	U		0.000458	0.00114	1	09/12/2018 00:59	WG1164598
Tetrahydrofuran	U		0.00258	0.0143	1	09/12/2018 00:59	WG1164598
Trichlorofluoromethane	U		0.000572	0.00286	1	09/12/2018 00:59	WG1164598
1,2,3-Trichloropropane	U		0.00584	0.0143	1	09/12/2018 00:59	WG1164598
1,2,4-Trimethylbenzene	U		0.00133	0.00572	1	09/12/2018 00:59	WG1164598
1,3,5-Trimethylbenzene	U		0.00124	0.00572	1	09/12/2018 00:59	WG1164598
Vinyl chloride	U		0.000782	0.00286	1	09/12/2018 00:59	WG1164598
o-Xylene	U		0.00114	0.00286	1	09/12/2018 00:59	WG1164598
m&p-Xylene	U		0.00172	0.00458	1	09/12/2018 00:59	WG1164598
Xylenes, Total	U		0.00547	0.00744	1	09/12/2018 00:59	WG1164598
(S) Toluene-d8	*119*			*75.0-131*		*09/12/2018 00:59*	WG1164598
(S) Dibromofluoromethane	*97.0*			*65.0-129*		*09/12/2018 00:59*	WG1164598
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*09/12/2018 00:59*	WG1164598

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	5.87	J3	0.839	4.58	1	09/13/2018 19:15	WG1164441
C22-C32 Hydrocarbons	14.8		1.52	4.58	1	09/13/2018 19:15	WG1164441
C32-C40 Hydrocarbons	18.7		1.52	4.58	1	09/13/2018 19:15	WG1164441
(S) o-Terphenyl	*37.5*			*18.0-148*		*09/13/2018 19:15*	WG1164441

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	82.7		1	09/12/2018 09:45	WG1164532

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0218	J	0.00339	0.0242	1	09/10/2018 11:55	WG1163524

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	1.03	J	0.907	2.42	1	09/11/2018 14:51	WG1163621
Arsenic	2.91		0.557	2.42	1	09/11/2018 14:51	WG1163621
Barium	253		0.206	0.605	1	09/11/2018 14:51	WG1163621
Beryllium	U		0.0847	0.242	1	09/11/2018 14:51	WG1163621
Cadmium	U		0.0847	0.605	1	09/11/2018 14:51	WG1163621
Chromium	52.4		0.169	1.21	1	09/11/2018 14:51	WG1163621
Cobalt	8.43		0.278	1.21	1	09/11/2018 14:51	WG1163621
Copper	14.1		0.641	2.42	1	09/11/2018 14:51	WG1163621
Lead	3.64		0.230	0.605	1	09/11/2018 14:51	WG1163621
Molybdenum	U		0.194	0.605	1	09/11/2018 14:51	WG1163621
Nickel	22.7		0.593	2.42	1	09/11/2018 14:51	WG1163621
Selenium	U		0.750	2.42	1	09/11/2018 14:51	WG1163621
Silver	U		0.145	1.21	1	09/11/2018 14:51	WG1163621
Thallium	U		0.786	2.42	1	09/11/2018 14:51	WG1163621
Vanadium	58.4		0.290	2.42	1	09/11/2018 14:51	WG1163621
Zinc	42.6		0.714	6.05	1	09/11/2018 14:51	WG1163621

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	U		0.0402	0.121	1	09/10/2018 14:44	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*105*			*77.0-120*		*09/10/2018 14:44*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0166	0.0302	1	09/12/2018 01:20	WG1164598
Acrylonitrile	U		0.00230	0.0151	1	09/12/2018 01:20	WG1164598
Benzene	U		0.000484	0.00121	1	09/12/2018 01:20	WG1164598
Bromobenzene	U		0.00127	0.0151	1	09/12/2018 01:20	WG1164598
Bromochloromethane	U		0.00137	0.00605	1	09/12/2018 01:20	WG1164598
Bromodichloromethane	U	J4	0.000953	0.00302	1	09/12/2018 01:20	WG1164598
Bromoform	U		0.00723	0.0302	1	09/12/2018 01:20	WG1164598
Bromomethane	U		0.00448	0.0151	1	09/12/2018 01:20	WG1164598
n-Butylbenzene	U		0.00465	0.0151	1	09/12/2018 01:20	WG1164598
sec-Butylbenzene	U		0.00306	0.0151	1	09/12/2018 01:20	WG1164598
tert-Butylbenzene	U		0.00188	0.00605	1	09/12/2018 01:20	WG1164598
Carbon tetrachloride	U		0.00131	0.00605	1	09/12/2018 01:20	WG1164598
Chlorobenzene	U		0.000693	0.00302	1	09/12/2018 01:20	WG1164598
Chlorodibromomethane	U		0.000544	0.00302	1	09/12/2018 01:20	WG1164598
Chloroethane	U		0.00131	0.00605	1	09/12/2018 01:20	WG1164598
Chloroform	U		0.000502	0.00302	1	09/12/2018 01:20	WG1164598
Chloromethane	U	J4	0.00168	0.0151	1	09/12/2018 01:20	WG1164598
2-Chlorotoluene	U		0.00111	0.00302	1	09/12/2018 01:20	WG1164598

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.00137	0.00605	1	09/12/2018 01:20	WG1164598
1,2-Dibromo-3-Chloropropane	U		0.00617	0.0302	1	09/12/2018 01:20	WG1164598
1,2-Dibromoethane	U		0.000635	0.00302	1	09/12/2018 01:20	WG1164598
Dibromomethane	U		0.00121	0.00605	1	09/12/2018 01:20	WG1164598
1,2-Dichlorobenzene	U		0.00175	0.00605	1	09/12/2018 01:20	WG1164598
1,3-Dichlorobenzene	U		0.00206	0.00605	1	09/12/2018 01:20	WG1164598
1,4-Dichlorobenzene	U		0.00238	0.00605	1	09/12/2018 01:20	WG1164598
Dichlorodifluoromethane	U		0.000990	0.00302	1	09/12/2018 01:20	WG1164598
1,1-Dichloroethane	U		0.000696	0.00302	1	09/12/2018 01:20	WG1164598
1,2-Dichloroethane	U		0.000575	0.00302	1	09/12/2018 01:20	WG1164598
1,1-Dichloroethene	U		0.000605	0.00302	1	09/12/2018 01:20	WG1164598
cis-1,2-Dichloroethene	U		0.000835	0.00302	1	09/12/2018 01:20	WG1164598
trans-1,2-Dichloroethene	U		0.00173	0.00605	1	09/12/2018 01:20	WG1164598
1,2-Dichloropropane	U	J4	0.00154	0.00605	1	09/12/2018 01:20	WG1164598
1,1-Dichloropropene	U		0.000847	0.00302	1	09/12/2018 01:20	WG1164598
1,3-Dichloropropane	U		0.00212	0.00605	1	09/12/2018 01:20	WG1164598
cis-1,3-Dichloropropene	U		0.000820	0.00302	1	09/12/2018 01:20	WG1164598
trans-1,3-Dichloropropene	U		0.00185	0.00605	1	09/12/2018 01:20	WG1164598
2,2-Dichloropropane	U	J4	0.000959	0.00302	1	09/12/2018 01:20	WG1164598
Di-isopropyl ether	U		0.000423	0.00121	1	09/12/2018 01:20	WG1164598
Ethylbenzene	U		0.000641	0.00302	1	09/12/2018 01:20	WG1164598
2-Hexanone	U		0.0121	0.0302	1	09/12/2018 01:20	WG1164598
Hexachloro-1,3-butadiene	U		0.0154	0.0302	1	09/12/2018 01:20	WG1164598
Isopropylbenzene	U		0.00104	0.00302	1	09/12/2018 01:20	WG1164598
p-Isopropyltoluene	U		0.00282	0.00605	1	09/12/2018 01:20	WG1164598
2-Butanone (MEK)	U		0.0151	0.0302	1	09/12/2018 01:20	WG1164598
Methylene Chloride	U		0.00803	0.0302	1	09/12/2018 01:20	WG1164598
4-Methyl-2-pentanone (MIBK)	U		0.0121	0.0302	1	09/12/2018 01:20	WG1164598
Methyl tert-butyl ether	U		0.000357	0.00121	1	09/12/2018 01:20	WG1164598
Naphthalene	U		0.00377	0.0151	1	09/12/2018 01:20	WG1164598
n-Propylbenzene	U		0.00143	0.00605	1	09/12/2018 01:20	WG1164598
Styrene	U		0.00330	0.0151	1	09/12/2018 01:20	WG1164598
1,1,1,2-Tetrachloroethane	U		0.000605	0.00302	1	09/12/2018 01:20	WG1164598
1,1,2,2-Tetrachloroethane	U		0.000472	0.00302	1	09/12/2018 01:20	WG1164598
1,1,2-Trichlorotrifluoroethane	U		0.000817	0.00302	1	09/12/2018 01:20	WG1164598
Tetrachloroethene	U		0.000847	0.00302	1	09/12/2018 01:20	WG1164598
Toluene	U		0.00151	0.00605	1	09/12/2018 01:20	WG1164598
1,2,3-Trichlorobenzene	U		0.000756	0.00302	1	09/12/2018 01:20	WG1164598
1,2,4-Trichlorobenzene	U		0.00583	0.0151	1	09/12/2018 01:20	WG1164598
1,1,1-Trichloroethane	U		0.000333	0.00302	1	09/12/2018 01:20	WG1164598
1,1,2-Trichloroethane	U		0.00107	0.00302	1	09/12/2018 01:20	WG1164598
Trichloroethene	U		0.000484	0.00121	1	09/12/2018 01:20	WG1164598
Tetrahydrofuran	U		0.00272	0.0151	1	09/12/2018 01:20	WG1164598
Trichlorofluoromethane	U		0.000605	0.00302	1	09/12/2018 01:20	WG1164598
1,2,3-Trichloropropane	U		0.00617	0.0151	1	09/12/2018 01:20	WG1164598
1,2,4-Trimethylbenzene	U		0.00140	0.00605	1	09/12/2018 01:20	WG1164598
1,3,5-Trimethylbenzene	U		0.00131	0.00605	1	09/12/2018 01:20	WG1164598
Vinyl chloride	U		0.000826	0.00302	1	09/12/2018 01:20	WG1164598
o-Xylene	U		0.00121	0.00302	1	09/12/2018 01:20	WG1164598
m&p-Xylene	U		0.00181	0.00484	1	09/12/2018 01:20	WG1164598
Xylenes, Total	U		0.00578	0.00786	1	09/12/2018 01:20	WG1164598
(S) Toluene-d8	*103*			*75.0-131*		*09/12/2018 01:20*	WG1164598
(S) Dibromofluoromethane	*107*			*65.0-129*		*09/12/2018 01:20*	WG1164598
(S) 4-Bromofluorobenzene	*98.4*			*67.0-138*		*09/12/2018 01:20*	WG1164598

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	U	J3	0.887	4.84	1	09/13/2018 18:33	WG1164441
C22-C32 Hydrocarbons	U		1.61	4.84	1	09/13/2018 18:33	WG1164441
C32-C40 Hydrocarbons	U		1.61	4.84	1	09/13/2018 18:33	WG1164441
(S) o-Terphenyl	*43.7*			*18.0-148*		*09/13/2018 18:33*	WG1164441

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	87.3		1	09/12/2018 09:45	WG1164532

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0164	J	0.00321	0.0229	1	09/10/2018 12:54	WG1163524

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U		0.859	2.29	1	09/11/2018 14:58	WG1163621
Arsenic	2.91		0.527	2.29	1	09/11/2018 14:58	WG1163621
Barium	141		0.195	0.573	1	09/11/2018 14:58	WG1163621
Beryllium	0.135	J	0.0802	0.229	1	09/11/2018 14:58	WG1163621
Cadmium	U		0.0802	0.573	1	09/11/2018 14:58	WG1163621
Chromium	21.1		0.160	1.15	1	09/11/2018 14:58	WG1163621
Cobalt	5.21		0.263	1.15	1	09/11/2018 14:58	WG1163621
Copper	11.2		0.607	2.29	1	09/11/2018 14:58	WG1163621
Lead	7.37		0.218	0.573	1	09/11/2018 14:58	WG1163621
Molybdenum	0.387	J	0.183	0.573	1	09/11/2018 14:58	WG1163621
Nickel	11.1		0.561	2.29	1	09/11/2018 14:58	WG1163621
Selenium	U		0.710	2.29	1	09/11/2018 14:58	WG1163621
Silver	U		0.137	1.15	1	09/11/2018 14:58	WG1163621
Thallium	U		0.745	2.29	1	09/11/2018 14:58	WG1163621
Vanadium	33.5		0.275	2.29	1	09/11/2018 14:58	WG1163621
Zinc	31.5		0.676	5.73	1	09/11/2018 14:58	WG1163621

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	U		0.0380	0.115	1	09/10/2018 15:05	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*		*09/10/2018 15:05*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	0.0285	J	0.0157	0.0286	1	09/12/2018 01:40	WG1164598
Acrylonitrile	U		0.00218	0.0143	1	09/12/2018 01:40	WG1164598
Benzene	U		0.000458	0.00115	1	09/12/2018 01:40	WG1164598
Bromobenzene	U		0.00120	0.0143	1	09/12/2018 01:40	WG1164598
Bromochloromethane	U		0.00129	0.00573	1	09/12/2018 01:40	WG1164598
Bromodichloromethane	U	J4	0.000903	0.00286	1	09/12/2018 01:40	WG1164598
Bromoform	U		0.00685	0.0286	1	09/12/2018 01:40	WG1164598
Bromomethane	U		0.00424	0.0143	1	09/12/2018 01:40	WG1164598
n-Butylbenzene	U		0.00440	0.0143	1	09/12/2018 01:40	WG1164598
sec-Butylbenzene	U		0.00290	0.0143	1	09/12/2018 01:40	WG1164598
tert-Butylbenzene	U		0.00178	0.00573	1	09/12/2018 01:40	WG1164598
Carbon tetrachloride	U		0.00124	0.00573	1	09/12/2018 01:40	WG1164598
Chlorobenzene	U		0.000656	0.00286	1	09/12/2018 01:40	WG1164598
Chlorodibromomethane	U		0.000515	0.00286	1	09/12/2018 01:40	WG1164598
Chloroethane	U		0.00124	0.00573	1	09/12/2018 01:40	WG1164598
Chloroform	U		0.000475	0.00286	1	09/12/2018 01:40	WG1164598
Chloromethane	U	J4	0.00159	0.0143	1	09/12/2018 01:40	WG1164598
2-Chlorotoluene	U		0.00105	0.00286	1	09/12/2018 01:40	WG1164598

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.00129	0.00573	1	09/12/2018 01:40	WG1164598
1,2-Dibromo-3-Chloropropane	U		0.00584	0.0286	1	09/12/2018 01:40	WG1164598
1,2-Dibromoethane	U		0.000601	0.00286	1	09/12/2018 01:40	WG1164598
Dibromomethane	U		0.00115	0.00573	1	09/12/2018 01:40	WG1164598
1,2-Dichlorobenzene	U		0.00166	0.00573	1	09/12/2018 01:40	WG1164598
1,3-Dichlorobenzene	U		0.00195	0.00573	1	09/12/2018 01:40	WG1164598
1,4-Dichlorobenzene	U		0.00226	0.00573	1	09/12/2018 01:40	WG1164598
Dichlorodifluoromethane	U		0.000937	0.00286	1	09/12/2018 01:40	WG1164598
1,1-Dichloroethane	U		0.000659	0.00286	1	09/12/2018 01:40	WG1164598
1,2-Dichloroethane	U		0.000544	0.00286	1	09/12/2018 01:40	WG1164598
1,1-Dichloroethene	U		0.000573	0.00286	1	09/12/2018 01:40	WG1164598
cis-1,2-Dichloroethene	U		0.000790	0.00286	1	09/12/2018 01:40	WG1164598
trans-1,2-Dichloroethene	U		0.00164	0.00573	1	09/12/2018 01:40	WG1164598
1,2-Dichloropropane	U	J4	0.00145	0.00573	1	09/12/2018 01:40	WG1164598
1,1-Dichloropropene	U		0.000802	0.00286	1	09/12/2018 01:40	WG1164598
1,3-Dichloropropane	U		0.00200	0.00573	1	09/12/2018 01:40	WG1164598
cis-1,3-Dichloropropene	U		0.000777	0.00286	1	09/12/2018 01:40	WG1164598
trans-1,3-Dichloropropene	U		0.00175	0.00573	1	09/12/2018 01:40	WG1164598
2,2-Dichloropropane	U	J4	0.000908	0.00286	1	09/12/2018 01:40	WG1164598
Di-isopropyl ether	U		0.000401	0.00115	1	09/12/2018 01:40	WG1164598
Ethylbenzene	U		0.000607	0.00286	1	09/12/2018 01:40	WG1164598
2-Hexanone	U		0.0115	0.0286	1	09/12/2018 01:40	WG1164598
Hexachloro-1,3-butadiene	U		0.0145	0.0286	1	09/12/2018 01:40	WG1164598
Isopropylbenzene	U		0.000988	0.00286	1	09/12/2018 01:40	WG1164598
p-Isopropyltoluene	U		0.00267	0.00573	1	09/12/2018 01:40	WG1164598
2-Butanone (MEK)	U		0.0143	0.0286	1	09/12/2018 01:40	WG1164598
Methylene Chloride	U		0.00761	0.0286	1	09/12/2018 01:40	WG1164598
4-Methyl-2-pentanone (MIBK)	U		0.0115	0.0286	1	09/12/2018 01:40	WG1164598
Methyl tert-butyl ether	U		0.000338	0.00115	1	09/12/2018 01:40	WG1164598
Naphthalene	U		0.00357	0.0143	1	09/12/2018 01:40	WG1164598
n-Propylbenzene	U		0.00135	0.00573	1	09/12/2018 01:40	WG1164598
Styrene	U		0.00313	0.0143	1	09/12/2018 01:40	WG1164598
1,1,1,2-Tetrachloroethane	U		0.000573	0.00286	1	09/12/2018 01:40	WG1164598
1,1,2,2-Tetrachloroethane	U		0.000447	0.00286	1	09/12/2018 01:40	WG1164598
1,1,2-Trichlorotrifluoroethane	U		0.000773	0.00286	1	09/12/2018 01:40	WG1164598
Tetrachloroethene	U		0.000802	0.00286	1	09/12/2018 01:40	WG1164598
Toluene	U		0.00143	0.00573	1	09/12/2018 01:40	WG1164598
1,2,3-Trichlorobenzene	U		0.000716	0.00286	1	09/12/2018 01:40	WG1164598
1,2,4-Trichlorobenzene	U		0.00552	0.0143	1	09/12/2018 01:40	WG1164598
1,1,1-Trichloroethane	U		0.000315	0.00286	1	09/12/2018 01:40	WG1164598
1,1,2-Trichloroethane	U		0.00101	0.00286	1	09/12/2018 01:40	WG1164598
Trichloroethene	U		0.000458	0.00115	1	09/12/2018 01:40	WG1164598
Tetrahydrofuran	U		0.00258	0.0143	1	09/12/2018 01:40	WG1164598
Trichlorofluoromethane	U		0.000573	0.00286	1	09/12/2018 01:40	WG1164598
1,2,3-Trichloropropane	U		0.00584	0.0143	1	09/12/2018 01:40	WG1164598
1,2,4-Trimethylbenzene	U		0.00133	0.00573	1	09/12/2018 01:40	WG1164598
1,3,5-Trimethylbenzene	U		0.00124	0.00573	1	09/12/2018 01:40	WG1164598
Vinyl chloride	U		0.000782	0.00286	1	09/12/2018 01:40	WG1164598
o-Xylene	U		0.00115	0.00286	1	09/12/2018 01:40	WG1164598
m&p-Xylene	U		0.00172	0.00458	1	09/12/2018 01:40	WG1164598
Xylenes, Total	U		0.00548	0.00745	1	09/12/2018 01:40	WG1164598
(S) Toluene-d8	*111*			*75.0-131*		*09/12/2018 01:40*	WG1164598
(S) Dibromofluoromethane	*96.6*			*65.0-129*		*09/12/2018 01:40*	WG1164598
(S) 4-Bromofluorobenzene	*100*			*67.0-138*		*09/12/2018 01:40*	WG1164598

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	2.68	J J3	0.840	4.58	1	09/13/2018 20:23	WG1164441
C22-C32 Hydrocarbons	21.4		1.52	4.58	1	09/13/2018 20:23	WG1164441
C32-C40 Hydrocarbons	21.0		1.52	4.58	1	09/13/2018 20:23	WG1164441
(S) o-Terphenyl	*44.1*			*18.0-148*		*09/13/2018 20:23*	WG1164441

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	81.9		1	09/12/2018 09:45	WG1164532

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0331		0.00342	0.0244	1	09/10/2018 12:08	WG1163524

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U		0.916	2.44	1	09/11/2018 15:01	WG1163621
Arsenic	2.86		0.562	2.44	1	09/11/2018 15:01	WG1163621
Barium	235		0.208	0.611	1	09/11/2018 15:01	WG1163621
Beryllium	U		0.0855	0.244	1	09/11/2018 15:01	WG1163621
Cadmium	U		0.0855	0.611	1	09/11/2018 15:01	WG1163621
Chromium	59.4		0.171	1.22	1	09/11/2018 15:01	WG1163621
Cobalt	6.04		0.281	1.22	1	09/11/2018 15:01	WG1163621
Copper	15.3		0.647	2.44	1	09/11/2018 15:01	WG1163621
Lead	3.85		0.232	0.611	1	09/11/2018 15:01	WG1163621
Molybdenum	0.306	J	0.195	0.611	1	09/11/2018 15:01	WG1163621
Nickel	26.2		0.598	2.44	1	09/11/2018 15:01	WG1163621
Selenium	U		0.757	2.44	1	09/11/2018 15:01	WG1163621
Silver	U		0.147	1.22	1	09/11/2018 15:01	WG1163621
Thallium	U		0.794	2.44	1	09/11/2018 15:01	WG1163621
Vanadium	67.6		0.293	2.44	1	09/11/2018 15:01	WG1163621
Zinc	51.2		0.720	6.11	1	09/11/2018 15:01	WG1163621

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	0.0449	J	0.0405	0.122	1	09/10/2018 15:27	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*105*			*77.0-120*		*09/10/2018 15:27*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	0.0226	J	0.0167	0.0305	1	09/12/2018 02:00	WG1164598
Acrylonitrile	U		0.00232	0.0153	1	09/12/2018 02:00	WG1164598
Benzene	U		0.000488	0.00122	1	09/12/2018 02:00	WG1164598
Bromobenzene	U		0.00128	0.0153	1	09/12/2018 02:00	WG1164598
Bromochloromethane	U		0.00138	0.00611	1	09/12/2018 02:00	WG1164598
Bromodichloromethane	U	J4	0.000962	0.00305	1	09/12/2018 02:00	WG1164598
Bromoform	U		0.00730	0.0305	1	09/12/2018 02:00	WG1164598
Bromomethane	U		0.00452	0.0153	1	09/12/2018 02:00	WG1164598
n-Butylbenzene	U		0.00469	0.0153	1	09/12/2018 02:00	WG1164598
sec-Butylbenzene	U		0.00309	0.0153	1	09/12/2018 02:00	WG1164598
tert-Butylbenzene	U		0.00189	0.00611	1	09/12/2018 02:00	WG1164598
Carbon tetrachloride	U		0.00132	0.00611	1	09/12/2018 02:00	WG1164598
Chlorobenzene	U		0.000700	0.00305	1	09/12/2018 02:00	WG1164598
Chlorodibromomethane	U		0.000549	0.00305	1	09/12/2018 02:00	WG1164598
Chloroethane	U		0.00132	0.00611	1	09/12/2018 02:00	WG1164598
Chloroform	U		0.000507	0.00305	1	09/12/2018 02:00	WG1164598
Chloromethane	U	J4	0.00170	0.0153	1	09/12/2018 02:00	WG1164598
2-Chlorotoluene	U		0.00112	0.00305	1	09/12/2018 02:00	WG1164598

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.00138	0.00611	1	09/12/2018 02:00	WG1164598
1,2-Dibromo-3-Chloropropane	U		0.00623	0.0305	1	09/12/2018 02:00	WG1164598
1,2-Dibromoethane	U		0.000641	0.00305	1	09/12/2018 02:00	WG1164598
Dibromomethane	U		0.00122	0.00611	1	09/12/2018 02:00	WG1164598
1,2-Dichlorobenzene	U		0.00177	0.00611	1	09/12/2018 02:00	WG1164598
1,3-Dichlorobenzene	U		0.00208	0.00611	1	09/12/2018 02:00	WG1164598
1,4-Dichlorobenzene	U		0.00241	0.00611	1	09/12/2018 02:00	WG1164598
Dichlorodifluoromethane	U		0.000999	0.00305	1	09/12/2018 02:00	WG1164598
1,1-Dichloroethane	U		0.000702	0.00305	1	09/12/2018 02:00	WG1164598
1,2-Dichloroethane	U		0.000580	0.00305	1	09/12/2018 02:00	WG1164598
1,1-Dichloroethene	U		0.000611	0.00305	1	09/12/2018 02:00	WG1164598
cis-1,2-Dichloroethene	U		0.000843	0.00305	1	09/12/2018 02:00	WG1164598
trans-1,2-Dichloroethene	U		0.00175	0.00611	1	09/12/2018 02:00	WG1164598
1,2-Dichloropropane	U	J4	0.00155	0.00611	1	09/12/2018 02:00	WG1164598
1,1-Dichloropropene	U		0.000855	0.00305	1	09/12/2018 02:00	WG1164598
1,3-Dichloropropane	U		0.00214	0.00611	1	09/12/2018 02:00	WG1164598
cis-1,3-Dichloropropene	U		0.000828	0.00305	1	09/12/2018 02:00	WG1164598
trans-1,3-Dichloropropene	U		0.00187	0.00611	1	09/12/2018 02:00	WG1164598
2,2-Dichloropropane	U	J4	0.000968	0.00305	1	09/12/2018 02:00	WG1164598
Di-isopropyl ether	U		0.000427	0.00122	1	09/12/2018 02:00	WG1164598
Ethylbenzene	U		0.000647	0.00305	1	09/12/2018 02:00	WG1164598
2-Hexanone	U		0.0122	0.0305	1	09/12/2018 02:00	WG1164598
Hexachloro-1,3-butadiene	U		0.0155	0.0305	1	09/12/2018 02:00	WG1164598
Isopropylbenzene	U		0.00105	0.00305	1	09/12/2018 02:00	WG1164598
p-Isopropyltoluene	U		0.00285	0.00611	1	09/12/2018 02:00	WG1164598
2-Butanone (MEK)	U		0.0153	0.0305	1	09/12/2018 02:00	WG1164598
Methylene Chloride	U		0.00811	0.0305	1	09/12/2018 02:00	WG1164598
4-Methyl-2-pentanone (MIBK)	U		0.0122	0.0305	1	09/12/2018 02:00	WG1164598
Methyl tert-butyl ether	0.00940		0.000360	0.00122	1	09/12/2018 02:00	WG1164598
Naphthalene	U		0.00381	0.0153	1	09/12/2018 02:00	WG1164598
n-Propylbenzene	U		0.00144	0.00611	1	09/12/2018 02:00	WG1164598
Styrene	U		0.00333	0.0153	1	09/12/2018 02:00	WG1164598
1,1,1,2-Tetrachloroethane	U		0.000611	0.00305	1	09/12/2018 02:00	WG1164598
1,1,2,2-Tetrachloroethane	U		0.000476	0.00305	1	09/12/2018 02:00	WG1164598
1,1,2-Trichlorotrifluoroethane	U		0.000824	0.00305	1	09/12/2018 02:00	WG1164598
Tetrachloroethene	U		0.000855	0.00305	1	09/12/2018 02:00	WG1164598
Toluene	U		0.00153	0.00611	1	09/12/2018 02:00	WG1164598
1,2,3-Trichlorobenzene	U		0.000763	0.00305	1	09/12/2018 02:00	WG1164598
1,2,4-Trichlorobenzene	U		0.00589	0.0153	1	09/12/2018 02:00	WG1164598
1,1,1-Trichloroethane	U		0.000336	0.00305	1	09/12/2018 02:00	WG1164598
1,1,2-Trichloroethane	U		0.00108	0.00305	1	09/12/2018 02:00	WG1164598
Trichloroethene	U		0.000488	0.00122	1	09/12/2018 02:00	WG1164598
Tetrahydrofuran	U		0.00275	0.0153	1	09/12/2018 02:00	WG1164598
Trichlorofluoromethane	U		0.000611	0.00305	1	09/12/2018 02:00	WG1164598
1,2,3-Trichloropropane	U		0.00623	0.0153	1	09/12/2018 02:00	WG1164598
1,2,4-Trimethylbenzene	U		0.00142	0.00611	1	09/12/2018 02:00	WG1164598
1,3,5-Trimethylbenzene	U		0.00132	0.00611	1	09/12/2018 02:00	WG1164598
Vinyl chloride	U		0.000834	0.00305	1	09/12/2018 02:00	WG1164598
o-Xylene	U		0.00122	0.00305	1	09/12/2018 02:00	WG1164598
m&p-Xylene	U		0.00183	0.00488	1	09/12/2018 02:00	WG1164598
Xylenes, Total	U		0.00584	0.00794	1	09/12/2018 02:00	WG1164598
(S) Toluene-d8	*107*			*75.0-131*		*09/12/2018 02:00*	WG1164598
(S) Dibromofluoromethane	*92.6*			*65.0-129*		*09/12/2018 02:00*	WG1164598
(S) 4-Bromofluorobenzene	*106*			*67.0-138*		*09/12/2018 02:00*	WG1164598

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	U	J3	0.895	4.88	1	09/13/2018 18:47	WG1164441
C22-C32 Hydrocarbons	U		1.62	4.88	1	09/13/2018 18:47	WG1164441
C32-C40 Hydrocarbons	U		1.62	4.88	1	09/13/2018 18:47	WG1164441
(S) o-Terphenyl	*40.7*			*18.0-148*		*09/13/2018 18:47*	WG1164441

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.2		1	09/12/2018 09:45	WG1164532

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0271		0.00285	0.0204	1	09/10/2018 12:10	WG1163524

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U	J6	0.764	2.04	1	09/11/2018 14:05	WG1163621
Arsenic	3.14		0.469	2.04	1	09/11/2018 14:05	WG1163621
Barium	71.7		0.173	0.509	1	09/11/2018 14:05	WG1163621
Beryllium	U		0.0713	0.204	1	09/11/2018 14:05	WG1163621
Cadmium	0.976		0.0713	0.509	1	09/11/2018 14:05	WG1163621
Chromium	19.7		0.143	1.02	1	09/11/2018 14:05	WG1163621
Cobalt	5.83		0.234	1.02	1	09/11/2018 14:05	WG1163621
Copper	52.3		0.540	2.04	1	09/11/2018 14:05	WG1163621
Lead	36.8		0.194	0.509	1	09/11/2018 14:05	WG1163621
Molybdenum	0.641		0.163	0.509	1	09/11/2018 14:05	WG1163621
Nickel	10.4		0.499	2.04	1	09/11/2018 14:05	WG1163621
Selenium	0.920	J	0.632	2.04	1	09/11/2018 14:05	WG1163621
Silver	U		0.122	1.02	1	09/11/2018 14:05	WG1163621
Thallium	U		0.662	2.04	1	09/11/2018 14:05	WG1163621
Vanadium	38.2	O1	0.245	2.04	1	09/11/2018 14:05	WG1163621
Zinc	86.9	O1	0.601	5.09	1	09/11/2018 14:05	WG1163621

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	0.0700	J	0.0338	0.102	1	09/10/2018 15:49	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*		*09/10/2018 15:49*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	0.0199	J	0.0140	0.0255	1	09/12/2018 02:21	WG1164598
Acrylonitrile	U		0.00194	0.0127	1	09/12/2018 02:21	WG1164598
Benzene	U		0.000408	0.00102	1	09/12/2018 02:21	WG1164598
Bromobenzene	U		0.00107	0.0127	1	09/12/2018 02:21	WG1164598
Bromochloromethane	U		0.00115	0.00509	1	09/12/2018 02:21	WG1164598
Bromodichloromethane	U	J4	0.000803	0.00255	1	09/12/2018 02:21	WG1164598
Bromoform	U		0.00609	0.0255	1	09/12/2018 02:21	WG1164598
Bromomethane	U		0.00377	0.0127	1	09/12/2018 02:21	WG1164598
n-Butylbenzene	U		0.00391	0.0127	1	09/12/2018 02:21	WG1164598
sec-Butylbenzene	U		0.00258	0.0127	1	09/12/2018 02:21	WG1164598
tert-Butylbenzene	U		0.00158	0.00509	1	09/12/2018 02:21	WG1164598
Carbon tetrachloride	U		0.00110	0.00509	1	09/12/2018 02:21	WG1164598
Chlorobenzene	U		0.000584	0.00255	1	09/12/2018 02:21	WG1164598
Chlorodibromomethane	U		0.000458	0.00255	1	09/12/2018 02:21	WG1164598
Chloroethane	U		0.00110	0.00509	1	09/12/2018 02:21	WG1164598
Chloroform	U		0.000423	0.00255	1	09/12/2018 02:21	WG1164598
Chloromethane	U	J4	0.00142	0.0127	1	09/12/2018 02:21	WG1164598
2-Chlorotoluene	U		0.000937	0.00255	1	09/12/2018 02:21	WG1164598

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.00115	0.00509	1	09/12/2018 02:21	WG1164598
1,2-Dibromo-3-Chloropropane	U		0.00520	0.0255	1	09/12/2018 02:21	WG1164598
1,2-Dibromoethane	U		0.000535	0.00255	1	09/12/2018 02:21	WG1164598
Dibromomethane	U		0.00102	0.00509	1	09/12/2018 02:21	WG1164598
1,2-Dichlorobenzene	U		0.00148	0.00509	1	09/12/2018 02:21	WG1164598
1,3-Dichlorobenzene	U		0.00173	0.00509	1	09/12/2018 02:21	WG1164598
1,4-Dichlorobenzene	U		0.00201	0.00509	1	09/12/2018 02:21	WG1164598
Dichlorodifluoromethane	U		0.000833	0.00255	1	09/12/2018 02:21	WG1164598
1,1-Dichloroethane	U		0.000586	0.00255	1	09/12/2018 02:21	WG1164598
1,2-Dichloroethane	U		0.000484	0.00255	1	09/12/2018 02:21	WG1164598
1,1-Dichloroethene	U		0.000509	0.00255	1	09/12/2018 02:21	WG1164598
cis-1,2-Dichloroethene	U		0.000703	0.00255	1	09/12/2018 02:21	WG1164598
trans-1,2-Dichloroethene	U		0.00146	0.00509	1	09/12/2018 02:21	WG1164598
1,2-Dichloropropane	U	J4	0.00129	0.00509	1	09/12/2018 02:21	WG1164598
1,1-Dichloropropene	U		0.000713	0.00255	1	09/12/2018 02:21	WG1164598
1,3-Dichloropropane	U		0.00178	0.00509	1	09/12/2018 02:21	WG1164598
cis-1,3-Dichloropropene	U		0.000691	0.00255	1	09/12/2018 02:21	WG1164598
trans-1,3-Dichloropropene	U		0.00156	0.00509	1	09/12/2018 02:21	WG1164598
2,2-Dichloropropane	U	J4	0.000808	0.00255	1	09/12/2018 02:21	WG1164598
Di-isopropyl ether	U		0.000357	0.00102	1	09/12/2018 02:21	WG1164598
Ethylbenzene	U		0.000540	0.00255	1	09/12/2018 02:21	WG1164598
2-Hexanone	U		0.0102	0.0255	1	09/12/2018 02:21	WG1164598
Hexachloro-1,3-butadiene	U		0.0129	0.0255	1	09/12/2018 02:21	WG1164598
Isopropylbenzene	U		0.000879	0.00255	1	09/12/2018 02:21	WG1164598
p-Isopropyltoluene	U		0.00237	0.00509	1	09/12/2018 02:21	WG1164598
2-Butanone (MEK)	U		0.0127	0.0255	1	09/12/2018 02:21	WG1164598
Methylene Chloride	U		0.00676	0.0255	1	09/12/2018 02:21	WG1164598
4-Methyl-2-pentanone (MIBK)	U		0.0102	0.0255	1	09/12/2018 02:21	WG1164598
Methyl tert-butyl ether	U		0.000301	0.00102	1	09/12/2018 02:21	WG1164598
Naphthalene	U		0.00318	0.0127	1	09/12/2018 02:21	WG1164598
n-Propylbenzene	U		0.00120	0.00509	1	09/12/2018 02:21	WG1164598
Styrene	U		0.00278	0.0127	1	09/12/2018 02:21	WG1164598
1,1,1,2-Tetrachloroethane	U		0.000509	0.00255	1	09/12/2018 02:21	WG1164598
1,1,2,2-Tetrachloroethane	U		0.000397	0.00255	1	09/12/2018 02:21	WG1164598
1,1,2-Trichlorotrifluoroethane	U		0.000688	0.00255	1	09/12/2018 02:21	WG1164598
Tetrachloroethene	U		0.000713	0.00255	1	09/12/2018 02:21	WG1164598
Toluene	U		0.00127	0.00509	1	09/12/2018 02:21	WG1164598
1,2,3-Trichlorobenzene	U		0.000637	0.00255	1	09/12/2018 02:21	WG1164598
1,2,4-Trichlorobenzene	U		0.00491	0.0127	1	09/12/2018 02:21	WG1164598
1,1,1-Trichloroethane	U		0.000280	0.00255	1	09/12/2018 02:21	WG1164598
1,1,2-Trichloroethane	U		0.000900	0.00255	1	09/12/2018 02:21	WG1164598
Trichloroethene	U		0.000408	0.00102	1	09/12/2018 02:21	WG1164598
Tetrahydrofuran	U		0.00229	0.0127	1	09/12/2018 02:21	WG1164598
Trichlorofluoromethane	U		0.000509	0.00255	1	09/12/2018 02:21	WG1164598
1,2,3-Trichloropropane	U		0.00520	0.0127	1	09/12/2018 02:21	WG1164598
1,2,4-Trimethylbenzene	0.00570		0.00118	0.00509	1	09/12/2018 02:21	WG1164598
1,3,5-Trimethylbenzene	0.00257	J	0.00110	0.00509	1	09/12/2018 02:21	WG1164598
Vinyl chloride	U		0.000696	0.00255	1	09/12/2018 02:21	WG1164598
o-Xylene	0.00156	J	0.00102	0.00255	1	09/12/2018 02:21	WG1164598
m&p-Xylene	0.00284	J	0.00153	0.00408	1	09/12/2018 02:21	WG1164598
Xylenes, Total	U		0.00487	0.00662	1	09/12/2018 02:21	WG1164598
(S) Toluene-d8	*109*			*75.0-131*		*09/12/2018 02:21*	WG1164598
(S) Dibromofluoromethane	*95.7*			*65.0-129*		*09/12/2018 02:21*	WG1164598
(S) 4-Bromofluorobenzene	*92.3*			*67.0-138*		*09/12/2018 02:21*	WG1164598

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	39.1	J J3	15.0	81.5	20	09/13/2018 20:51	WG1164441
C22-C32 Hydrocarbons	399		27.1	81.5	20	09/13/2018 20:51	WG1164441
C32-C40 Hydrocarbons	391		27.1	81.5	20	09/13/2018 20:51	WG1164441
(S) o-Terphenyl	*86.3*	J7		*18.0-148*		*09/13/2018 20:51*	WG1164441

Sample Narrative:

L1024028-05 WG1164441: Cannot run at lower dilution due to viscosity of extract

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	83.5		1	09/12/2018 09:45	WG1164532

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	U		0.0397	0.120	1	09/10/2018 16:10	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*		*09/10/2018 16:10*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	0.0186	J	0.0164	0.0299	1	09/12/2018 02:41	WG1164598
Acrylonitrile	U		0.00227	0.0150	1	09/12/2018 02:41	WG1164598
Benzene	U		0.000479	0.00120	1	09/12/2018 02:41	WG1164598
Bromobenzene	U		0.00126	0.0150	1	09/12/2018 02:41	WG1164598
Bromochloromethane	U		0.00135	0.00598	1	09/12/2018 02:41	WG1164598
Bromodichloromethane	U	J4	0.000943	0.00299	1	09/12/2018 02:41	WG1164598
Bromoform	U		0.00716	0.0299	1	09/12/2018 02:41	WG1164598
Bromomethane	U		0.00443	0.0150	1	09/12/2018 02:41	WG1164598
n-Butylbenzene	U		0.00460	0.0150	1	09/12/2018 02:41	WG1164598
sec-Butylbenzene	U		0.00303	0.0150	1	09/12/2018 02:41	WG1164598
tert-Butylbenzene	U		0.00186	0.00598	1	09/12/2018 02:41	WG1164598
Carbon tetrachloride	U		0.00129	0.00598	1	09/12/2018 02:41	WG1164598
Chlorobenzene	U		0.000686	0.00299	1	09/12/2018 02:41	WG1164598
Chlorodibromomethane	U		0.000539	0.00299	1	09/12/2018 02:41	WG1164598
Chloroethane	U		0.00129	0.00598	1	09/12/2018 02:41	WG1164598
Chloroform	U		0.000497	0.00299	1	09/12/2018 02:41	WG1164598
Chloromethane	U	J4	0.00166	0.0150	1	09/12/2018 02:41	WG1164598
2-Chlorotoluene	U		0.00110	0.00299	1	09/12/2018 02:41	WG1164598
4-Chlorotoluene	U		0.00135	0.00598	1	09/12/2018 02:41	WG1164598
1,2-Dibromo-3-Chloropropane	U		0.00610	0.0299	1	09/12/2018 02:41	WG1164598
1,2-Dibromoethane	U		0.000628	0.00299	1	09/12/2018 02:41	WG1164598
Dibromomethane	U		0.00120	0.00598	1	09/12/2018 02:41	WG1164598
1,2-Dichlorobenzene	U		0.00174	0.00598	1	09/12/2018 02:41	WG1164598
1,3-Dichlorobenzene	U		0.00203	0.00598	1	09/12/2018 02:41	WG1164598
1,4-Dichlorobenzene	U		0.00236	0.00598	1	09/12/2018 02:41	WG1164598
Dichlorodifluoromethane	U		0.000979	0.00299	1	09/12/2018 02:41	WG1164598
1,1-Dichloroethane	U		0.000688	0.00299	1	09/12/2018 02:41	WG1164598
1,2-Dichloroethane	U		0.000569	0.00299	1	09/12/2018 02:41	WG1164598
1,1-Dichloroethene	U		0.000598	0.00299	1	09/12/2018 02:41	WG1164598
cis-1,2-Dichloroethene	U		0.000826	0.00299	1	09/12/2018 02:41	WG1164598
trans-1,2-Dichloroethene	U		0.00171	0.00598	1	09/12/2018 02:41	WG1164598
1,2-Dichloropropane	U	J4	0.00152	0.00598	1	09/12/2018 02:41	WG1164598
1,1-Dichloropropene	U		0.000838	0.00299	1	09/12/2018 02:41	WG1164598
1,3-Dichloropropane	U		0.00209	0.00598	1	09/12/2018 02:41	WG1164598
cis-1,3-Dichloropropene	U		0.000812	0.00299	1	09/12/2018 02:41	WG1164598
trans-1,3-Dichloropropene	U		0.00183	0.00598	1	09/12/2018 02:41	WG1164598
2,2-Dichloropropane	U	J4	0.000949	0.00299	1	09/12/2018 02:41	WG1164598
Di-isopropyl ether	U		0.000419	0.00120	1	09/12/2018 02:41	WG1164598
Ethylbenzene	U		0.000634	0.00299	1	09/12/2018 02:41	WG1164598
2-Hexanone	U		0.0120	0.0299	1	09/12/2018 02:41	WG1164598
Hexachloro-1,3-butadiene	U		0.0152	0.0299	1	09/12/2018 02:41	WG1164598
Isopropylbenzene	U		0.00103	0.00299	1	09/12/2018 02:41	WG1164598
p-Isopropyltoluene	U		0.00279	0.00598	1	09/12/2018 02:41	WG1164598
2-Butanone (MEK)	U		0.0150	0.0299	1	09/12/2018 02:41	WG1164598

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.00795	0.0299	1	09/12/2018 02:41	WG1164598
4-Methyl-2-pentanone (MIBK)	U		0.0120	0.0299	1	09/12/2018 02:41	WG1164598
Methyl tert-butyl ether	U		0.000353	0.00120	1	09/12/2018 02:41	WG1164598
Naphthalene	U		0.00373	0.0150	1	09/12/2018 02:41	WG1164598
n-Propylbenzene	U		0.00141	0.00598	1	09/12/2018 02:41	WG1164598
Styrene	U		0.00327	0.0150	1	09/12/2018 02:41	WG1164598
1,1,1,2-Tetrachloroethane	U		0.000598	0.00299	1	09/12/2018 02:41	WG1164598
1,1,2,2-Tetrachloroethane	U		0.000467	0.00299	1	09/12/2018 02:41	WG1164598
1,1,2-Trichlorotrifluoroethane	U		0.000808	0.00299	1	09/12/2018 02:41	WG1164598
Tetrachloroethene	U		0.000838	0.00299	1	09/12/2018 02:41	WG1164598
Toluene	U		0.00150	0.00598	1	09/12/2018 02:41	WG1164598
1,2,3-Trichlorobenzene	U		0.000748	0.00299	1	09/12/2018 02:41	WG1164598
1,2,4-Trichlorobenzene	U		0.00577	0.0150	1	09/12/2018 02:41	WG1164598
1,1,1-Trichloroethane	U		0.000329	0.00299	1	09/12/2018 02:41	WG1164598
1,1,2-Trichloroethane	U		0.00106	0.00299	1	09/12/2018 02:41	WG1164598
Trichloroethene	U		0.000479	0.00120	1	09/12/2018 02:41	WG1164598
Tetrahydrofuran	U		0.00269	0.0150	1	09/12/2018 02:41	WG1164598
Trichlorofluoromethane	U		0.000598	0.00299	1	09/12/2018 02:41	WG1164598
1,2,3-Trichloropropane	U		0.00610	0.0150	1	09/12/2018 02:41	WG1164598
1,2,4-Trimethylbenzene	U		0.00139	0.00598	1	09/12/2018 02:41	WG1164598
1,3,5-Trimethylbenzene	U		0.00129	0.00598	1	09/12/2018 02:41	WG1164598
Vinyl chloride	U		0.000817	0.00299	1	09/12/2018 02:41	WG1164598
o-Xylene	U		0.00120	0.00299	1	09/12/2018 02:41	WG1164598
m&p-Xylene	U		0.00180	0.00479	1	09/12/2018 02:41	WG1164598
Xylenes, Total	U		0.00572	0.00778	1	09/12/2018 02:41	WG1164598
(S) Toluene-d8	*110*			*75.0-131*		*09/12/2018 02:41*	WG1164598
(S) Dibromofluoromethane	*99.5*			*65.0-129*		*09/12/2018 02:41*	WG1164598
(S) 4-Bromofluorobenzene	*103*			*67.0-138*		*09/12/2018 02:41*	WG1164598

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	U	J3	0.877	4.79	1	09/13/2018 16:39	WG1164441
C22-C32 Hydrocarbons	U		1.59	4.79	1	09/13/2018 16:39	WG1164441
C32-C40 Hydrocarbons	U		1.59	4.79	1	09/13/2018 16:39	WG1164441
(S) o-Terphenyl	*33.6*			*18.0-148*		*09/13/2018 16:39*	WG1164441

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.2		1	09/12/2018 09:45	WG1164532

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.00314	0.0224	1	09/10/2018 12:13	WG1163524

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U		0.841	2.24	1	09/11/2018 15:04	WG1163621
Arsenic	U		0.516	2.24	1	09/11/2018 15:04	WG1163621
Barium	106		0.191	0.560	1	09/11/2018 15:04	WG1163621
Beryllium	U		0.0785	0.224	1	09/11/2018 15:04	WG1163621
Cadmium	U		0.0785	0.560	1	09/11/2018 15:04	WG1163621
Chromium	21.8		0.157	1.12	1	09/11/2018 15:04	WG1163621
Cobalt	1.80		0.258	1.12	1	09/11/2018 15:04	WG1163621
Copper	8.82		0.594	2.24	1	09/11/2018 15:04	WG1163621
Lead	3.41		0.213	0.560	1	09/11/2018 15:04	WG1163621
Molybdenum	U		0.179	0.560	1	09/11/2018 15:04	WG1163621
Nickel	7.54		0.549	2.24	1	09/11/2018 15:04	WG1163621
Selenium	U		0.695	2.24	1	09/11/2018 15:04	WG1163621
Silver	U		0.134	1.12	1	09/11/2018 15:04	WG1163621
Thallium	U		0.728	2.24	1	09/11/2018 15:04	WG1163621
Vanadium	28.9		0.269	2.24	1	09/11/2018 15:04	WG1163621
Zinc	17.8		0.661	5.60	1	09/11/2018 15:04	WG1163621

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	U		0.0372	0.112	1	09/10/2018 16:31	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*		*09/10/2018 16:31*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	0.0339		0.0154	0.0280	1	09/12/2018 03:02	WG1164598
Acrylonitrile	U		0.00213	0.0140	1	09/12/2018 03:02	WG1164598
Benzene	U		0.000448	0.00112	1	09/12/2018 03:02	WG1164598
Bromobenzene	U		0.00118	0.0140	1	09/12/2018 03:02	WG1164598
Bromochloromethane	U		0.00127	0.00560	1	09/12/2018 03:02	WG1164598
Bromodichloromethane	U	J4	0.000883	0.00280	1	09/12/2018 03:02	WG1164598
Bromoform	U		0.00670	0.0280	1	09/12/2018 03:02	WG1164598
Bromomethane	U		0.00415	0.0140	1	09/12/2018 03:02	WG1164598
n-Butylbenzene	U		0.00430	0.0140	1	09/12/2018 03:02	WG1164598
sec-Butylbenzene	U		0.00284	0.0140	1	09/12/2018 03:02	WG1164598
tert-Butylbenzene	U		0.00174	0.00560	1	09/12/2018 03:02	WG1164598
Carbon tetrachloride	U		0.00121	0.00560	1	09/12/2018 03:02	WG1164598
Chlorobenzene	U		0.000642	0.00280	1	09/12/2018 03:02	WG1164598
Chlorodibromomethane	U		0.000504	0.00280	1	09/12/2018 03:02	WG1164598
Chloroethane	U		0.00121	0.00560	1	09/12/2018 03:02	WG1164598
Chloroform	0.000771	J	0.000465	0.00280	1	09/12/2018 03:02	WG1164598
Chloromethane	U	J4	0.00156	0.0140	1	09/12/2018 03:02	WG1164598
2-Chlorotoluene	U		0.00103	0.00280	1	09/12/2018 03:02	WG1164598

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.00127	0.00560	1	09/12/2018 03:02	WG1164598
1,2-Dibromo-3-Chloropropane	U		0.00572	0.0280	1	09/12/2018 03:02	WG1164598
1,2-Dibromoethane	U		0.000588	0.00280	1	09/12/2018 03:02	WG1164598
Dibromomethane	U		0.00112	0.00560	1	09/12/2018 03:02	WG1164598
1,2-Dichlorobenzene	U		0.00163	0.00560	1	09/12/2018 03:02	WG1164598
1,3-Dichlorobenzene	U		0.00191	0.00560	1	09/12/2018 03:02	WG1164598
1,4-Dichlorobenzene	U		0.00221	0.00560	1	09/12/2018 03:02	WG1164598
Dichlorodifluoromethane	U		0.000917	0.00280	1	09/12/2018 03:02	WG1164598
1,1-Dichloroethane	U		0.000644	0.00280	1	09/12/2018 03:02	WG1164598
1,2-Dichloroethane	U		0.000532	0.00280	1	09/12/2018 03:02	WG1164598
1,1-Dichloroethene	U		0.000560	0.00280	1	09/12/2018 03:02	WG1164598
cis-1,2-Dichloroethene	U		0.000773	0.00280	1	09/12/2018 03:02	WG1164598
trans-1,2-Dichloroethene	U		0.00160	0.00560	1	09/12/2018 03:02	WG1164598
1,2-Dichloropropane	U	J4	0.00142	0.00560	1	09/12/2018 03:02	WG1164598
1,1-Dichloropropene	U		0.000785	0.00280	1	09/12/2018 03:02	WG1164598
1,3-Dichloropropane	U		0.00196	0.00560	1	09/12/2018 03:02	WG1164598
cis-1,3-Dichloropropene	U		0.000760	0.00280	1	09/12/2018 03:02	WG1164598
trans-1,3-Dichloropropene	U		0.00171	0.00560	1	09/12/2018 03:02	WG1164598
2,2-Dichloropropane	U	J4	0.000889	0.00280	1	09/12/2018 03:02	WG1164598
Di-isopropyl ether	U		0.000392	0.00112	1	09/12/2018 03:02	WG1164598
Ethylbenzene	U		0.000594	0.00280	1	09/12/2018 03:02	WG1164598
2-Hexanone	U		0.0112	0.0280	1	09/12/2018 03:02	WG1164598
Hexachloro-1,3-butadiene	U		0.0142	0.0280	1	09/12/2018 03:02	WG1164598
Isopropylbenzene	U		0.000967	0.00280	1	09/12/2018 03:02	WG1164598
p-Isopropyltoluene	0.00357	J	0.00261	0.00560	1	09/12/2018 03:02	WG1164598
2-Butanone (MEK)	U		0.0140	0.0280	1	09/12/2018 03:02	WG1164598
Methylene Chloride	U		0.00744	0.0280	1	09/12/2018 03:02	WG1164598
4-Methyl-2-pentanone (MIBK)	U		0.0112	0.0280	1	09/12/2018 03:02	WG1164598
Methyl tert-butyl ether	0.00678		0.000331	0.00112	1	09/12/2018 03:02	WG1164598
Naphthalene	U		0.00350	0.0140	1	09/12/2018 03:02	WG1164598
n-Propylbenzene	U		0.00132	0.00560	1	09/12/2018 03:02	WG1164598
Styrene	U		0.00306	0.0140	1	09/12/2018 03:02	WG1164598
1,1,1,2-Tetrachloroethane	U		0.000560	0.00280	1	09/12/2018 03:02	WG1164598
1,1,2,2-Tetrachloroethane	U		0.000437	0.00280	1	09/12/2018 03:02	WG1164598
1,1,2-Trichlorotrifluoroethane	U		0.000756	0.00280	1	09/12/2018 03:02	WG1164598
Tetrachloroethene	U		0.000785	0.00280	1	09/12/2018 03:02	WG1164598
Toluene	U		0.00140	0.00560	1	09/12/2018 03:02	WG1164598
1,2,3-Trichlorobenzene	U		0.000700	0.00280	1	09/12/2018 03:02	WG1164598
1,2,4-Trichlorobenzene	U		0.00540	0.0140	1	09/12/2018 03:02	WG1164598
1,1,1-Trichloroethane	U		0.000308	0.00280	1	09/12/2018 03:02	WG1164598
1,1,2-Trichloroethane	U		0.000990	0.00280	1	09/12/2018 03:02	WG1164598
Trichloroethene	U		0.000448	0.00112	1	09/12/2018 03:02	WG1164598
Tetrahydrofuran	U		0.00252	0.0140	1	09/12/2018 03:02	WG1164598
Trichlorofluoromethane	U		0.000560	0.00280	1	09/12/2018 03:02	WG1164598
1,2,3-Trichloropropane	U		0.00572	0.0140	1	09/12/2018 03:02	WG1164598
1,2,4-Trimethylbenzene	U		0.00130	0.00560	1	09/12/2018 03:02	WG1164598
1,3,5-Trimethylbenzene	U		0.00121	0.00560	1	09/12/2018 03:02	WG1164598
Vinyl chloride	U		0.000765	0.00280	1	09/12/2018 03:02	WG1164598
o-Xylene	U		0.00112	0.00280	1	09/12/2018 03:02	WG1164598
m&p-Xylene	U		0.00168	0.00448	1	09/12/2018 03:02	WG1164598
Xylenes, Total	U		0.00536	0.00728	1	09/12/2018 03:02	WG1164598
(S) Toluene-d8	*117*			*75.0-131*		*09/12/2018 03:02*	WG1164598
(S) Dibromofluoromethane	*98.5*			*65.0-129*		*09/12/2018 03:02*	WG1164598
(S) 4-Bromofluorobenzene	*94.2*			*67.0-138*		*09/12/2018 03:02*	WG1164598

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	0.873	J J6	0.821	4.48	1	09/13/2018 15:41	WG1164441
C22-C32 Hydrocarbons	5.00	J6	1.49	4.48	1	09/13/2018 15:41	WG1164441
C32-C40 Hydrocarbons	6.28		1.49	4.48	1	09/13/2018 15:41	WG1164441
(S) o-Terphenyl	*52.1*			*18.0-148*		*09/13/2018 15:41*	WG1164441

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	99.5		1	09/12/2018 09:45	WG1164532

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0412		0.00281	0.0201	1	09/10/2018 12:15	WG1163524

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U		0.753	2.01	1	09/11/2018 15:06	WG1163621
Arsenic	8.84		0.462	2.01	1	09/11/2018 15:06	WG1163621
Barium	99.6		0.171	0.502	1	09/11/2018 15:06	WG1163621
Beryllium	U		0.0703	0.201	1	09/11/2018 15:06	WG1163621
Cadmium	0.222	J	0.0703	0.502	1	09/11/2018 15:06	WG1163621
Chromium	13.4		0.141	1.00	1	09/11/2018 15:06	WG1163621
Cobalt	6.16		0.231	1.00	1	09/11/2018 15:06	WG1163621
Copper	15.8		0.532	2.01	1	09/11/2018 15:06	WG1163621
Lead	85.6		0.191	0.502	1	09/11/2018 15:06	WG1163621
Molybdenum	0.696		0.161	0.502	1	09/11/2018 15:06	WG1163621
Nickel	12.6		0.492	2.01	1	09/11/2018 15:06	WG1163621
Selenium	U		0.623	2.01	1	09/11/2018 15:06	WG1163621
Silver	U		0.121	1.00	1	09/11/2018 15:06	WG1163621
Thallium	U		0.653	2.01	1	09/11/2018 15:06	WG1163621
Vanadium	43.0		0.241	2.01	1	09/11/2018 15:06	WG1163621
Zinc	89.6		0.593	5.02	1	09/11/2018 15:06	WG1163621

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	0.119		0.0334	0.100	1	09/10/2018 16:53	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*		*09/10/2018 16:53*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0142	0.0259	1.03	09/12/2018 03:22	WG1164598
Acrylonitrile	U		0.00197	0.0129	1.03	09/12/2018 03:22	WG1164598
Benzene	U		0.000414	0.00103	1.03	09/12/2018 03:22	WG1164598
Bromobenzene	U		0.00108	0.0129	1.03	09/12/2018 03:22	WG1164598
Bromochloromethane	U		0.00117	0.00517	1.03	09/12/2018 03:22	WG1164598
Bromodichloromethane	U	J4	0.000816	0.00259	1.03	09/12/2018 03:22	WG1164598
Bromoform	U		0.00619	0.0259	1.03	09/12/2018 03:22	WG1164598
Bromomethane	U		0.00383	0.0129	1.03	09/12/2018 03:22	WG1164598
n-Butylbenzene	U		0.00398	0.0129	1.03	09/12/2018 03:22	WG1164598
sec-Butylbenzene	U		0.00261	0.0129	1.03	09/12/2018 03:22	WG1164598
tert-Butylbenzene	U		0.00161	0.00517	1.03	09/12/2018 03:22	WG1164598
Carbon tetrachloride	U		0.00112	0.00517	1.03	09/12/2018 03:22	WG1164598
Chlorobenzene	U		0.000593	0.00259	1.03	09/12/2018 03:22	WG1164598
Chlorodibromomethane	U		0.000466	0.00259	1.03	09/12/2018 03:22	WG1164598
Chloroethane	U		0.00112	0.00517	1.03	09/12/2018 03:22	WG1164598
Chloroform	U		0.000429	0.00259	1.03	09/12/2018 03:22	WG1164598
Chloromethane	U	J4	0.00144	0.0129	1.03	09/12/2018 03:22	WG1164598
2-Chlorotoluene	U		0.000952	0.00259	1.03	09/12/2018 03:22	WG1164598

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.00117	0.00517	1.03	09/12/2018 03:22	WG1164598
1,2-Dibromo-3-Chloropropane	U		0.00527	0.0259	1.03	09/12/2018 03:22	WG1164598
1,2-Dibromoethane	U		0.000543	0.00259	1.03	09/12/2018 03:22	WG1164598
Dibromomethane	U		0.00103	0.00517	1.03	09/12/2018 03:22	WG1164598
1,2-Dichlorobenzene	U		0.00150	0.00517	1.03	09/12/2018 03:22	WG1164598
1,3-Dichlorobenzene	U		0.00176	0.00517	1.03	09/12/2018 03:22	WG1164598
1,4-Dichlorobenzene	U		0.00204	0.00517	1.03	09/12/2018 03:22	WG1164598
Dichlorodifluoromethane	U		0.000846	0.00259	1.03	09/12/2018 03:22	WG1164598
1,1-Dichloroethane	U		0.000595	0.00259	1.03	09/12/2018 03:22	WG1164598
1,2-Dichloroethane	U		0.000491	0.00259	1.03	09/12/2018 03:22	WG1164598
1,1-Dichloroethene	U		0.000517	0.00259	1.03	09/12/2018 03:22	WG1164598
cis-1,2-Dichloroethene	U		0.000714	0.00259	1.03	09/12/2018 03:22	WG1164598
trans-1,2-Dichloroethene	U		0.00148	0.00517	1.03	09/12/2018 03:22	WG1164598
1,2-Dichloropropane	U	J4	0.00132	0.00517	1.03	09/12/2018 03:22	WG1164598
1,1-Dichloropropene	U		0.000724	0.00259	1.03	09/12/2018 03:22	WG1164598
1,3-Dichloropropane	U		0.00181	0.00517	1.03	09/12/2018 03:22	WG1164598
cis-1,3-Dichloropropene	U		0.000701	0.00259	1.03	09/12/2018 03:22	WG1164598
trans-1,3-Dichloropropene	U		0.00159	0.00517	1.03	09/12/2018 03:22	WG1164598
2,2-Dichloropropane	U	J4	0.000821	0.00259	1.03	09/12/2018 03:22	WG1164598
Di-isopropyl ether	U		0.000362	0.00103	1.03	09/12/2018 03:22	WG1164598
Ethylbenzene	0.00263		0.000548	0.00259	1.03	09/12/2018 03:22	WG1164598
2-Hexanone	U		0.0103	0.0259	1.03	09/12/2018 03:22	WG1164598
Hexachloro-1,3-butadiene	U		0.0132	0.0259	1.03	09/12/2018 03:22	WG1164598
Isopropylbenzene	U		0.000893	0.00259	1.03	09/12/2018 03:22	WG1164598
p-Isopropyltoluene	U		0.00241	0.00517	1.03	09/12/2018 03:22	WG1164598
2-Butanone (MEK)	U		0.0130	0.0259	1.03	09/12/2018 03:22	WG1164598
Methylene Chloride	U		0.00687	0.0259	1.03	09/12/2018 03:22	WG1164598
4-Methyl-2-pentanone (MIBK)	U		0.0103	0.0259	1.03	09/12/2018 03:22	WG1164598
Methyl tert-butyl ether	0.00977		0.000305	0.00103	1.03	09/12/2018 03:22	WG1164598
Naphthalene	U		0.00322	0.0129	1.03	09/12/2018 03:22	WG1164598
n-Propylbenzene	U		0.00123	0.00517	1.03	09/12/2018 03:22	WG1164598
Styrene	0.00362	J	0.00282	0.0129	1.03	09/12/2018 03:22	WG1164598
1,1,1,2-Tetrachloroethane	U		0.000517	0.00259	1.03	09/12/2018 03:22	WG1164598
1,1,2,2-Tetrachloroethane	U		0.000404	0.00259	1.03	09/12/2018 03:22	WG1164598
1,1,2-Trichlorotrifluoroethane	U		0.000698	0.00259	1.03	09/12/2018 03:22	WG1164598
Tetrachloroethene	U		0.000724	0.00259	1.03	09/12/2018 03:22	WG1164598
Toluene	0.00549		0.00130	0.00517	1.03	09/12/2018 03:22	WG1164598
1,2,3-Trichlorobenzene	U		0.000647	0.00259	1.03	09/12/2018 03:22	WG1164598
1,2,4-Trichlorobenzene	U		0.00498	0.0129	1.03	09/12/2018 03:22	WG1164598
1,1,1-Trichloroethane	U		0.000284	0.00259	1.03	09/12/2018 03:22	WG1164598
1,1,2-Trichloroethane	U		0.000913	0.00259	1.03	09/12/2018 03:22	WG1164598
Trichloroethene	U		0.000414	0.00103	1.03	09/12/2018 03:22	WG1164598
Tetrahydrofuran	U		0.00233	0.0129	1.03	09/12/2018 03:22	WG1164598
Trichlorofluoromethane	U		0.000517	0.00259	1.03	09/12/2018 03:22	WG1164598
1,2,3-Trichloropropane	U		0.00527	0.0129	1.03	09/12/2018 03:22	WG1164598
1,2,4-Trimethylbenzene	U		0.00120	0.00517	1.03	09/12/2018 03:22	WG1164598
1,3,5-Trimethylbenzene	U		0.00112	0.00517	1.03	09/12/2018 03:22	WG1164598
Vinyl chloride	U		0.000706	0.00259	1.03	09/12/2018 03:22	WG1164598
o-Xylene	U		0.00103	0.00259	1.03	09/12/2018 03:22	WG1164598
m&p-Xylene	U		0.00155	0.00414	1.03	09/12/2018 03:22	WG1164598
Xylenes, Total	U		0.00494	0.00673	1.03	09/12/2018 03:22	WG1164598
(S) Toluene-d8	*108*			*75.0-131*		*09/12/2018 03:22*	WG1164598
(S) Dibromofluoromethane	*92.0*			*65.0-129*		*09/12/2018 03:22*	WG1164598
(S) 4-Bromofluorobenzene	*99.7*			*67.0-138*		*09/12/2018 03:22*	WG1164598

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	U	J3	73.6	402	100	09/13/2018 21:04	WG1164441
C22-C32 Hydrocarbons	784		134	402	100	09/13/2018 21:04	WG1164441
C32-C40 Hydrocarbons	1280		134	402	100	09/13/2018 21:04	WG1164441
(S) o-Terphenyl	*80.1*	J7		*18.0-148*		*09/13/2018 21:04*	WG1164441

Sample Narrative:

L1024028-08 WG1164441: Cannot run at lower dilution due to viscosity of extract

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.1		1	09/12/2018 09:45	WG1164532

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0137	J	0.00291	0.0208	1	09/10/2018 12:18	WG1163524

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U		0.780	2.08	1	09/11/2018 15:09	WG1163621
Arsenic	13.9		0.479	2.08	1	09/11/2018 15:09	WG1163621
Barium	54.7		0.177	0.520	1	09/11/2018 15:09	WG1163621
Beryllium	U		0.0728	0.208	1	09/11/2018 15:09	WG1163621
Cadmium	U		0.0728	0.520	1	09/11/2018 15:09	WG1163621
Chromium	6.72		0.146	1.04	1	09/11/2018 15:09	WG1163621
Cobalt	3.16		0.239	1.04	1	09/11/2018 15:09	WG1163621
Copper	8.40		0.551	2.08	1	09/11/2018 15:09	WG1163621
Lead	6.55		0.198	0.520	1	09/11/2018 15:09	WG1163621
Molybdenum	0.941		0.166	0.520	1	09/11/2018 15:09	WG1163621
Nickel	3.63		0.510	2.08	1	09/11/2018 15:09	WG1163621
Selenium	U		0.645	2.08	1	09/11/2018 15:09	WG1163621
Silver	U		0.125	1.04	1	09/11/2018 15:09	WG1163621
Thallium	U		0.676	2.08	1	09/11/2018 15:09	WG1163621
Vanadium	20.1		0.250	2.08	1	09/11/2018 15:09	WG1163621
Zinc	40.8		0.614	5.20	1	09/11/2018 15:09	WG1163621

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	0.0521	J	0.0345	0.104	1	09/10/2018 17:14	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*		*09/10/2018 17:14*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	0.0184	J	0.0143	0.0260	1	09/12/2018 03:42	WG1164598
Acrylonitrile	U		0.00198	0.0130	1	09/12/2018 03:42	WG1164598
Benzene	U		0.000416	0.00104	1	09/12/2018 03:42	WG1164598
Bromobenzene	U		0.00109	0.0130	1	09/12/2018 03:42	WG1164598
Bromochloromethane	U		0.00118	0.00520	1	09/12/2018 03:42	WG1164598
Bromodichloromethane	U	J4	0.000820	0.00260	1	09/12/2018 03:42	WG1164598
Bromoform	U		0.00622	0.0260	1	09/12/2018 03:42	WG1164598
Bromomethane	U		0.00385	0.0130	1	09/12/2018 03:42	WG1164598
n-Butylbenzene	U		0.00400	0.0130	1	09/12/2018 03:42	WG1164598
sec-Butylbenzene	U		0.00263	0.0130	1	09/12/2018 03:42	WG1164598
tert-Butylbenzene	U		0.00161	0.00520	1	09/12/2018 03:42	WG1164598
Carbon tetrachloride	U		0.00112	0.00520	1	09/12/2018 03:42	WG1164598
Chlorobenzene	U		0.000596	0.00260	1	09/12/2018 03:42	WG1164598
Chlorodibromomethane	U		0.000468	0.00260	1	09/12/2018 03:42	WG1164598
Chloroethane	U		0.00112	0.00520	1	09/12/2018 03:42	WG1164598
Chloroform	U		0.000432	0.00260	1	09/12/2018 03:42	WG1164598
Chloromethane	U	J4	0.00145	0.0130	1	09/12/2018 03:42	WG1164598
2-Chlorotoluene	U		0.000957	0.00260	1	09/12/2018 03:42	WG1164598

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.00118	0.00520	1	09/12/2018 03:42	WG1164598
1,2-Dibromo-3-Chloropropane	U		0.00531	0.0260	1	09/12/2018 03:42	WG1164598
1,2-Dibromoethane	U		0.000546	0.00260	1	09/12/2018 03:42	WG1164598
Dibromomethane	U		0.00104	0.00520	1	09/12/2018 03:42	WG1164598
1,2-Dichlorobenzene	U		0.00151	0.00520	1	09/12/2018 03:42	WG1164598
1,3-Dichlorobenzene	U		0.00177	0.00520	1	09/12/2018 03:42	WG1164598
1,4-Dichlorobenzene	U		0.00205	0.00520	1	09/12/2018 03:42	WG1164598
Dichlorodifluoromethane	U		0.000851	0.00260	1	09/12/2018 03:42	WG1164598
1,1-Dichloroethane	U		0.000598	0.00260	1	09/12/2018 03:42	WG1164598
1,2-Dichloroethane	U		0.000494	0.00260	1	09/12/2018 03:42	WG1164598
1,1-Dichloroethene	U		0.000520	0.00260	1	09/12/2018 03:42	WG1164598
cis-1,2-Dichloroethene	U		0.000718	0.00260	1	09/12/2018 03:42	WG1164598
trans-1,2-Dichloroethene	U		0.00149	0.00520	1	09/12/2018 03:42	WG1164598
1,2-Dichloropropane	U	J4	0.00132	0.00520	1	09/12/2018 03:42	WG1164598
1,1-Dichloropropene	U		0.000728	0.00260	1	09/12/2018 03:42	WG1164598
1,3-Dichloropropane	U		0.00182	0.00520	1	09/12/2018 03:42	WG1164598
cis-1,3-Dichloropropene	U		0.000705	0.00260	1	09/12/2018 03:42	WG1164598
trans-1,3-Dichloropropene	U		0.00159	0.00520	1	09/12/2018 03:42	WG1164598
2,2-Dichloropropane	U	J4	0.000825	0.00260	1	09/12/2018 03:42	WG1164598
Di-isopropyl ether	U		0.000364	0.00104	1	09/12/2018 03:42	WG1164598
Ethylbenzene	U		0.000551	0.00260	1	09/12/2018 03:42	WG1164598
2-Hexanone	U		0.0104	0.0260	1	09/12/2018 03:42	WG1164598
Hexachloro-1,3-butadiene	U		0.0132	0.0260	1	09/12/2018 03:42	WG1164598
Isopropylbenzene	U		0.000898	0.00260	1	09/12/2018 03:42	WG1164598
p-Isopropyltoluene	U		0.00242	0.00520	1	09/12/2018 03:42	WG1164598
2-Butanone (MEK)	U		0.0130	0.0260	1	09/12/2018 03:42	WG1164598
Methylene Chloride	U		0.00691	0.0260	1	09/12/2018 03:42	WG1164598
4-Methyl-2-pentanone (MIBK)	U		0.0104	0.0260	1	09/12/2018 03:42	WG1164598
Methyl tert-butyl ether	0.00855		0.000307	0.00104	1	09/12/2018 03:42	WG1164598
Naphthalene	U		0.00325	0.0130	1	09/12/2018 03:42	WG1164598
n-Propylbenzene	U		0.00123	0.00520	1	09/12/2018 03:42	WG1164598
Styrene	U		0.00284	0.0130	1	09/12/2018 03:42	WG1164598
1,1,1,2-Tetrachloroethane	U		0.000520	0.00260	1	09/12/2018 03:42	WG1164598
1,1,2,2-Tetrachloroethane	U		0.000406	0.00260	1	09/12/2018 03:42	WG1164598
1,1,2-Trichlorotrifluoroethane	U		0.000702	0.00260	1	09/12/2018 03:42	WG1164598
Tetrachloroethene	U		0.000728	0.00260	1	09/12/2018 03:42	WG1164598
Toluene	U		0.00130	0.00520	1	09/12/2018 03:42	WG1164598
1,2,3-Trichlorobenzene	U		0.000650	0.00260	1	09/12/2018 03:42	WG1164598
1,2,4-Trichlorobenzene	U		0.00501	0.0130	1	09/12/2018 03:42	WG1164598
1,1,1-Trichloroethane	U		0.000286	0.00260	1	09/12/2018 03:42	WG1164598
1,1,2-Trichloroethane	U		0.000919	0.00260	1	09/12/2018 03:42	WG1164598
Trichloroethene	U		0.000416	0.00104	1	09/12/2018 03:42	WG1164598
Tetrahydrofuran	U		0.00234	0.0130	1	09/12/2018 03:42	WG1164598
Trichlorofluoromethane	U		0.000520	0.00260	1	09/12/2018 03:42	WG1164598
1,2,3-Trichloropropane	U		0.00531	0.0130	1	09/12/2018 03:42	WG1164598
1,2,4-Trimethylbenzene	U		0.00121	0.00520	1	09/12/2018 03:42	WG1164598
1,3,5-Trimethylbenzene	U		0.00112	0.00520	1	09/12/2018 03:42	WG1164598
Vinyl chloride	U		0.000711	0.00260	1	09/12/2018 03:42	WG1164598
o-Xylene	U		0.00104	0.00260	1	09/12/2018 03:42	WG1164598
m&p-Xylene	U		0.00156	0.00416	1	09/12/2018 03:42	WG1164598
Xylenes, Total	U		0.00497	0.00676	1	09/12/2018 03:42	WG1164598
(S) Toluene-d8	*106*			*75.0-131*		*09/12/2018 03:42*	WG1164598
(S) Dibromofluoromethane	*96.0*			*65.0-129*		*09/12/2018 03:42*	WG1164598
(S) 4-Bromofluorobenzene	*99.1*			*67.0-138*		*09/12/2018 03:42*	WG1164598

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	12.2	J J3	7.63	41.6	10	09/13/2018 20:37	WG1164441
C22-C32 Hydrocarbons	127		13.8	41.6	10	09/13/2018 20:37	WG1164441
C32-C40 Hydrocarbons	175		13.8	41.6	10	09/13/2018 20:37	WG1164441
(S) o-Terphenyl	*140*			*18.0-148*		*09/13/2018 20:37*	WG1164441

Sample Narrative:

L1024028-09 WG1164441: Dilution due to matrix impact during extract concentration procedure

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	78.8		1	09/14/2018 11:36	WG1164891

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	U		0.0421	0.127	1	09/11/2018 13:03	WG1163853
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*		*09/11/2018 13:03*	WG1163853

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0174	0.0317	1	09/13/2018 22:27	WG1165209
Acrylonitrile	U		0.00241	0.0159	1	09/13/2018 22:27	WG1165209
Benzene	U		0.000507	0.00127	1	09/13/2018 22:27	WG1165209
Bromobenzene	U		0.00133	0.0159	1	09/13/2018 22:27	WG1165209
Bromochloromethane	U		0.00143	0.00634	1	09/13/2018 22:27	WG1165209
Bromodichloromethane	U	J4	0.000999	0.00317	1	09/13/2018 22:27	WG1165209
Bromoform	U		0.00759	0.0317	1	09/13/2018 22:27	WG1165209
Bromomethane	U		0.00469	0.0159	1	09/13/2018 22:27	WG1165209
n-Butylbenzene	U		0.00487	0.0159	1	09/13/2018 22:27	WG1165209
sec-Butylbenzene	U		0.00321	0.0159	1	09/13/2018 22:27	WG1165209
tert-Butylbenzene	U		0.00197	0.00634	1	09/13/2018 22:27	WG1165209
Carbon tetrachloride	U		0.00137	0.00634	1	09/13/2018 22:27	WG1165209
Chlorobenzene	U		0.000727	0.00317	1	09/13/2018 22:27	WG1165209
Chlorodibromomethane	U		0.000571	0.00317	1	09/13/2018 22:27	WG1165209
Chloroethane	U		0.00137	0.00634	1	09/13/2018 22:27	WG1165209
Chloroform	U		0.000526	0.00317	1	09/13/2018 22:27	WG1165209
Chloromethane	U		0.00176	0.0159	1	09/13/2018 22:27	WG1165209
2-Chlorotoluene	U		0.00117	0.00317	1	09/13/2018 22:27	WG1165209
4-Chlorotoluene	U		0.00143	0.00634	1	09/13/2018 22:27	WG1165209
1,2-Dibromo-3-Chloropropane	U		0.00647	0.0317	1	09/13/2018 22:27	WG1165209
1,2-Dibromoethane	U		0.000666	0.00317	1	09/13/2018 22:27	WG1165209
Dibromomethane	U	J4	0.00127	0.00634	1	09/13/2018 22:27	WG1165209
1,2-Dichlorobenzene	U		0.00184	0.00634	1	09/13/2018 22:27	WG1165209
1,3-Dichlorobenzene	U		0.00216	0.00634	1	09/13/2018 22:27	WG1165209
1,4-Dichlorobenzene	U		0.00250	0.00634	1	09/13/2018 22:27	WG1165209
Dichlorodifluoromethane	U		0.00104	0.00317	1	09/13/2018 22:27	WG1165209
1,1-Dichloroethane	U		0.000729	0.00317	1	09/13/2018 22:27	WG1165209
1,2-Dichloroethane	U		0.000602	0.00317	1	09/13/2018 22:27	WG1165209
1,1-Dichloroethene	U		0.000634	0.00317	1	09/13/2018 22:27	WG1165209
cis-1,2-Dichloroethene	U		0.000875	0.00317	1	09/13/2018 22:27	WG1165209
trans-1,2-Dichloroethene	U		0.00181	0.00634	1	09/13/2018 22:27	WG1165209
1,2-Dichloropropane	U		0.00161	0.00634	1	09/13/2018 22:27	WG1165209
1,1-Dichloropropene	U		0.000888	0.00317	1	09/13/2018 22:27	WG1165209
1,3-Dichloropropane	U		0.00222	0.00634	1	09/13/2018 22:27	WG1165209
cis-1,3-Dichloropropene	U		0.000860	0.00317	1	09/13/2018 22:27	WG1165209
trans-1,3-Dichloropropene	U		0.00194	0.00634	1	09/13/2018 22:27	WG1165209
2,2-Dichloropropane	U		0.00101	0.00317	1	09/13/2018 22:27	WG1165209
Di-isopropyl ether	U		0.000444	0.00127	1	09/13/2018 22:27	WG1165209
Ethylbenzene	U		0.000672	0.00317	1	09/13/2018 22:27	WG1165209
2-Hexanone	U		0.0127	0.0317	1	09/13/2018 22:27	WG1165209
Hexachloro-1,3-butadiene	U		0.0161	0.0317	1	09/13/2018 22:27	WG1165209
Isopropylbenzene	U		0.00109	0.00317	1	09/13/2018 22:27	WG1165209
p-Isopropyltoluene	U		0.00296	0.00634	1	09/13/2018 22:27	WG1165209
2-Butanone (MEK)	U		0.0159	0.0317	1	09/13/2018 22:27	WG1165209

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.00842	0.0317	1	09/13/2018 22:27	WG1165209
4-Methyl-2-pentanone (MIBK)	U	J4	0.0127	0.0317	1	09/13/2018 22:27	WG1165209
Methyl tert-butyl ether	U		0.000374	0.00127	1	09/13/2018 22:27	WG1165209
Naphthalene	U		0.00396	0.0159	1	09/13/2018 22:27	WG1165209
n-Propylbenzene	U		0.00150	0.00634	1	09/13/2018 22:27	WG1165209
Styrene	U		0.00346	0.0159	1	09/13/2018 22:27	WG1165209
1,1,1,2-Tetrachloroethane	U		0.000634	0.00317	1	09/13/2018 22:27	WG1165209
1,1,2,2-Tetrachloroethane	U		0.000495	0.00317	1	09/13/2018 22:27	WG1165209
1,1,2-Trichlorotrifluoroethane	U		0.000856	0.00317	1	09/13/2018 22:27	WG1165209
Tetrachloroethene	U		0.000888	0.00317	1	09/13/2018 22:27	WG1165209
Toluene	U		0.00159	0.00634	1	09/13/2018 22:27	WG1165209
1,2,3-Trichlorobenzene	U		0.000793	0.00317	1	09/13/2018 22:27	WG1165209
1,2,4-Trichlorobenzene	U		0.00611	0.0159	1	09/13/2018 22:27	WG1165209
1,1,1-Trichloroethane	U		0.000349	0.00317	1	09/13/2018 22:27	WG1165209
1,1,2-Trichloroethane	U		0.00112	0.00317	1	09/13/2018 22:27	WG1165209
Trichloroethene	U		0.000507	0.00127	1	09/13/2018 22:27	WG1165209
Tetrahydrofuran	U		0.00285	0.0159	1	09/13/2018 22:27	WG1165209
Trichlorofluoromethane	U		0.000634	0.00317	1	09/13/2018 22:27	WG1165209
1,2,3-Trichloropropane	U		0.00647	0.0159	1	09/13/2018 22:27	WG1165209
1,2,4-Trimethylbenzene	U		0.00147	0.00634	1	09/13/2018 22:27	WG1165209
1,3,5-Trimethylbenzene	U		0.00137	0.00634	1	09/13/2018 22:27	WG1165209
Vinyl chloride	U		0.000866	0.00317	1	09/13/2018 22:27	WG1165209
o-Xylene	U		0.00127	0.00317	1	09/13/2018 22:27	WG1165209
m&p-Xylene	U		0.00190	0.00507	1	09/13/2018 22:27	WG1165209
Xylenes, Total	U		0.00606	0.00824	1	09/13/2018 22:27	WG1165209
(S) Toluene-d8	*103*			*75.0-131*		*09/13/2018 22:27*	WG1165209
(S) Dibromofluoromethane	*90.3*			*65.0-129*		*09/13/2018 22:27*	WG1165209
(S) 4-Bromofluorobenzene	*96.4*			*67.0-138*		*09/13/2018 22:27*	WG1165209

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	U	J3	0.930	5.07	1	09/13/2018 16:53	WG1164441
C22-C32 Hydrocarbons	U		1.69	5.07	1	09/13/2018 16:53	WG1164441
C32-C40 Hydrocarbons	U		1.69	5.07	1	09/13/2018 16:53	WG1164441
(S) o-Terphenyl	*36.9*			*18.0-148*		*09/13/2018 16:53*	WG1164441

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	85.6		1	09/12/2018 09:45	WG1164532

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0187	J	0.00327	0.0234	1	09/10/2018 12:20	WG1163524

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U		0.876	2.34	1	09/11/2018 15:11	WG1163621
Arsenic	3.04		0.537	2.34	1	09/11/2018 15:11	WG1163621
Barium	244		0.199	0.584	1	09/11/2018 15:11	WG1163621
Beryllium	U		0.0817	0.234	1	09/11/2018 15:11	WG1163621
Cadmium	U		0.0817	0.584	1	09/11/2018 15:11	WG1163621
Chromium	34.9		0.163	1.17	1	09/11/2018 15:11	WG1163621
Cobalt	9.32		0.269	1.17	1	09/11/2018 15:11	WG1163621
Copper	17.7		0.619	2.34	1	09/11/2018 15:11	WG1163621
Lead	4.25		0.222	0.584	1	09/11/2018 15:11	WG1163621
Molybdenum	0.324	J	0.187	0.584	1	09/11/2018 15:11	WG1163621
Nickel	22.6		0.572	2.34	1	09/11/2018 15:11	WG1163621
Selenium	U		0.724	2.34	1	09/11/2018 15:11	WG1163621
Silver	U		0.140	1.17	1	09/11/2018 15:11	WG1163621
Thallium	U		0.759	2.34	1	09/11/2018 15:11	WG1163621
Vanadium	56.3		0.280	2.34	1	09/11/2018 15:11	WG1163621
Zinc	51.8		0.689	5.84	1	09/11/2018 15:11	WG1163621

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	0.0417	J	0.0388	0.117	1	09/10/2018 17:36	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*		*09/10/2018 17:36*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	0.0358		0.0160	0.0292	1	09/12/2018 04:03	WG1164598
Acrylonitrile	U		0.00222	0.0146	1	09/12/2018 04:03	WG1164598
Benzene	U		0.000467	0.00117	1	09/12/2018 04:03	WG1164598
Bromobenzene	U		0.00123	0.0146	1	09/12/2018 04:03	WG1164598
Bromochloromethane	U		0.00132	0.00584	1	09/12/2018 04:03	WG1164598
Bromodichloromethane	U	J4	0.000920	0.00292	1	09/12/2018 04:03	WG1164598
Bromoform	U		0.00698	0.0292	1	09/12/2018 04:03	WG1164598
Bromomethane	U		0.00432	0.0146	1	09/12/2018 04:03	WG1164598
n-Butylbenzene	U		0.00448	0.0146	1	09/12/2018 04:03	WG1164598
sec-Butylbenzene	U		0.00295	0.0146	1	09/12/2018 04:03	WG1164598
tert-Butylbenzene	U		0.00181	0.00584	1	09/12/2018 04:03	WG1164598
Carbon tetrachloride	U		0.00126	0.00584	1	09/12/2018 04:03	WG1164598
Chlorobenzene	U		0.000669	0.00292	1	09/12/2018 04:03	WG1164598
Chlorodibromomethane	U		0.000525	0.00292	1	09/12/2018 04:03	WG1164598
Chloroethane	U		0.00126	0.00584	1	09/12/2018 04:03	WG1164598
Chloroform	U		0.000485	0.00292	1	09/12/2018 04:03	WG1164598
Chloromethane	U	J4	0.00162	0.0146	1	09/12/2018 04:03	WG1164598
2-Chlorotoluene	U		0.00107	0.00292	1	09/12/2018 04:03	WG1164598

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.00132	0.00584	1	09/12/2018 04:03	WG1164598
1,2-Dibromo-3-Chloropropane	U		0.00596	0.0292	1	09/12/2018 04:03	WG1164598
1,2-Dibromoethane	U		0.000613	0.00292	1	09/12/2018 04:03	WG1164598
Dibromomethane	U		0.00117	0.00584	1	09/12/2018 04:03	WG1164598
1,2-Dichlorobenzene	U		0.00169	0.00584	1	09/12/2018 04:03	WG1164598
1,3-Dichlorobenzene	U		0.00199	0.00584	1	09/12/2018 04:03	WG1164598
1,4-Dichlorobenzene	U		0.00230	0.00584	1	09/12/2018 04:03	WG1164598
Dichlorodifluoromethane	U		0.000955	0.00292	1	09/12/2018 04:03	WG1164598
1,1-Dichloroethane	U		0.000671	0.00292	1	09/12/2018 04:03	WG1164598
1,2-Dichloroethane	U		0.000555	0.00292	1	09/12/2018 04:03	WG1164598
1,1-Dichloroethene	U		0.000584	0.00292	1	09/12/2018 04:03	WG1164598
cis-1,2-Dichloroethene	U		0.000806	0.00292	1	09/12/2018 04:03	WG1164598
trans-1,2-Dichloroethene	U		0.00167	0.00584	1	09/12/2018 04:03	WG1164598
1,2-Dichloropropane	U	J4	0.00148	0.00584	1	09/12/2018 04:03	WG1164598
1,1-Dichloropropene	U		0.000817	0.00292	1	09/12/2018 04:03	WG1164598
1,3-Dichloropropane	U		0.00204	0.00584	1	09/12/2018 04:03	WG1164598
cis-1,3-Dichloropropene	U		0.000792	0.00292	1	09/12/2018 04:03	WG1164598
trans-1,3-Dichloropropene	U		0.00179	0.00584	1	09/12/2018 04:03	WG1164598
2,2-Dichloropropane	U	J4	0.000926	0.00292	1	09/12/2018 04:03	WG1164598
Di-isopropyl ether	U		0.000409	0.00117	1	09/12/2018 04:03	WG1164598
Ethylbenzene	U		0.000619	0.00292	1	09/12/2018 04:03	WG1164598
2-Hexanone	U		0.0117	0.0292	1	09/12/2018 04:03	WG1164598
Hexachloro-1,3-butadiene	U		0.0148	0.0292	1	09/12/2018 04:03	WG1164598
Isopropylbenzene	U		0.00101	0.00292	1	09/12/2018 04:03	WG1164598
p-Isopropyltoluene	U		0.00272	0.00584	1	09/12/2018 04:03	WG1164598
2-Butanone (MEK)	U		0.0146	0.0292	1	09/12/2018 04:03	WG1164598
Methylene Chloride	U		0.00775	0.0292	1	09/12/2018 04:03	WG1164598
4-Methyl-2-pentanone (MIBK)	U		0.0117	0.0292	1	09/12/2018 04:03	WG1164598
Methyl tert-butyl ether	0.0115		0.000344	0.00117	1	09/12/2018 04:03	WG1164598
Naphthalene	U		0.00364	0.0146	1	09/12/2018 04:03	WG1164598
n-Propylbenzene	U		0.00138	0.00584	1	09/12/2018 04:03	WG1164598
Styrene	U		0.00319	0.0146	1	09/12/2018 04:03	WG1164598
1,1,1,2-Tetrachloroethane	U		0.000584	0.00292	1	09/12/2018 04:03	WG1164598
1,1,2,2-Tetrachloroethane	U		0.000455	0.00292	1	09/12/2018 04:03	WG1164598
1,1,2-Trichlorotrifluoroethane	U		0.000788	0.00292	1	09/12/2018 04:03	WG1164598
Tetrachloroethene	U		0.000817	0.00292	1	09/12/2018 04:03	WG1164598
Toluene	U		0.00146	0.00584	1	09/12/2018 04:03	WG1164598
1,2,3-Trichlorobenzene	U		0.000730	0.00292	1	09/12/2018 04:03	WG1164598
1,2,4-Trichlorobenzene	U		0.00563	0.0146	1	09/12/2018 04:03	WG1164598
1,1,1-Trichloroethane	U		0.000321	0.00292	1	09/12/2018 04:03	WG1164598
1,1,2-Trichloroethane	U		0.00103	0.00292	1	09/12/2018 04:03	WG1164598
Trichloroethene	U		0.000467	0.00117	1	09/12/2018 04:03	WG1164598
Tetrahydrofuran	U		0.00263	0.0146	1	09/12/2018 04:03	WG1164598
Trichlorofluoromethane	U		0.000584	0.00292	1	09/12/2018 04:03	WG1164598
1,2,3-Trichloropropane	U		0.00596	0.0146	1	09/12/2018 04:03	WG1164598
1,2,4-Trimethylbenzene	U		0.00135	0.00584	1	09/12/2018 04:03	WG1164598
1,3,5-Trimethylbenzene	U		0.00126	0.00584	1	09/12/2018 04:03	WG1164598
Vinyl chloride	U		0.000798	0.00292	1	09/12/2018 04:03	WG1164598
o-Xylene	U		0.00117	0.00292	1	09/12/2018 04:03	WG1164598
m&p-Xylene	U		0.00175	0.00467	1	09/12/2018 04:03	WG1164598
Xylenes, Total	U		0.00558	0.00759	1	09/12/2018 04:03	WG1164598
(S) Toluene-d8	*107*			*75.0-131*		*09/12/2018 04:03*	WG1164598
(S) Dibromofluoromethane	*97.4*			*65.0-129*		*09/12/2018 04:03*	WG1164598
(S) 4-Bromofluorobenzene	*105*			*67.0-138*		*09/12/2018 04:03*	WG1164598

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	U	J3	0.856	4.67	1	09/13/2018 19:42	WG1164441
C22-C32 Hydrocarbons	7.75		1.55	4.67	1	09/13/2018 19:42	WG1164441
C32-C40 Hydrocarbons	10.2		1.55	4.67	1	09/13/2018 19:42	WG1164441
(S) o-Terphenyl	*34.9*			*18.0-148*		*09/13/2018 19:42*	WG1164441

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.2		1	09/12/2018 09:37	WG1164534

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0214	J	0.00300	0.0215	1	09/10/2018 12:23	WG1163524

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U		0.805	2.15	1	09/11/2018 15:14	WG1163621
Arsenic	12.0		0.493	2.15	1	09/11/2018 15:14	WG1163621
Barium	66.8		0.182	0.536	1	09/11/2018 15:14	WG1163621
Beryllium	U		0.0751	0.215	1	09/11/2018 15:14	WG1163621
Cadmium	0.250	J	0.0751	0.536	1	09/11/2018 15:14	WG1163621
Chromium	7.84		0.150	1.07	1	09/11/2018 15:14	WG1163621
Cobalt	5.38		0.247	1.07	1	09/11/2018 15:14	WG1163621
Copper	11.8		0.569	2.15	1	09/11/2018 15:14	WG1163621
Lead	16.6		0.204	0.536	1	09/11/2018 15:14	WG1163621
Molybdenum	0.882		0.172	0.536	1	09/11/2018 15:14	WG1163621
Nickel	3.76		0.526	2.15	1	09/11/2018 15:14	WG1163621
Selenium	U		0.665	2.15	1	09/11/2018 15:14	WG1163621
Silver	U		0.129	1.07	1	09/11/2018 15:14	WG1163621
Thallium	U		0.697	2.15	1	09/11/2018 15:14	WG1163621
Vanadium	31.7		0.257	2.15	1	09/11/2018 15:14	WG1163621
Zinc	74.5		0.633	5.36	1	09/11/2018 15:14	WG1163621

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	0.0800	J	0.0356	0.107	1	09/10/2018 17:57	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*		*09/10/2018 17:57*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	0.0304		0.0147	0.0268	1	09/12/2018 04:23	WG1164598
Acrylonitrile	U		0.00204	0.0134	1	09/12/2018 04:23	WG1164598
Benzene	U		0.000429	0.00107	1	09/12/2018 04:23	WG1164598
Bromobenzene	U		0.00113	0.0134	1	09/12/2018 04:23	WG1164598
Bromochloromethane	U		0.00121	0.00536	1	09/12/2018 04:23	WG1164598
Bromodichloromethane	U	J4	0.000845	0.00268	1	09/12/2018 04:23	WG1164598
Bromoform	U		0.00642	0.0268	1	09/12/2018 04:23	WG1164598
Bromomethane	U		0.00397	0.0134	1	09/12/2018 04:23	WG1164598
n-Butylbenzene	U		0.00412	0.0134	1	09/12/2018 04:23	WG1164598
sec-Butylbenzene	U		0.00271	0.0134	1	09/12/2018 04:23	WG1164598
tert-Butylbenzene	U		0.00166	0.00536	1	09/12/2018 04:23	WG1164598
Carbon tetrachloride	U		0.00116	0.00536	1	09/12/2018 04:23	WG1164598
Chlorobenzene	U		0.000615	0.00268	1	09/12/2018 04:23	WG1164598
Chlorodibromomethane	U		0.000483	0.00268	1	09/12/2018 04:23	WG1164598
Chloroethane	U		0.00116	0.00536	1	09/12/2018 04:23	WG1164598
Chloroform	U		0.000445	0.00268	1	09/12/2018 04:23	WG1164598
Chloromethane	U	J4	0.00149	0.0134	1	09/12/2018 04:23	WG1164598
2-Chlorotoluene	U		0.000987	0.00268	1	09/12/2018 04:23	WG1164598

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.00121	0.00536	1	09/12/2018 04:23	WG1164598
1,2-Dibromo-3-Chloropropane	U		0.00547	0.0268	1	09/12/2018 04:23	WG1164598
1,2-Dibromoethane	U		0.000563	0.00268	1	09/12/2018 04:23	WG1164598
Dibromomethane	U		0.00107	0.00536	1	09/12/2018 04:23	WG1164598
1,2-Dichlorobenzene	U		0.00156	0.00536	1	09/12/2018 04:23	WG1164598
1,3-Dichlorobenzene	U		0.00182	0.00536	1	09/12/2018 04:23	WG1164598
1,4-Dichlorobenzene	U		0.00211	0.00536	1	09/12/2018 04:23	WG1164598
Dichlorodifluoromethane	U		0.000878	0.00268	1	09/12/2018 04:23	WG1164598
1,1-Dichloroethane	U		0.000617	0.00268	1	09/12/2018 04:23	WG1164598
1,2-Dichloroethane	U		0.000510	0.00268	1	09/12/2018 04:23	WG1164598
1,1-Dichloroethene	U		0.000536	0.00268	1	09/12/2018 04:23	WG1164598
cis-1,2-Dichloroethene	U		0.000740	0.00268	1	09/12/2018 04:23	WG1164598
trans-1,2-Dichloroethene	U		0.00153	0.00536	1	09/12/2018 04:23	WG1164598
1,2-Dichloropropane	U	J4	0.00136	0.00536	1	09/12/2018 04:23	WG1164598
1,1-Dichloropropene	U		0.000751	0.00268	1	09/12/2018 04:23	WG1164598
1,3-Dichloropropane	U		0.00188	0.00536	1	09/12/2018 04:23	WG1164598
cis-1,3-Dichloropropene	U		0.000727	0.00268	1	09/12/2018 04:23	WG1164598
trans-1,3-Dichloropropene	U		0.00164	0.00536	1	09/12/2018 04:23	WG1164598
2,2-Dichloropropane	U	J4	0.000851	0.00268	1	09/12/2018 04:23	WG1164598
Di-isopropyl ether	U		0.000375	0.00107	1	09/12/2018 04:23	WG1164598
Ethylbenzene	U		0.000569	0.00268	1	09/12/2018 04:23	WG1164598
2-Hexanone	U		0.0107	0.0268	1	09/12/2018 04:23	WG1164598
Hexachloro-1,3-butadiene	U		0.0136	0.0268	1	09/12/2018 04:23	WG1164598
Isopropylbenzene	U		0.000926	0.00268	1	09/12/2018 04:23	WG1164598
p-Isopropyltoluene	U		0.00250	0.00536	1	09/12/2018 04:23	WG1164598
2-Butanone (MEK)	U		0.0134	0.0268	1	09/12/2018 04:23	WG1164598
Methylene Chloride	U		0.00712	0.0268	1	09/12/2018 04:23	WG1164598
4-Methyl-2-pentanone (MIBK)	U		0.0107	0.0268	1	09/12/2018 04:23	WG1164598
Methyl tert-butyl ether	0.00905		0.000316	0.00107	1	09/12/2018 04:23	WG1164598
Naphthalene	U		0.00335	0.0134	1	09/12/2018 04:23	WG1164598
n-Propylbenzene	U		0.00127	0.00536	1	09/12/2018 04:23	WG1164598
Styrene	U		0.00293	0.0134	1	09/12/2018 04:23	WG1164598
1,1,1,2-Tetrachloroethane	U		0.000536	0.00268	1	09/12/2018 04:23	WG1164598
1,1,2,2-Tetrachloroethane	U		0.000418	0.00268	1	09/12/2018 04:23	WG1164598
1,1,2-Trichlorotrifluoroethane	U		0.000724	0.00268	1	09/12/2018 04:23	WG1164598
Tetrachloroethene	U		0.000751	0.00268	1	09/12/2018 04:23	WG1164598
Toluene	U		0.00134	0.00536	1	09/12/2018 04:23	WG1164598
1,2,3-Trichlorobenzene	U		0.000671	0.00268	1	09/12/2018 04:23	WG1164598
1,2,4-Trichlorobenzene	U		0.00517	0.0134	1	09/12/2018 04:23	WG1164598
1,1,1-Trichloroethane	U		0.000295	0.00268	1	09/12/2018 04:23	WG1164598
1,1,2-Trichloroethane	U		0.000947	0.00268	1	09/12/2018 04:23	WG1164598
Trichloroethene	U		0.000429	0.00107	1	09/12/2018 04:23	WG1164598
Tetrahydrofuran	U		0.00241	0.0134	1	09/12/2018 04:23	WG1164598
Trichlorofluoromethane	U		0.000536	0.00268	1	09/12/2018 04:23	WG1164598
1,2,3-Trichloropropane	U		0.00547	0.0134	1	09/12/2018 04:23	WG1164598
1,2,4-Trimethylbenzene	U		0.00124	0.00536	1	09/12/2018 04:23	WG1164598
1,3,5-Trimethylbenzene	U		0.00116	0.00536	1	09/12/2018 04:23	WG1164598
Vinyl chloride	U		0.000733	0.00268	1	09/12/2018 04:23	WG1164598
o-Xylene	U		0.00107	0.00268	1	09/12/2018 04:23	WG1164598
m&p-Xylene	U		0.00161	0.00429	1	09/12/2018 04:23	WG1164598
Xylenes, Total	U		0.00513	0.00697	1	09/12/2018 04:23	WG1164598
(S) Toluene-d8	*107*			*75.0-131*		*09/12/2018 04:23*	WG1164598
(S) Dibromofluoromethane	*93.2*			*65.0-129*		*09/12/2018 04:23*	WG1164598
(S) 4-Bromofluorobenzene	*88.7*			*67.0-138*		*09/12/2018 04:23*	WG1164598

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	12.6	J	7.86	42.9	10	09/17/2018 21:45	WG1166673
C22-C32 Hydrocarbons	115		14.3	42.9	10	09/17/2018 21:45	WG1166673
C32-C40 Hydrocarbons	161		14.3	42.9	10	09/17/2018 21:45	WG1166673
(S) o-Terphenyl	*102*			*18.0-148*		*09/17/2018 21:45*	WG1166673

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	86.2		1	09/12/2018 09:37	WG1164534

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPHG C5 - C12	U		0.0385	0.116	1	09/10/2018 18:19	WG1163845
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*		*09/10/2018 18:19*	WG1163845

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	0.0212	J	0.0159	0.0290	1	09/12/2018 04:43	WG1164598
Acrylonitrile	U		0.00220	0.0145	1	09/12/2018 04:43	WG1164598
Benzene	U		0.000464	0.00116	1	09/12/2018 04:43	WG1164598
Bromobenzene	U		0.00122	0.0145	1	09/12/2018 04:43	WG1164598
Bromochloromethane	U		0.00131	0.00580	1	09/12/2018 04:43	WG1164598
Bromodichloromethane	U	J4	0.000914	0.00290	1	09/12/2018 04:43	WG1164598
Bromoform	U		0.00694	0.0290	1	09/12/2018 04:43	WG1164598
Bromomethane	U		0.00429	0.0145	1	09/12/2018 04:43	WG1164598
n-Butylbenzene	U		0.00445	0.0145	1	09/12/2018 04:43	WG1164598
sec-Butylbenzene	U		0.00293	0.0145	1	09/12/2018 04:43	WG1164598
tert-Butylbenzene	U		0.00180	0.00580	1	09/12/2018 04:43	WG1164598
Carbon tetrachloride	U		0.00125	0.00580	1	09/12/2018 04:43	WG1164598
Chlorobenzene	U		0.000665	0.00290	1	09/12/2018 04:43	WG1164598
Chlorodibromomethane	U		0.000522	0.00290	1	09/12/2018 04:43	WG1164598
Chloroethane	U		0.00125	0.00580	1	09/12/2018 04:43	WG1164598
Chloroform	U		0.000481	0.00290	1	09/12/2018 04:43	WG1164598
Chloromethane	U	J4	0.00161	0.0145	1	09/12/2018 04:43	WG1164598
2-Chlorotoluene	U		0.00107	0.00290	1	09/12/2018 04:43	WG1164598
4-Chlorotoluene	U		0.00131	0.00580	1	09/12/2018 04:43	WG1164598
1,2-Dibromo-3-Chloropropane	U		0.00591	0.0290	1	09/12/2018 04:43	WG1164598
1,2-Dibromoethane	U		0.000609	0.00290	1	09/12/2018 04:43	WG1164598
Dibromomethane	U		0.00116	0.00580	1	09/12/2018 04:43	WG1164598
1,2-Dichlorobenzene	U		0.00168	0.00580	1	09/12/2018 04:43	WG1164598
1,3-Dichlorobenzene	U		0.00197	0.00580	1	09/12/2018 04:43	WG1164598
1,4-Dichlorobenzene	U		0.00228	0.00580	1	09/12/2018 04:43	WG1164598
Dichlorodifluoromethane	U		0.000949	0.00290	1	09/12/2018 04:43	WG1164598
1,1-Dichloroethane	U		0.000667	0.00290	1	09/12/2018 04:43	WG1164598
1,2-Dichloroethane	U		0.000551	0.00290	1	09/12/2018 04:43	WG1164598
1,1-Dichloroethene	U		0.000580	0.00290	1	09/12/2018 04:43	WG1164598
cis-1,2-Dichloroethene	U		0.000800	0.00290	1	09/12/2018 04:43	WG1164598
trans-1,2-Dichloroethene	U		0.00166	0.00580	1	09/12/2018 04:43	WG1164598
1,2-Dichloropropane	U	J4	0.00147	0.00580	1	09/12/2018 04:43	WG1164598
1,1-Dichloropropene	U		0.000812	0.00290	1	09/12/2018 04:43	WG1164598
1,3-Dichloropropane	U		0.00203	0.00580	1	09/12/2018 04:43	WG1164598
cis-1,3-Dichloropropene	U		0.000786	0.00290	1	09/12/2018 04:43	WG1164598
trans-1,3-Dichloropropene	U		0.00177	0.00580	1	09/12/2018 04:43	WG1164598
2,2-Dichloropropane	U	J4	0.000920	0.00290	1	09/12/2018 04:43	WG1164598
Di-isopropyl ether	U		0.000406	0.00116	1	09/12/2018 04:43	WG1164598
Ethylbenzene	U		0.000615	0.00290	1	09/12/2018 04:43	WG1164598
2-Hexanone	U		0.0116	0.0290	1	09/12/2018 04:43	WG1164598
Hexachloro-1,3-butadiene	U		0.0147	0.0290	1	09/12/2018 04:43	WG1164598
Isopropylbenzene	U		0.00100	0.00290	1	09/12/2018 04:43	WG1164598
p-Isopropyltoluene	U		0.00270	0.00580	1	09/12/2018 04:43	WG1164598
2-Butanone (MEK)	U		0.0145	0.0290	1	09/12/2018 04:43	WG1164598

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.00770	0.0290	1	09/12/2018 04:43	WG1164598
4-Methyl-2-pentanone (MIBK)	U		0.0116	0.0290	1	09/12/2018 04:43	WG1164598
Methyl tert-butyl ether	U		0.000342	0.00116	1	09/12/2018 04:43	WG1164598
Naphthalene	U		0.00362	0.0145	1	09/12/2018 04:43	WG1164598
n-Propylbenzene	U		0.00137	0.00580	1	09/12/2018 04:43	WG1164598
Styrene	U		0.00317	0.0145	1	09/12/2018 04:43	WG1164598
1,1,1,2-Tetrachloroethane	U		0.000580	0.00290	1	09/12/2018 04:43	WG1164598
1,1,2,2-Tetrachloroethane	U		0.000452	0.00290	1	09/12/2018 04:43	WG1164598
1,1,2-Trichlorotrifluoroethane	U		0.000783	0.00290	1	09/12/2018 04:43	WG1164598
Tetrachloroethene	U		0.000812	0.00290	1	09/12/2018 04:43	WG1164598
Toluene	U		0.00145	0.00580	1	09/12/2018 04:43	WG1164598
1,2,3-Trichlorobenzene	U		0.000725	0.00290	1	09/12/2018 04:43	WG1164598
1,2,4-Trichlorobenzene	U		0.00559	0.0145	1	09/12/2018 04:43	WG1164598
1,1,1-Trichloroethane	U		0.000319	0.00290	1	09/12/2018 04:43	WG1164598
1,1,2-Trichloroethane	U		0.00102	0.00290	1	09/12/2018 04:43	WG1164598
Trichloroethene	U		0.000464	0.00116	1	09/12/2018 04:43	WG1164598
Tetrahydrofuran	U		0.00261	0.0145	1	09/12/2018 04:43	WG1164598
Trichlorofluoromethane	U		0.000580	0.00290	1	09/12/2018 04:43	WG1164598
1,2,3-Trichloropropane	U		0.00591	0.0145	1	09/12/2018 04:43	WG1164598
1,2,4-Trimethylbenzene	U		0.00135	0.00580	1	09/12/2018 04:43	WG1164598
1,3,5-Trimethylbenzene	U		0.00125	0.00580	1	09/12/2018 04:43	WG1164598
Vinyl chloride	U		0.000792	0.00290	1	09/12/2018 04:43	WG1164598
o-Xylene	U		0.00116	0.00290	1	09/12/2018 04:43	WG1164598
m&p-Xylene	U		0.00174	0.00464	1	09/12/2018 04:43	WG1164598
Xylenes, Total	U		0.00554	0.00754	1	09/12/2018 04:43	WG1164598
(S) Toluene-d8	*107*			*75.0-131*		*09/12/2018 04:43*	WG1164598
(S) Dibromofluoromethane	*88.9*			*65.0-129*		*09/12/2018 04:43*	WG1164598
(S) 4-Bromofluorobenzene	*105*			*67.0-138*		*09/12/2018 04:43*	WG1164598

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	U		0.850	4.64	1	09/17/2018 19:43	WG1166673
C22-C32 Hydrocarbons	U		1.54	4.64	1	09/17/2018 19:43	WG1166673
C32-C40 Hydrocarbons	U		1.54	4.64	1	09/17/2018 19:43	WG1166673
(S) o-Terphenyl	*90.8*			*18.0-148*		*09/17/2018 19:43*	WG1166673

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.5		1	09/13/2018 05:39	WG1165356

Pesticides (GC) by Method 8081

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.000244	0.0209	1	09/13/2018 01:04	WG1164473
Alpha BHC	U		0.000202	0.0209	1	09/13/2018 01:04	WG1164473
Beta BHC	U		0.000317	0.0209	1	09/13/2018 01:04	WG1164473
Delta BHC	U		0.000158	0.0209	1	09/13/2018 01:04	WG1164473
Gamma BHC	U		0.000256	0.0209	1	09/13/2018 01:04	WG1164473
4,4-DDD	U		0.000172	0.0209	1	09/13/2018 01:04	WG1164473
4,4-DDE	0.000329	J P	0.000173	0.0209	1	09/13/2018 01:04	WG1164473
4,4-DDT	0.0109	J P	0.000278	0.0209	1	09/13/2018 01:04	WG1164473
Dieldrin	0.000623	J	0.0000931	0.00209	1	09/13/2018 01:04	WG1164473
Endosulfan I	U		0.000224	0.0209	1	09/13/2018 01:04	WG1164473
Endosulfan II	U		0.000241	0.0209	1	09/13/2018 01:04	WG1164473
Endosulfan sulfate	U		0.000178	0.0209	1	09/13/2018 01:04	WG1164473
Endrin	U		0.000229	0.0209	1	09/13/2018 01:04	WG1164473
Endrin aldehyde	0.000749	J	0.000253	0.0209	1	09/13/2018 01:04	WG1164473
Endrin ketone	U		0.000166	0.0209	1	09/13/2018 01:04	WG1164473
Heptachlor	U		0.000106	0.0209	1	09/13/2018 01:04	WG1164473
Heptachlor epoxide	U		0.000396	0.0209	1	09/13/2018 01:04	WG1164473
Hexachlorobenzene	U		0.000234	0.0209	1	09/13/2018 01:04	WG1164473
Methoxychlor	U		0.000277	0.0209	1	09/13/2018 01:04	WG1164473
Chlordane	0.0744	J	0.0408	0.209	1	09/13/2018 01:04	WG1164473
Toxaphene	U		0.0377	0.419	1	09/13/2018 01:04	WG1164473
(S) Decachlorobiphenyl	*51.7*			*10.0-135*		*09/13/2018 01:04*	WG1164473
(S) Tetrachloro-m-xylene	*78.3*			*10.0-139*		*09/13/2018 01:04*	WG1164473

Method Blank (MB)

(MB) R3341549-1 09/12/18 09:45

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1024028-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1024028-03 09/12/18 09:45 • (DUP) R3341549-3 09/12/18 09:45

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	87.3	87.4	1	0.0935		10

Laboratory Control Sample (LCS)

(LCS) R3341549-2 09/12/18 09:45

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3341542-1 09/12/18 09:37

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000			

L1024058-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1024058-05 09/12/18 09:37 • (DUP) R3341542-3 09/12/18 09:37

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	79.7	78.2	1	1.88		10

Laboratory Control Sample (LCS)

(LCS) R3341542-2 09/12/18 09:37

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3342158-1 09/14/18 11:36

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1024236-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1024236-01 09/14/18 11:36 • (DUP) R3342158-3 09/14/18 11:36

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	90.4	89.7	1	0.785		10

Laboratory Control Sample (LCS)

(LCS) R3342158-2 09/14/18 11:36

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3341654-1 09/13/18 05:39

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000			

L1023776-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1023776-01 09/13/18 05:39 • (DUP) R3341654-3 09/13/18 05:39

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	93.4	92.6	1	0.897		10

Laboratory Control Sample (LCS)

(LCS) R3341654-2 09/13/18 05:39

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3340595-1 09/10/18 11:34

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.00280	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3340595-2 09/10/18 11:37 • (LCSD) R3340595-3 09/10/18 11:40

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.289	0.282	96.2	94.0	80.0-120			2.27	20

L1024042-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1024042-05 09/10/18 11:42 • (MS) R3340595-4 09/10/18 11:45 • (MSD) R3340595-5 09/10/18 11:47

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	ND	0.318	0.265	105	87.2	1	75.0-125			18.3	20

Method Blank (MB)

(MB) R3341047-7 09/11/18 16:24

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Antimony	U		0.750	2.00
Arsenic	U		0.460	2.00
Barium	U		0.170	0.500
Beryllium	U		0.0700	0.200
Cadmium	U		0.0700	0.500
Chromium	U		0.140	1.00
Cobalt	U		0.230	1.00
Copper	U		0.530	2.00
Lead	U		0.190	0.500
Molybdenum	U		0.160	0.500
Nickel	U		0.490	2.00
Selenium	U		0.620	2.00
Silver	U		0.120	1.00
Thallium	U		0.650	2.00
Vanadium	U		0.240	2.00
Zinc	U		0.590	5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3341047-1 09/11/18 14:00 • (LCSD) R3341047-2 09/11/18 14:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	100	98.2	101	98.2	101	80.0-120			2.91	20
Arsenic	100	96.2	99.1	96.2	99.1	80.0-120			2.95	20
Barium	100	101	103	101	103	80.0-120			2.74	20
Beryllium	100	99.8	103	99.8	103	80.0-120			2.88	20
Cadmium	100	98.2	101	98.2	101	80.0-120			2.52	20
Chromium	100	98.5	101	98.5	101	80.0-120			2.53	20
Cobalt	100	98.5	101	98.5	101	80.0-120			2.39	20
Copper	100	100	103	100	103	80.0-120			2.78	20
Lead	100	96.1	98.6	96.1	98.6	80.0-120			2.63	20
Molybdenum	100	101	104	101	104	80.0-120			2.71	20
Nickel	100	97.4	99.8	97.4	99.8	80.0-120			2.40	20
Selenium	100	96.7	98.2	96.7	98.2	80.0-120			1.50	20
Silver	20.0	18.5	18.8	92.7	94.2	80.0-120			1.60	20
Thallium	100	97.1	99.8	97.1	99.8	80.0-120			2.77	20
Vanadium	100	96.7	99.8	96.7	99.8	80.0-120			3.18	20
Zinc	100	95.5	97.7	95.5	97.7	80.0-120			2.27	20

L1024028-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1024028-05 09/11/18 14:05 • (MS) R3341047-5 09/11/18 14:13 • (MSD) R3341047-6 09/11/18 14:15

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	102	U	54.0	54.2	53.0	53.2	1	75.0-125	J6	J6	0.372	20
Arsenic	102	3.14	101	107	96.2	102	1	75.0-125			5.21	20
Barium	102	71.7	170	178	96.2	104	1	75.0-125			4.49	20
Beryllium	102	U	99.0	105	97.1	103	1	75.0-125			5.67	20
Cadmium	102	0.976	100	107	97.6	104	1	75.0-125			6.13	20
Chromium	102	19.7	112	120	90.4	98.4	1	75.0-125			7.06	20
Cobalt	102	5.83	105	111	97.1	104	1	75.0-125			6.24	20
Copper	102	52.3	145	168	91.1	113	1	75.0-125			14.4	20
Lead	102	36.8	120	132	81.5	93.1	1	75.0-125			9.41	20
Molybdenum	102	0.641	101	107	98.6	104	1	75.0-125			5.71	20
Nickel	102	10.4	106	115	94.2	102	1	75.0-125			7.32	20
Selenium	102	0.920	96.6	102	93.9	99.5	1	75.0-125			5.82	20
Silver	20.4	U	18.6	19.6	91.1	96.0	1	75.0-125			5.15	20
Thallium	102	U	96.7	103	94.9	101	1	75.0-125			6.43	20
Vanadium	102	38.2	129	137	89.0	96.8	1	75.0-125			6.00	20
Zinc	102	86.9	164	182	75.5	93.3	1	75.0-125			10.5	20

Method Blank (MB)

(MB) R3341659-3 09/10/18 12:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPHG C5 - C12	U		0.0332	0.100
(S) a,a,a-Trifluorotoluene(FID)	*105*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3341659-1 09/10/18 10:59 • (LCSD) R3341659-2 09/10/18 11:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHG C5 - C12	5.50	5.43	5.92	98.8	108	72.0-125			8.61	20
(S) a,a,a-Trifluorotoluene(FID)				*99.9*	*100*	*77.0-120*				

L1024182-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1024182-03 09/10/18 19:24 • (MS) R3341659-4 09/10/18 21:33 • (MSD) R3341659-5 09/10/18 21:55

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPHG C5 - C12	7.11	520	1060	1180	75.6	92.6	100	10.0-141			10.8	29
(S) a,a,a-Trifluorotoluene(FID)					*108*	*109*		*77.0-120*				

Method Blank (MB)

(MB) R3342028-5 09/11/18 12:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPHG C5 - C12	U		0.0332	0.100
(S) a,a,a-Trifluorotoluene(FID)	*105*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3342028-3 09/11/18 11:00 • (LCSD) R3342028-4 09/11/18 11:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHG C5 - C12	5.50	5.57	5.72	101	104	72.0-125			2.74	20
(S) a,a,a-Trifluorotoluene(FID)				*100*	*101*	*77.0-120*				

L1024078-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1024078-01 09/11/18 13:24 • (MS) R3342028-6 09/11/18 20:01 • (MSD) R3342028-7 09/11/18 20:22

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPHG C5 - C12	7.14	1.45	84.9	94.0	46.8	51.9	25	10.0-141			10.1	29
(S) a,a,a-Trifluorotoluene(FID)					*107*	*107*		*77.0-120*				

Method Blank (MB)

(MB) R3341205-2 09/11/18 21:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0137	0.0250
Acrylonitrile	U		0.00190	0.0125
Benzene	U		0.000400	0.00100
Bromobenzene	U		0.00105	0.0125
Bromodichloromethane	U		0.000788	0.00250
Bromochloromethane	U		0.00113	0.00500
Bromoform	U		0.00598	0.0250
Bromomethane	U		0.00370	0.0125
n-Butylbenzene	U		0.00384	0.0125
sec-Butylbenzene	U		0.00253	0.0125
tert-Butylbenzene	U		0.00155	0.00500
Carbon tetrachloride	U		0.00108	0.00500
Chlorobenzene	U		0.000573	0.00250
Chlorodibromomethane	U		0.000450	0.00250
Chloroethane	U		0.00108	0.00500
Chloroform	U		0.000415	0.00250
Chloromethane	U		0.00139	0.0125
2-Chlorotoluene	U		0.000920	0.00250
4-Chlorotoluene	U		0.00113	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00510	0.0250
1,2-Dibromoethane	U		0.000525	0.00250
Dibromomethane	U		0.00100	0.00500
1,2-Dichlorobenzene	U		0.00145	0.00500
1,3-Dichlorobenzene	U		0.00170	0.00500
1,4-Dichlorobenzene	U		0.00197	0.00500
Dichlorodifluoromethane	U		0.000818	0.00250
1,1-Dichloroethane	U		0.000575	0.00250
1,2-Dichloroethane	U		0.000475	0.00250
1,1-Dichloroethene	U		0.000500	0.00250
cis-1,2-Dichloroethene	U		0.000690	0.00250
trans-1,2-Dichloroethene	U		0.00143	0.00500
1,2-Dichloropropane	U		0.00127	0.00500
1,1-Dichloropropene	U		0.000700	0.00250
1,3-Dichloropropane	U		0.00175	0.00500
cis-1,3-Dichloropropene	U		0.000678	0.00250
trans-1,3-Dichloropropene	U		0.00153	0.00500
2,2-Dichloropropane	U		0.000793	0.00250
Di-isopropyl ether	U		0.000350	0.00100
Ethylbenzene	U		0.000530	0.00250
Hexachloro-1,3-butadiene	U		0.0127	0.0250

Method Blank (MB)

(MB) R3341205-2 09/11/18 21:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
2-Hexanone	U		0.0100	0.0250
Isopropylbenzene	U		0.000863	0.00250
p-Isopropyltoluene	U		0.00233	0.00500
2-Butanone (MEK)	U		0.0125	0.0250
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.0100	0.0250
Methyl tert-butyl ether	U		0.000295	0.00100
Naphthalene	U		0.00312	0.0125
n-Propylbenzene	U		0.00118	0.00500
Styrene	U		0.00273	0.0125
1,1,1,2-Tetrachloroethane	U		0.000500	0.00250
1,1,2,2-Tetrachloroethane	U		0.000390	0.00250
Tetrachloroethene	U		0.000700	0.00250
Tetrahydrofuran	U		0.00225	0.0125
Toluene	U		0.00125	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000675	0.00250
1,2,3-Trichlorobenzene	U		0.000625	0.00250
1,2,4-Trichlorobenzene	U		0.00482	0.0125
1,1,1-Trichloroethane	U		0.000275	0.00250
1,1,2-Trichloroethane	U		0.000883	0.00250
Trichloroethene	U		0.000400	0.00100
Trichlorofluoromethane	U		0.000500	0.00250
1,2,3-Trichloropropane	U		0.00510	0.0125
1,2,4-Trimethylbenzene	U		0.00116	0.00500
1,3,5-Trimethylbenzene	U		0.00108	0.00500
Vinyl chloride	U		0.000683	0.00250
Xylenes, Total	U		0.00478	0.00650
o-Xylene	U		0.00100	0.00250
m&p-Xylenes	U		0.00150	0.00400
(S) Toluene-d8	*112*			*75.0-131*
(S) Dibromofluoromethane	*98.4*			*65.0-129*
(S) 4-Bromofluorobenzene	*103*			*67.0-138*

Laboratory Control Sample (LCS)

(LCS) R3341205-1 09/11/18 20:34

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.625	0.626	100	10.0-160	
Acrylonitrile	0.625	0.664	106	45.0-153	
Benzene	0.125	0.111	88.9	70.0-123	
Bromobenzene	0.125	0.137	110	73.0-121	
Bromodichloromethane	0.125	0.166	133	73.0-121	J4
Bromochloromethane	0.125	0.114	90.8	77.0-128	
Bromoform	0.125	0.156	125	64.0-132	
Bromomethane	0.125	0.157	125	56.0-147	
n-Butylbenzene	0.125	0.141	113	68.0-135	
sec-Butylbenzene	0.125	0.135	108	74.0-130	
tert-Butylbenzene	0.125	0.134	107	75.0-127	
Carbon tetrachloride	0.125	0.146	117	66.0-128	
Chlorobenzene	0.125	0.104	83.5	76.0-128	
Chlorodibromomethane	0.125	0.121	97.1	74.0-127	
Chloroethane	0.125	0.145	116	61.0-134	
Chloroform	0.125	0.136	109	72.0-123	
Chloromethane	0.125	0.182	145	51.0-138	J4
2-Chlorotoluene	0.125	0.127	102	75.0-124	
4-Chlorotoluene	0.125	0.149	119	75.0-124	
1,2-Dibromo-3-Chloropropane	0.125	0.109	87.2	59.0-130	
1,2-Dibromoethane	0.125	0.116	93.2	74.0-128	
Dibromomethane	0.125	0.147	117	75.0-122	
1,2-Dichlorobenzene	0.125	0.133	106	76.0-124	
1,3-Dichlorobenzene	0.125	0.139	111	76.0-125	
1,4-Dichlorobenzene	0.125	0.136	109	77.0-121	
Dichlorodifluoromethane	0.125	0.175	140	43.0-156	
1,1-Dichloroethane	0.125	0.144	115	70.0-127	
1,2-Dichloroethane	0.125	0.146	117	65.0-131	
1,1-Dichloroethene	0.125	0.164	131	65.0-131	
cis-1,2-Dichloroethene	0.125	0.111	88.6	73.0-125	
trans-1,2-Dichloroethene	0.125	0.119	95.5	71.0-125	
1,2-Dichloropropane	0.125	0.160	128	74.0-125	J4
1,1-Dichloropropene	0.125	0.116	93.0	73.0-125	
1,3-Dichloropropane	0.125	0.125	100	80.0-125	
cis-1,3-Dichloropropene	0.125	0.131	105	76.0-127	
trans-1,3-Dichloropropene	0.125	0.123	98.1	73.0-127	
2,2-Dichloropropane	0.125	0.195	156	59.0-135	J4
Di-isopropyl ether	0.125	0.145	116	60.0-136	
Ethylbenzene	0.125	0.127	102	74.0-126	
Hexachloro-1,3-butadiene	0.125	0.155	124	57.0-150	

Laboratory Control Sample (LCS)

(LCS) R3341205-1 09/11/18 20:34

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
2-Hexanone	0.625	0.662	106	54.0-147	
Isopropylbenzene	0.125	0.120	95.8	72.0-127	
p-Isopropyltoluene	0.125	0.135	108	72.0-133	
2-Butanone (MEK)	0.625	0.591	94.6	30.0-160	
Methylene Chloride	0.125	0.136	109	68.0-123	
4-Methyl-2-pentanone (MIBK)	0.625	0.683	109	56.0-143	
Methyl tert-butyl ether	0.125	0.146	117	66.0-132	
Naphthalene	0.125	0.112	90.0	59.0-130	
n-Propylbenzene	0.125	0.126	101	74.0-126	
Styrene	0.125	0.132	106	72.0-127	
1,1,1,2-Tetrachloroethane	0.125	0.144	115	74.0-129	
1,1,2,2-Tetrachloroethane	0.125	0.131	105	68.0-128	
Tetrachloroethene	0.125	0.140	112	70.0-136	
Tetrahydrofuran	0.125	0.0977	78.2	37.0-146	
Toluene	0.125	0.124	99.3	75.0-121	
1,1,2-Trichlorotrifluoroethane	0.125	0.145	116	61.0-139	
1,2,3-Trichlorobenzene	0.125	0.128	103	59.0-139	
1,2,4-Trichlorobenzene	0.125	0.142	113	62.0-137	
1,1,1-Trichloroethane	0.125	0.140	112	69.0-126	
1,1,2-Trichloroethane	0.125	0.108	86.6	78.0-123	
Trichloroethene	0.125	0.133	106	76.0-126	
Trichlorofluoromethane	0.125	0.148	118	61.0-142	
1,2,3-Trichloropropane	0.125	0.136	108	67.0-129	
1,2,4-Trimethylbenzene	0.125	0.142	113	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.138	110	73.0-127	
Vinyl chloride	0.125	0.161	129	63.0-134	
Xylenes, Total	0.375	0.397	106	72.0-127	
o-Xylene	0.125	0.131	105	79.0-124	
m&p-Xylenes	0.250	0.266	107	76.0-126	
(S) Toluene-d8			*103*	*75.0-131*	
(S) Dibromofluoromethane			*101*	*65.0-129*	
(S) 4-Bromofluorobenzene			*105*	*67.0-138*	

L1024028-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1024028-12 09/12/18 04:23 • (MS) R3341205-3 09/11/18 22:37 • (MSD) R3341205-4 09/11/18 22:57

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.671	0.0304	0.632	0.599	89.7	84.7	1	10.0-160			5.36	40
Acrylonitrile	0.671	U	0.649	0.593	96.7	88.4	1	10.0-160			8.95	40
Benzene	0.134	U	0.0902	0.0868	67.3	64.7	1	10.0-149			3.93	37
Bromobenzene	0.134	U	0.0962	0.116	71.7	86.4	1	10.0-156			18.6	38
Bromodichloromethane	0.134	U	0.142	0.139	106	104	1	10.0-143			1.92	37
Bromochloromethane	0.134	U	0.0774	0.0853	57.7	63.6	1	10.0-155			9.68	33
Bromoform	0.134	U	0.119	0.148	88.7	110	1	10.0-146			21.5	36
Bromomethane	0.134	U	0.0876	0.0824	65.3	61.4	1	10.0-149			6.15	38
n-Butylbenzene	0.134	U	0.121	0.126	90.1	94.3	1	10.0-160			4.50	40
sec-Butylbenzene	0.134	U	0.107	0.118	79.6	87.8	1	10.0-159			9.84	39
tert-Butylbenzene	0.134	U	0.105	0.123	78.5	92.0	1	10.0-156			15.9	39
Carbon tetrachloride	0.134	U	0.113	0.116	84.0	86.2	1	10.0-145			2.68	37
Chlorobenzene	0.134	U	0.0840	0.0901	62.7	67.2	1	10.0-152			6.97	39
Chlorodibromomethane	0.134	U	0.107	0.110	79.8	82.1	1	10.0-146			2.78	37
Chloroethane	0.134	U	0.0986	0.0953	73.5	71.1	1	10.0-146			3.43	40
Chloroform	0.134	U	0.114	0.106	84.7	79.2	1	10.0-146			6.69	37
Chloromethane	0.134	U	0.112	0.0947	83.2	70.7	1	10.0-159			16.4	37
2-Chlorotoluene	0.134	U	0.111	0.104	82.7	77.6	1	10.0-159			6.42	38
4-Chlorotoluene	0.134	U	0.108	0.125	80.5	93.4	1	10.0-155			14.9	39
1,2-Dibromo-3-Chloropropane	0.134	U	0.101	0.101	75.2	75.3	1	10.0-151			0.0818	39
1,2-Dibromoethane	0.134	U	0.0867	0.0948	64.6	70.7	1	10.0-148			8.98	34
Dibromomethane	0.134	U	0.115	0.114	85.9	85.0	1	10.0-147			1.09	35
1,2-Dichlorobenzene	0.134	U	0.114	0.113	85.4	84.3	1	10.0-155			1.21	37
1,3-Dichlorobenzene	0.134	U	0.106	0.115	79.2	85.9	1	10.0-153			8.06	38
1,4-Dichlorobenzene	0.134	U	0.107	0.116	79.6	86.2	1	10.0-151			8.00	38
Dichlorodifluoromethane	0.134	U	0.134	0.136	100	101	1	10.0-160			1.17	35
1,1-Dichloroethane	0.134	U	0.121	0.122	90.6	90.9	1	10.0-147			0.300	37
1,2-Dichloroethane	0.134	U	0.125	0.117	93.1	87.0	1	10.0-148			6.78	35
1,1-Dichloroethene	0.134	U	0.101	0.103	75.5	76.7	1	10.0-155			1.52	37
cis-1,2-Dichloroethene	0.134	U	0.0892	0.0906	66.5	67.6	1	10.0-149			1.55	37
trans-1,2-Dichloroethene	0.134	U	0.0787	0.0731	58.7	54.5	1	10.0-150			7.40	37
1,2-Dichloropropane	0.134	U	0.119	0.137	88.9	102	1	10.0-148			13.9	37
1,1-Dichloropropene	0.134	U	0.0872	0.0761	65.1	56.8	1	10.0-153			13.6	35
1,3-Dichloropropane	0.134	U	0.122	0.126	91.0	93.8	1	10.0-154			3.04	35
cis-1,3-Dichloropropene	0.134	U	0.102	0.108	76.2	80.8	1	10.0-151			5.85	37
trans-1,3-Dichloropropene	0.134	U	0.0977	0.113	72.9	84.0	1	10.0-148			14.1	37
2,2-Dichloropropane	0.134	U	0.160	0.168	120	125	1	10.0-138			4.53	36
Di-isopropyl ether	0.134	U	0.134	0.133	99.8	98.9	1	10.0-147			0.913	36
Ethylbenzene	0.134	U	0.113	0.121	84.2	90.1	1	10.0-160			6.76	38

L1024028-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1024028-12 09/12/18 04:23 • (MS) R3341205-3 09/11/18 22:37 • (MSD) R3341205-4 09/11/18 22:57

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexachloro-1,3-butadiene	0.134	U	0.161	0.183	120	136	1	10.0-160			12.7	40
2-Hexanone	0.671	U	0.573	0.606	85.5	90.4	1	10.0-160			5.60	36
Isopropylbenzene	0.134	U	0.0992	0.104	74.0	77.8	1	10.0-155			5.04	38
p-Isopropyltoluene	0.134	U	0.106	0.124	78.9	92.2	1	10.0-160			15.6	40
2-Butanone (MEK)	0.671	U	0.600	0.404	89.4	60.3	1	10.0-160			38.9	40
Methylene Chloride	0.134	U	0.106	0.0942	79.3	70.3	1	10.0-141			12.1	37
4-Methyl-2-pentanone (MIBK)	0.671	U	0.607	0.677	90.5	101	1	10.0-160			10.9	35
Methyl tert-butyl ether	0.134	0.00905	0.127	0.127	87.8	87.6	1	11.0-147			0.229	35
Naphthalene	0.134	U	0.0865	0.0920	64.5	68.6	1	10.0-160			6.20	36
n-Propylbenzene	0.134	U	0.0987	0.112	73.6	83.4	1	10.0-158			12.5	38
Styrene	0.134	U	0.102	0.113	76.3	84.2	1	10.0-160			9.86	40
1,1,1,2-Tetrachloroethane	0.134	U	0.149	0.135	111	101	1	10.0-149			10.2	39
1,1,2,2-Tetrachloroethane	0.134	U	0.114	0.109	85.0	81.0	1	10.0-160			4.82	35
Tetrachloroethene	0.134	U	0.108	0.126	80.7	94.3	1	10.0-156			15.5	39
Tetrahydrofuran	0.134	U	0.123	0.131	91.8	97.5	1	10.0-158			6.01	33
Toluene	0.134	U	0.102	0.110	76.1	82.1	1	10.0-156			7.55	38
1,1,2-Trichlorotrifluoroethane	0.134	U	0.101	0.106	75.4	79.0	1	10.0-160			4.61	36
1,2,3-Trichlorobenzene	0.134	U	0.0965	0.102	72.0	76.3	1	10.0-160			5.86	40
1,2,4-Trichlorobenzene	0.134	U	0.115	0.113	86.1	84.3	1	10.0-160			2.17	40
1,1,1-Trichloroethane	0.134	U	0.122	0.119	91.1	89.1	1	10.0-144			2.28	35
1,1,2-Trichloroethane	0.134	U	0.0956	0.126	71.3	93.8	1	10.0-160			27.3	35
Trichloroethene	0.134	U	0.0987	0.0993	73.6	74.0	1	10.0-156			0.646	38
Trichlorofluoromethane	0.134	U	0.127	0.110	94.6	82.4	1	10.0-160			13.9	40
1,2,3-Trichloropropane	0.134	U	0.121	0.129	89.9	96.5	1	10.0-156			7.06	35
1,2,4-Trimethylbenzene	0.134	U	0.111	0.125	82.5	93.3	1	10.0-160			12.3	36
1,3,5-Trimethylbenzene	0.134	U	0.106	0.113	78.8	84.1	1	10.0-160			6.50	38
Vinyl chloride	0.134	U	0.0963	0.101	71.8	75.2	1	10.0-160			4.53	37
Xylenes, Total	0.402	U	0.368	0.378	91.5	93.9	1	10.0-160			2.59	38
o-Xylene	0.134	U	0.126	0.134	94.1	99.8	1	10.0-156			5.82	40
m&p-Xylenes	0.268	U	0.241	0.243	89.9	90.7	1	10.0-156			0.849	40
(S) Toluene-d8					*101*	*106*		*75.0-131*				
(S) Dibromofluoromethane					*100*	*97.8*		*65.0-129*				
(S) 4-Bromofluorobenzene					*95.2*	*99.9*		*67.0-138*				

Method Blank (MB)

(MB) R3341970-3 09/13/18 15:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0137	0.0250
Acrylonitrile	U		0.00190	0.0125
Benzene	U		0.000400	0.00100
Bromobenzene	U		0.00105	0.0125
Bromodichloromethane	U		0.000788	0.00250
Bromochloromethane	U		0.00113	0.00500
Bromoform	U		0.00598	0.0250
Bromomethane	U		0.00370	0.0125
n-Butylbenzene	U		0.00384	0.0125
sec-Butylbenzene	U		0.00253	0.0125
tert-Butylbenzene	U		0.00155	0.00500
Carbon tetrachloride	U		0.00108	0.00500
Chlorobenzene	U		0.000573	0.00250
Chlorodibromomethane	U		0.000450	0.00250
Chloroethane	U		0.00108	0.00500
Chloroform	U		0.000415	0.00250
Chloromethane	U		0.00139	0.0125
2-Chlorotoluene	U		0.000920	0.00250
4-Chlorotoluene	U		0.00113	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00510	0.0250
1,2-Dibromoethane	U		0.000525	0.00250
Dibromomethane	U		0.00100	0.00500
1,2-Dichlorobenzene	U		0.00145	0.00500
1,3-Dichlorobenzene	U		0.00170	0.00500
1,4-Dichlorobenzene	U		0.00197	0.00500
Dichlorodifluoromethane	U		0.000818	0.00250
1,1-Dichloroethane	U		0.000575	0.00250
1,2-Dichloroethane	U		0.000475	0.00250
1,1-Dichloroethene	U		0.000500	0.00250
cis-1,2-Dichloroethene	U		0.000690	0.00250
trans-1,2-Dichloroethene	U		0.00143	0.00500
1,2-Dichloropropane	U		0.00127	0.00500
1,1-Dichloropropene	U		0.000700	0.00250
1,3-Dichloropropane	U		0.00175	0.00500
cis-1,3-Dichloropropene	U		0.000678	0.00250
trans-1,3-Dichloropropene	U		0.00153	0.00500
2,2-Dichloropropane	U		0.000793	0.00250
Di-isopropyl ether	U		0.000350	0.00100
Ethylbenzene	U		0.000530	0.00250
Hexachloro-1,3-butadiene	U		0.0127	0.0250

Method Blank (MB)

(MB) R3341970-3 09/13/18 15:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
2-Hexanone	U		0.0100	0.0250
Isopropylbenzene	U		0.000863	0.00250
p-Isopropyltoluene	U		0.00233	0.00500
2-Butanone (MEK)	U		0.0125	0.0250
Methylene Chloride	0.00665	J	0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.0100	0.0250
Methyl tert-butyl ether	U		0.000295	0.00100
Naphthalene	U		0.00312	0.0125
n-Propylbenzene	U		0.00118	0.00500
Styrene	U		0.00273	0.0125
1,1,1,2-Tetrachloroethane	U		0.000500	0.00250
1,1,2,2-Tetrachloroethane	U		0.000390	0.00250
Tetrachloroethene	U		0.000700	0.00250
Tetrahydrofuran	U		0.00225	0.0125
Toluene	U		0.00125	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000675	0.00250
1,2,3-Trichlorobenzene	U		0.000625	0.00250
1,2,4-Trichlorobenzene	U		0.00482	0.0125
1,1,1-Trichloroethane	U		0.000275	0.00250
1,1,2-Trichloroethane	U		0.000883	0.00250
Trichloroethene	U		0.000400	0.00100
Trichlorofluoromethane	U		0.000500	0.00250
1,2,3-Trichloropropane	U		0.00510	0.0125
1,2,4-Trimethylbenzene	U		0.00116	0.00500
1,3,5-Trimethylbenzene	U		0.00108	0.00500
Vinyl chloride	U		0.000683	0.00250
Xylenes, Total	U		0.00478	0.00650
o-Xylene	U		0.00100	0.00250
m&p-Xylenes	U		0.00150	0.00400
(S) Toluene-d8	*103*			*75.0-131*
(S) Dibromofluoromethane	*97.5*			*65.0-129*
(S) 4-Bromofluorobenzene	*98.9*			*67.0-138*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3341970-1 09/13/18 14:03 • (LCSD) R3341970-2 09/13/18 14:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.625	0.720	0.808	115	129	10.0-160			11.5	31
Acrylonitrile	0.625	0.694	0.757	111	121	45.0-153			8.63	22
Benzene	0.125	0.0985	0.0982	78.8	78.6	70.0-123			0.221	20
Bromobenzene	0.125	0.114	0.121	91.3	97.1	73.0-121			6.12	20
Bromodichloromethane	0.125	0.146	0.155	117	124	73.0-121		J4	6.20	20
Bromochloromethane	0.125	0.102	0.112	81.9	89.7	77.0-128			9.03	20
Bromoform	0.125	0.149	0.154	119	123	64.0-132			3.43	20
Bromomethane	0.125	0.107	0.116	85.7	92.4	56.0-147			7.53	20
n-Butylbenzene	0.125	0.118	0.116	94.3	92.9	68.0-135			1.48	20
sec-Butylbenzene	0.125	0.103	0.105	82.4	84.3	74.0-130			2.25	20
tert-Butylbenzene	0.125	0.101	0.109	81.2	87.3	75.0-127			7.27	20
Carbon tetrachloride	0.125	0.155	0.159	124	127	66.0-128			2.19	20
Chlorobenzene	0.125	0.123	0.129	98.4	103	76.0-128			5.04	20
Chlorodibromomethane	0.125	0.143	0.149	115	119	74.0-127			3.65	20
Chloroethane	0.125	0.119	0.132	94.8	106	61.0-134			11.0	20
Chloroform	0.125	0.119	0.129	95.3	103	72.0-123			7.87	20
Chloromethane	0.125	0.124	0.130	99.1	104	51.0-138			4.92	20
2-Chlorotoluene	0.125	0.106	0.0992	85.2	79.3	75.0-124			7.12	20
4-Chlorotoluene	0.125	0.119	0.119	95.1	95.5	75.0-124			0.417	20
1,2-Dibromo-3-Chloropropane	0.125	0.133	0.149	107	119	59.0-130			11.0	20
1,2-Dibromoethane	0.125	0.106	0.125	84.7	100	74.0-128			16.6	20
Dibromomethane	0.125	0.137	0.154	109	123	75.0-122		J4	12.1	20
1,2-Dichlorobenzene	0.125	0.124	0.118	99.4	94.4	76.0-124			5.19	20
1,3-Dichlorobenzene	0.125	0.113	0.115	90.4	92.0	76.0-125			1.75	20
1,4-Dichlorobenzene	0.125	0.110	0.109	88.3	87.4	77.0-121			1.08	20
Dichlorodifluoromethane	0.125	0.116	0.134	92.9	107	43.0-156			13.9	20
1,1-Dichloroethane	0.125	0.112	0.122	89.6	97.7	70.0-127			8.64	20
1,2-Dichloroethane	0.125	0.138	0.146	111	117	65.0-131			5.33	20
1,1-Dichloroethene	0.125	0.117	0.123	93.6	98.0	65.0-131			4.65	20
cis-1,2-Dichloroethene	0.125	0.102	0.0988	81.6	79.1	73.0-125			3.09	20
trans-1,2-Dichloroethene	0.125	0.0894	0.0906	71.5	72.5	71.0-125			1.40	20
1,2-Dichloropropane	0.125	0.108	0.114	86.7	91.0	74.0-125			4.94	20
1,1-Dichloropropene	0.125	0.106	0.114	84.7	91.2	73.0-125			7.43	20
1,3-Dichloropropane	0.125	0.116	0.129	92.9	103	80.0-125			10.2	20
cis-1,3-Dichloropropene	0.125	0.116	0.118	92.5	94.7	76.0-127			2.35	20
trans-1,3-Dichloropropene	0.125	0.124	0.150	99.5	120	73.0-127			18.9	20
2,2-Dichloropropane	0.125	0.135	0.133	108	106	59.0-135			1.96	20
Di-isopropyl ether	0.125	0.124	0.130	99.1	104	60.0-136			4.64	20
Ethylbenzene	0.125	0.111	0.122	88.8	97.4	74.0-126			9.31	20
Hexachloro-1,3-butadiene	0.125	0.151	0.166	121	133	57.0-150			9.52	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3341970-1 09/13/18 14:03 • (LCSD) R3341970-2 09/13/18 14:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2-Hexanone	0.625	0.750	0.805	120	129	54.0-147			7.06	20
Isopropylbenzene	0.125	0.108	0.106	86.4	84.8	72.0-127			1.95	20
p-Isopropyltoluene	0.125	0.107	0.110	85.8	87.9	72.0-133			2.42	20
2-Butanone (MEK)	0.625	0.732	0.771	117	123	30.0-160			5.18	24
Methylene Chloride	0.125	0.0912	0.100	73.0	80.3	68.0-123			9.57	20
4-Methyl-2-pentanone (MIBK)	0.625	0.820	0.900	131	144	56.0-143		J4	9.30	20
Methyl tert-butyl ether	0.125	0.116	0.126	92.5	101	66.0-132			8.98	20
Naphthalene	0.125	0.110	0.114	88.3	91.6	59.0-130			3.57	20
n-Propylbenzene	0.125	0.107	0.102	85.7	81.6	74.0-126			4.92	20
Styrene	0.125	0.109	0.109	87.1	87.2	72.0-127			0.192	20
1,1,1,2-Tetrachloroethane	0.125	0.138	0.149	111	119	74.0-129			7.41	20
1,1,2,2-Tetrachloroethane	0.125	0.109	0.107	87.4	85.7	68.0-128			2.03	20
Tetrachloroethene	0.125	0.116	0.124	92.7	98.9	70.0-136			6.43	20
Tetrahydrofuran	0.125	0.132	0.147	105	118	37.0-146			10.8	24
Toluene	0.125	0.109	0.117	87.1	93.2	75.0-121			6.83	20
1,1,2-Trichlorotrifluoroethane	0.125	0.0925	0.0989	74.0	79.1	61.0-139			6.65	20
1,2,3-Trichlorobenzene	0.125	0.127	0.129	102	103	59.0-139			0.886	20
1,2,4-Trichlorobenzene	0.125	0.126	0.132	101	106	62.0-137			4.48	20
1,1,1-Trichloroethane	0.125	0.132	0.146	105	117	69.0-126			10.5	20
1,1,2-Trichloroethane	0.125	0.119	0.126	94.9	101	78.0-123			6.44	20
Trichloroethene	0.125	0.135	0.121	108	97.1	76.0-126			10.5	20
Trichlorofluoromethane	0.125	0.122	0.131	97.4	105	61.0-142			7.57	20
1,2,3-Trichloropropane	0.125	0.138	0.137	110	110	67.0-129			0.456	20
1,2,4-Trimethylbenzene	0.125	0.115	0.115	92.3	91.6	70.0-126			0.772	20
1,3,5-Trimethylbenzene	0.125	0.110	0.108	88.3	86.4	73.0-127			2.20	20
Vinyl chloride	0.125	0.128	0.138	102	111	63.0-134			7.92	20
Xylenes, Total	0.375	0.333	0.381	88.8	102	72.0-127			13.4	20
o-Xylene	0.125	0.113	0.132	90.5	106	79.0-124			15.6	20
m&p-Xylenes	0.250	0.220	0.249	88.1	99.6	76.0-126			12.3	20
(S) Toluene-d8				*101*	*106*	*75.0-131*				
(S) Dibromofluoromethane				*97.8*	*102*	*65.0-129*				
(S) 4-Bromofluorobenzene				*97.9*	*95.5*	*67.0-138*				

Method Blank (MB)

(MB) R3341922-1 09/13/18 14:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C12-C22 Hydrocarbons	U		0.733	4.00
C22-C32 Hydrocarbons	U		1.33	4.00
C32-C40 Hydrocarbons	U		1.33	4.00
(S) o-Terphenyl	*62.5*			*18.0-148*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3341922-2 09/13/18 15:12 • (LCSD) R3341922-5 09/13/18 19:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C22-C32 Hydrocarbons	25.0	15.2	13.3	60.8	53.2	50.0-150			13.3	20
C12-C22 Hydrocarbons	25.0	17.8	13.7	71.2	54.8	50.0-150		J3	26.0	20
(S) o-Terphenyl				*57.4*	*45.8*	*18.0-148*				

L1024028-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1024028-07 09/13/18 15:41 • (MS) R3341922-3 09/13/18 15:56 • (MSD) R3341922-4 09/13/18 16:10

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C22-C32 Hydrocarbons	28.0	5.00	14.5	14.9	33.8	35.4	1	50.0-150	J6	J6	3.05	20
C12-C22 Hydrocarbons	28.0	0.873	14.5	13.9	51.6	49.6	1	50.0-150		J6	3.95	20
(S) o-Terphenyl					*36.5*	*38.6*		*18.0-148*				

Method Blank (MB)

(MB) R3342611-1 09/17/18 19:04

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C12-C22 Hydrocarbons	U		0.733	4.00
C22-C32 Hydrocarbons	U		1.33	4.00
C32-C40 Hydrocarbons	U		1.33	4.00
(S) o-Terphenyl	*92.3*			*18.0-148*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3342611-2 09/17/18 19:17 • (LCSD) R3342611-3 09/17/18 19:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C22-C32 Hydrocarbons	25.0	18.6	22.5	74.4	90.0	50.0-150			19.0	20
C12-C22 Hydrocarbons	25.0	21.6	24.1	86.4	96.4	50.0-150			10.9	20
(S) o-Terphenyl				*76.0*	*86.9*	*18.0-148*				

Method Blank (MB)

(MB) R3342088-1 09/13/18 00:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Aldrin	U		0.000233	0.0200
Alpha BHC	U		0.000193	0.0200
Beta BHC	U		0.000303	0.0200
Delta BHC	U		0.000151	0.0200
Gamma BHC	U		0.000245	0.0200
4,4-DDD	U		0.000164	0.0200
4,4-DDE	U		0.000165	0.0200
4,4-DDT	U		0.000266	0.0200
Dieldrin	U		0.0000890	0.00200
Endosulfan I	U		0.000214	0.0200
Endosulfan II	U		0.000230	0.0200
Endosulfan sulfate	U		0.000170	0.0200
Endrin	U		0.000219	0.0200
Endrin aldehyde	U		0.000242	0.0200
Endrin ketone	U		0.000159	0.0200
Heptachlor	U		0.000101	0.0200
Heptachlor epoxide	U		0.000378	0.0200
Hexachlorobenzene	U		0.000224	0.0200
Methoxychlor	U		0.000265	0.0200
Chlordane	U		0.0390	0.200
Toxaphene	U		0.0360	0.400
(S) Decachlorobiphenyl	*90.1*			*10.0-135*
(S) Tetrachloro-m-xylene	*92.2*			*10.0-139*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3342088-2 09/13/18 00:35 • (LCSD) R3342088-3 09/13/18 00:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0666	0.0607	0.0548	91.1	82.3	34.0-136			10.2	38
Alpha BHC	0.0666	0.0650	0.0592	97.6	88.9	34.0-139			9.34	38
Beta BHC	0.0666	0.0629	0.0574	94.4	86.2	34.0-133			9.14	37
Delta BHC	0.0666	0.0643	0.0589	96.5	88.4	34.0-135			8.77	38
Gamma BHC	0.0666	0.0625	0.0572	93.8	85.9	34.0-136			8.86	38
4,4-DDD	0.0666	0.0591	0.0566	88.7	85.0	33.0-141			4.32	39
4,4-DDE	0.0666	0.0597	0.0544	89.6	81.7	34.0-134			9.29	38
4,4-DDT	0.0666	0.0664	0.0629	99.7	94.4	30.0-143			5.41	40
Dieldrin	0.0666	0.0608	0.0558	91.3	83.8	35.0-137			8.58	37
Endosulfan I	0.0666	0.0565	0.0535	84.8	80.3	34.0-134			5.45	37

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3342088-2 09/13/18 00:35 • (LCSD) R3342088-3 09/13/18 00:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Endosulfan II	0.0666	0.0579	0.0542	86.9	81.4	35.0-132			6.60	38
Endosulfan sulfate	0.0666	0.0603	0.0573	90.5	86.0	35.0-132			5.10	37
Endrin	0.0666	0.0613	0.0565	92.0	84.8	34.0-137			8.15	37
Endrin aldehyde	0.0666	0.0540	0.0539	81.1	80.9	23.0-121			0.185	39
Endrin ketone	0.0666	0.0618	0.0614	92.8	92.2	35.0-144			0.649	37
Heptachlor	0.0666	0.0610	0.0552	91.6	82.9	36.0-141			9.98	37
Heptachlor epoxide	0.0666	0.0598	0.0543	89.8	81.5	36.0-134			9.64	37
Hexachlorobenzene	0.0666	0.0631	0.0575	94.7	86.3	33.0-129			9.29	37
Methoxychlor	0.0666	0.0719	0.0713	108	107	28.0-150			0.838	38
(S) Decachlorobiphenyl				*91.3*	*94.6*	*10.0-135*				
(S) Tetrachloro-m-xylene				*83.2*	*76.4*	*10.0-139*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
P	RPD between the primary and confirmatory analysis exceeded 40%.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

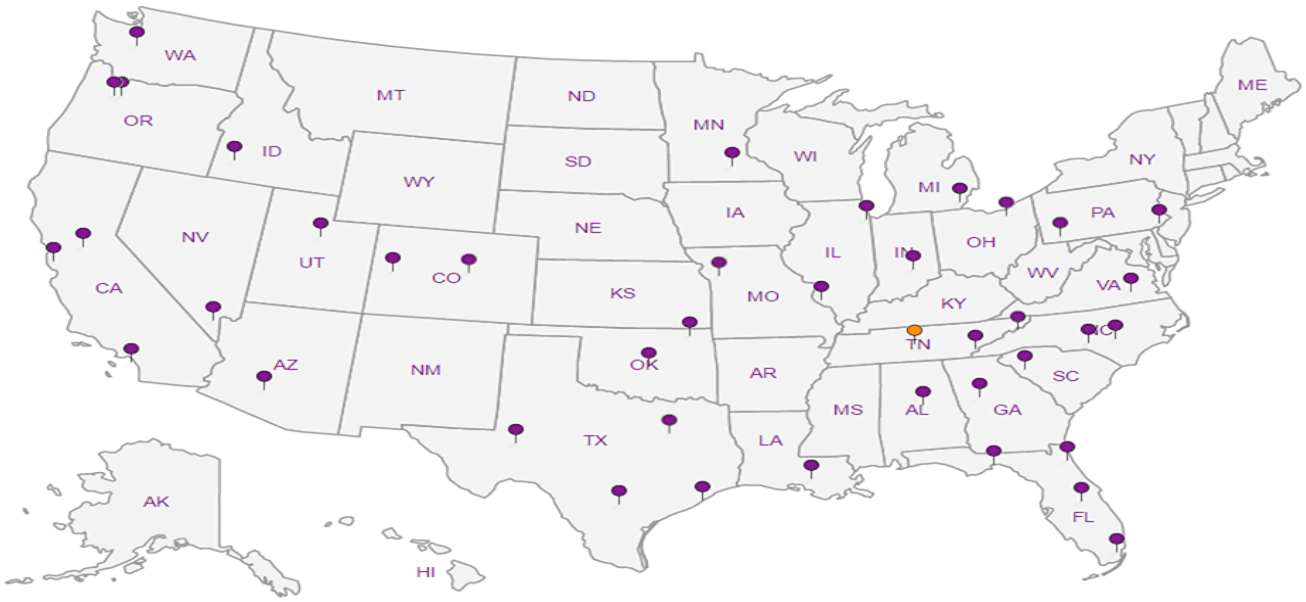
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Terracon - Sacramento, CA

50 Goldenland Ct
Suite 100
Sacramento, CA 95834

Billing Information:
Accounts Payable
50 Goldenland Ct, Ste. 100
Sacramento, CA 95834

Pres Chk

Report to: Scott Gable

Email To: scott.gable@terracon.com; pat.keicher@terracon.com;

Project Description:

City/State Collected: Santa Cruz CA

Phone: 916-246-5079
Fax:

Client Project # NB187049A

Lab Project # TERRSCA-NB187049A

Collected by (print): Patrick Keicher

Site/Facility ID # 5940 SOQUEL AVE, SANTA

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CAM17 Metals 4ozClr-NoPres	DRO/ORO DROCAER 4ozClr-NoPres	GRO-CA 40ml/NaHSO4/Syr/MeOH	OCPs SV8081CA 4ozClr-NoPres	VOCs V8260 2ozClr-NoPres	VOCs V8260 40ml/NaHSO4/Syr/MeOH	Remarks	Sample # (lab only)
SV9-5	G	SS	5	9/5/18	10:15	6	/	/	/		/	/		-01
SV10-1	G	SS	1	9/5/18	10:50	1				/				-14
SV10-5	G	SS	5	9/5/18	10:55	6	/	/	/		/	/		-02
SV7-5	G	SS	5	9/5/18	11:30	6	/	/	/		/	/		-03
SV8-5	G	SS	5	9/5/18	12:30	6	/	/	/		/	/		-04
B4-0.5	G	SS	0.5	9/5/18	13:15	6	/	/	/		/	/		-05
B4-2.5	G	SS	2.5	9/5/18	13:30	1							hold	
B4-6	G	SS	6	9/5/18	13:45	5	/	/	/		/	/	no CAM17	-06
B4-30	G	SS	30	9/5/18	14:00	1							hold	
SB11-5	G	SS	5	9/5/18	15:00	6	/	/	/		/	/		-07

Chain of Custody Page 1 of 3

Pace Analytical
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1024028
H072

Acctnum: TERRSCA
Template: T139970
Prelogin: P668684
TSR: 110 - Brian Ford
PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier __ _____

Tracking # 4196 3258 5633

Sample Receipt Checklist
COC Seal Present/Intact: ✓NP __Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeOH TBR
	9/6/18	12:20		1
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.6 °C Bottles Received: 9
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9/7/18 Time: 8:45

If preservation required by Login: Date/Time

09-0021

Condition: NCF / OK

Terracon - Sacramento, CA

50 Goldenland Ct
Suite 100
Sacramento, CA 95834

Billing Information:
Accounts Payable
50 Goldenland Ct, Ste. 100
Sacramento, CA 95834

Pres Chk

Report to: Scott Gable

Email To: scott.gable@terracon.com; pat.keicher@terracon.com;

Project Description:

City/State Collected:

Phone: 916-246-5079
Fax:

Client Project # NB187049A

Lab Project # TERRSCA-NB187049A

Collected by (print): Patrick Keicher

Site/Facility ID # 5940 SOQUEL AVE, SANTA

P.O. #

Collected by (signature): Patrick Keicher

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Chain of Custody Page 2 of 3

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # L1024028

Table #

Acctnum: TERRSCA
Template: T139970
Prelogin: P668684
TSR: 110 - Brian Ford
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CAM17 Metals 4ozClr-NoPres	DRO/ORO DROCAER 4ozClr-NoPres	GRO-CA 40ml/NaHSO4/Syr/MeOH	OCPs SV8081CA 4ozClr-NoPres	VOCs V8260 2ozClr-NoPres	VOCs V8260 40ml/NaHSO4/Syr/MeOH	Remarks	Sample # (lab only)
B6 - 0.5	G	SS	0.5	9/5/18	15:15	6	/	/	/		/	/		-08
B6 - 10	G	SS	10	9/5/18	16:00	1							hold	
B6 - 26	G	SS	26	9/5/18	16:10	1							hold	
B6 - 29	G	SS	29	9/5/18	16:10	1							hold	
B6 - 40	G	SS	40	9/5/18	16:30	5							hold	
B3 - 0.5	G	SS	0.5	9/6/18	10:00	6	/	/	/		/	/		-09
B3 - 8	G	SS	8	9/6/18	10:20	5	/	/	/		/	/	no CAM 17	-10
B3 - 23	G	SS	23	9/6/18	10:30	1							hold	
B3 - 32.5	G	SS	32.5	9/6/18	10:40	1							hold	
SB12 - 2	G	SS	2	9/6/18	8:05	1							hold	

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: ✓NP __Y __N
COC Signed/Accurate: ✓ __Y __N
Bottles arrive intact: ✓ __Y __N
Correct bottles used: ✓ __Y __N
Sufficient volume sent: ✓ __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No (HCL / MeOH / TBR)	
Patrick Keicher	9/6/2018	12:20			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.6 °C Bottles Received: 9	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9/7/18 Time: 8:45	Hold: / Condition: NCF / OK

Terracon - Sacramento, CA

50 Goldenland Ct
Suite 100
Sacramento, CA 95834

Billing Information:
Accounts Payable
50 Goldenland Ct, Ste. 100
Sacramento, CA 95834

Pres Chk

Report to: Scott Gable

Email To: scott.gable@terracon.com; pat.keicher@terracon.com;

Project Description:

City/State Collected:

Phone: 916-246-5079
Fax:

Client Project # NB187049A

Lab Project # TERRSCA-NB187049A

Collected by (print): Patrick Keicher

Site/Facility ID # 5940 SOQUEL AVE, SANTA

P.O. #

Collected by (signature): Patrick Keicher

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CAM17 Metals 4ozClr-NoPres	DRO/ORO DROCAER 4ozClr-NoPres	GRO-CA 40ml/NaHSO4/Syr/MeOH	OCPs SV8081CA 4ozClr-NoPres	VOCs V8260 2ozClr-NoPres	VOCs V8260 40ml/NaHSO4/Syr/MeOH	Remarks	Sample # (lab only)
SB12-5	G	SS	5	9/6/18	8:15	6	/	/	/		/	/		-11
SB5-0.5	G	SS	0.5	9/6/18	9:45	6	/	/	/		/	/		-12
SB5-7	G	SS	7	9/6/18	9:00	5	/	/	/		/	/	no CAM17	-13
SB5-25	G	SS	25	9/6/18	9:15	1							hold	
SB5-39	G	SS	39	9/6/18	9:20	1							hold	
		SS												
		SS												
		SS												
		SS												
		SS												

Analysis / Container / Preservative

Chain of Custody Page 3 of 3

Pace Analytical
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # L1024028

Table #

Acctnum: TERRSCA

Template: T139970

Prelogin: P668684

TSR: 110 - Brian Ford

PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier __ _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP __Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Patrick Keicher	9/6/2018	12:20	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: (Yes) / No
HCl / MeoH
TBR

Temp: 1.6 °C Bottles Received: 9

Date: 9/7/18 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: (NCF) / OK

Troy Dunlap

Pace Analytical®
National Center for Testing & Innovation

Login #: L1024028	Client: TERRSCA	Date: 9/7/18	Evaluated by: Troy Dunlap

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time	X	Login Clarification Needed		**If Broken Container:**
	Improper temperature		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.		Insufficient packing material inside cooler
	Improper preservation		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Courie
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
	Broken container		Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments: For SV10-1 the client marked SV8081CA on the COC but the container says HOLD. Please advise.

Client informed by:		Call		Email		Voice Mail		Date:	Time:
TSR Initials:bjf	Client Contact:								

Login Instructions:

Log per COC.

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 14, 2018

Terracon - Sacramento, CA

Sample Delivery Group:	L1024287
Samples Received:	09/08/2018
Project Number:	NB187049A
Description:	

Report To:

Scott Gable
50 Goldenland Ct
Suite 100
Sacramento, CA 95834

Entire Report Reviewed By:

Brian Ford

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

SV7 L1024287-01 Air

Collected by: Patrick Keicher
Collected date/time: 09/07/18 09:38
Received date/time: 09/08/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1164722	1	09/12/18 10:03	09/12/18 10:03	AMC
Volatile Organic Compounds (MS) by Method TO-15	WG1164782	2	09/12/18 19:07	09/12/18 19:07	AMC
Organic Compounds (GC) by Method D1946	WG1164070	1	09/11/18 09:19	09/11/18 09:19	AMC

SV8 L1024287-02 Air

Collected by: Patrick Keicher
Collected date/time: 09/07/18 10:07
Received date/time: 09/08/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1164722	1	09/12/18 10:10	09/12/18 10:10	AMC
Volatile Organic Compounds (MS) by Method TO-15	WG1164782	2	09/12/18 19:49	09/12/18 19:49	AMC
Organic Compounds (GC) by Method D1946	WG1164070	1	09/11/18 09:30	09/11/18 09:30	AMC

SV9 L1024287-03 Air

Collected by: Patrick Keicher
Collected date/time: 09/07/18 09:01
Received date/time: 09/08/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1164722	1	09/12/18 10:12	09/12/18 10:12	AMC
Volatile Organic Compounds (MS) by Method TO-15	WG1164782	2	09/12/18 20:29	09/12/18 20:29	AMC
Volatile Organic Compounds (MS) by Method TO-15	WG1165527	25	09/14/18 01:02	09/14/18 01:02	AMC
Organic Compounds (GC) by Method D1946	WG1164070	1	09/11/18 09:43	09/11/18 09:43	AMC

SV10 L1024287-04 Air

Collected by: Patrick Keicher
Collected date/time: 09/07/18 11:45
Received date/time: 09/08/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1164722	1	09/12/18 10:20	09/12/18 10:20	AMC
Volatile Organic Compounds (MS) by Method TO-15	WG1164782	2	09/12/18 21:10	09/12/18 21:10	AMC
Organic Compounds (GC) by Method D1946	WG1164070	1	09/11/18 09:49	09/11/18 09:49	AMC

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	ND		1	WG1164722

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	51.5	122		2	WG1164782
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1164782
Benzene	71-43-2	78.10	0.400	1.28	1.13	3.61		2	WG1164782
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1164782
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1164782
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1164782
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1164782
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1164782
Carbon disulfide	75-15-0	76.10	0.400	1.24	36.5	114		2	WG1164782
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1164782
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1164782
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1164782
Chloroform	67-66-3	119	0.400	1.95	0.731	3.56		2	WG1164782
Chloromethane	74-87-3	50.50	0.400	0.826	0.756	1.56		2	WG1164782
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1164782
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1164782
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1164782
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1164782
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1164782
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1164782
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1164782
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1164782
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1164782
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1164782
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1164782
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1164782
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1164782
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1164782
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1164782
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1164782
Ethanol	64-17-5	46.10	1.26	2.38	7.46	14.1		2	WG1164782
Ethylbenzene	100-41-4	106	0.400	1.73	0.431	1.87		2	WG1164782
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1164782
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1164782
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1164782
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1164782
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1164782
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1164782
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1164782
n-Hexane	110-54-3	86.20	0.400	1.41	0.508	1.79		2	WG1164782
Isopropylbenzene	98-82-8	120.20	0.400	1.97	5.68	27.9		2	WG1164782
Methylene Chloride	75-09-2	84.90	0.400	1.39	0.665	2.31	B	2	WG1164782
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1164782
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1164782
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1164782
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1164782
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1164782
Naphthalene	91-20-3	128	1.26	6.60	1.52	7.93		2	WG1164782
2-Propanol	67-63-0	60.10	2.50	6.15	2.81	6.92		2	WG1164782
Propene	115-07-1	42.10	0.800	1.38	1.56	2.68		2	WG1164782

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1164782
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1164782
Tetrachloroethylene	127-18-4	166	0.400	2.72	1.14	7.71		2	WG1164782
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	1.11	3.27		2	WG1164782
Toluene	108-88-3	92.10	0.400	1.51	11.2	42.3		2	WG1164782
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1164782
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1164782
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1164782
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1164782
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	12.1	59.1		2	WG1164782
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	0.911	4.47		2	WG1164782
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1164782
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1164782
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1164782
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1164782
m&p-Xylene	1330-20-7	106	0.800	3.47	1.44	6.22		2	WG1164782
o-Xylene	95-47-6	106	0.400	1.73	0.405	1.75		2	WG1164782
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*124*				WG1164782

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Oxygen	7782-44-7	32	2.00	15.5		1	WG1164070
Carbon Dioxide	124-38-9	44.01	0.500	2.42		1	WG1164070

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	ND		1	WG1164722

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	18.0	42.8		2	WG1164782
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1164782
Benzene	71-43-2	78.10	0.400	1.28	0.661	2.11		2	WG1164782
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1164782
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1164782
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1164782
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1164782
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1164782
Carbon disulfide	75-15-0	76.10	0.400	1.24	8.86	27.6		2	WG1164782
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1164782
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1164782
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1164782
Chloroform	67-66-3	119	0.400	1.95	1.30	6.34		2	WG1164782
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1164782
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1164782
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1164782
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1164782
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1164782
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1164782
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1164782
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1164782
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1164782
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1164782
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1164782
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1164782
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1164782
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1164782
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1164782
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1164782
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1164782
Ethanol	64-17-5	46.10	1.26	2.38	5.32	10.0		2	WG1164782
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1164782
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1164782
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1164782
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1164782
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1164782
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1164782
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1164782
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1164782
n-Hexane	110-54-3	86.20	0.400	1.41	ND	ND		2	WG1164782
Isopropylbenzene	98-82-8	120.20	0.400	1.97	1.53	7.51		2	WG1164782
Methylene Chloride	75-09-2	84.90	0.400	1.39	0.747	2.59	B	2	WG1164782
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1164782
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1164782
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1164782
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1164782
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1164782
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1164782
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1164782
Propene	115-07-1	42.10	0.800	1.38	1.02	1.76		2	WG1164782

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1164782
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1164782
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1164782
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1164782
Toluene	108-88-3	92.10	0.400	1.51	7.06	26.6		2	WG1164782
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1164782
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1164782
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1164782
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1164782
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	4.32	21.2		2	WG1164782
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1164782
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1164782
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1164782
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1164782
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1164782
m&p-Xylene	1330-20-7	106	0.800	3.47	0.834	3.61		2	WG1164782
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1164782
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*106*				WG1164782

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Oxygen	7782-44-7	32	2.00	16.3		1	WG1164070
Carbon Dioxide	124-38-9	44.01	0.500	0.511		1	WG1164070

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	ND		1	WG1164722

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	9.09	21.6		2	WG1164782
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1164782
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1164782
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1164782
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1164782
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1164782
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1164782
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1164782
Carbon disulfide	75-15-0	76.10	0.400	1.24	6.39	19.9		2	WG1164782
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1164782
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1164782
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1164782
Chloroform	67-66-3	119	0.400	1.95	1.57	7.65		2	WG1164782
Chloromethane	74-87-3	50.50	0.400	0.826	0.521	1.08		2	WG1164782
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1164782
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1164782
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1164782
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1164782
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1164782
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1164782
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1164782
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1164782
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1164782
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1164782
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	0.969	3.84		2	WG1164782
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1164782
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1164782
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1164782
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1164782
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1164782
Ethanol	64-17-5	46.10	1.26	2.38	5.39	10.2		2	WG1164782
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1164782
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1164782
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1164782
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1164782
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1164782
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1164782
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1164782
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1164782
n-Hexane	110-54-3	86.20	0.400	1.41	ND	ND		2	WG1164782
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1164782
Methylene Chloride	75-09-2	84.90	0.400	1.39	0.476	1.65	B	2	WG1164782
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1164782
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1164782
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1164782
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1164782
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1164782
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1164782
2-Propanol	67-63-0	60.10	2.50	6.15	3.86	9.48		2	WG1164782
Propene	115-07-1	42.10	0.800	1.38	1.05	1.80		2	WG1164782

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1164782
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1164782
Tetrachloroethylene	127-18-4	166	5.00	33.9	101	686		25	WG1165527
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1164782
Toluene	108-88-3	92.10	0.400	1.51	3.68	13.9		2	WG1164782
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1164782
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1164782
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1164782
Trichloroethylene	79-01-6	131	0.400	2.14	0.479	2.57		2	WG1164782
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	1.07	5.26		2	WG1164782
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1164782
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1164782
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1164782
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1164782
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1164782
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1164782
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1164782
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG1164782
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*92.1*				WG1165527

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Oxygen	7782-44-7	32	2.00	16.5		1	WG1164070
Carbon Dioxide	124-38-9	44.01	0.500	ND		1	WG1164070

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	ND		1	WG1164722

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	7.99	19.0		2	WG1164782
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1164782
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1164782
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1164782
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1164782
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1164782
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1164782
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1164782
Carbon disulfide	75-15-0	76.10	0.400	1.24	10.1	31.5		2	WG1164782
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1164782
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1164782
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1164782
Chloroform	67-66-3	119	0.400	1.95	0.768	3.74		2	WG1164782
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1164782
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1164782
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1164782
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1164782
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1164782
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1164782
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1164782
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1164782
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1164782
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1164782
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1164782
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1164782
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1164782
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1164782
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1164782
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1164782
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1164782
Ethanol	64-17-5	46.10	1.26	2.38	7.53	14.2		2	WG1164782
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1164782
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1164782
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1164782
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1164782
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1164782
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1164782
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1164782
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1164782
n-Hexane	110-54-3	86.20	0.400	1.41	ND	ND		2	WG1164782
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1164782
Methylene Chloride	75-09-2	84.90	0.400	1.39	0.556	1.93	B	2	WG1164782
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1164782
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	2.67	7.87		2	WG1164782
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1164782
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1164782
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1164782
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1164782
2-Propanol	67-63-0	60.10	2.50	6.15	2.64	6.48		2	WG1164782
Propene	115-07-1	42.10	0.800	1.38	1.27	2.18		2	WG1164782

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1164782
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1164782
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1164782
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1164782
Toluene	108-88-3	92.10	0.400	1.51	2.73	10.3		2	WG1164782
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1164782
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1164782
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1164782
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1164782
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	0.428	2.10		2	WG1164782
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1164782
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1164782
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1164782
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1164782
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1164782
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1164782
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1164782
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG1164782

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Oxygen	7782-44-7	32	2.00	15.8		1	WG1164070
Carbon Dioxide	124-38-9	44.01	0.500	1.26		1	WG1164070

Method Blank (MB)

(MB) R3341200-3 09/12/18 08:32

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	%		%	%
Helium	U		0.0259	0.100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3341200-1 09/12/18 08:19 • (LCSD) R3341200-2 09/12/18 08:24

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	%	%	%	%	%	%			%	%
Helium	2.50	2.88	2.78	115	111	70.0-130			3.39	25

Method Blank (MB)

(MB) R3341513-3 09/12/18 09:59

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200

Method Blank (MB)

(MB) R3341513-3 09/12/18 09:59

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methylene Chloride	0.0672	J	0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
2-Propanol	U		0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	*97.4*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3341513-1 09/12/18 08:35 • (LCSD) R3341513-2 09/12/18 09:16

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	4.55	4.37	121	116	55.0-148			4.03	25
Propene	3.75	3.95	3.64	105	97.2	64.0-144			7.96	25
Dichlorodifluoromethane	3.75	4.23	4.02	113	107	64.0-139			5.11	25
1,2-Dichlorotetrafluoroethane	3.75	4.31	4.14	115	110	70.0-130			4.20	25
Chloromethane	3.75	4.40	4.20	117	112	70.0-130			4.53	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3341513-1 09/12/18 08:35 • (LCSD) R3341513-2 09/12/18 09:16

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Vinyl chloride	3.75	4.53	3.81	121	102	70.0-130			17.4	25
1,3-Butadiene	3.75	4.57	3.58	122	95.6	70.0-130			24.2	25
Bromomethane	3.75	4.44	3.72	118	99.3	70.0-130			17.5	25
Chloroethane	3.75	4.47	3.61	119	96.3	70.0-130			21.3	25
Trichlorofluoromethane	3.75	4.32	3.84	115	102	70.0-130			11.8	25
1,1,2-Trichlorotrifluoroethane	3.75	4.25	4.22	113	113	70.0-130			0.672	25
1,1-Dichloroethene	3.75	4.28	4.23	114	113	70.0-130			1.28	25
1,1-Dichloroethane	3.75	4.23	4.12	113	110	70.0-130			2.59	25
Acetone	3.75	4.38	4.38	117	117	70.0-130			0.0194	25
2-Propanol	3.75	4.44	4.64	118	124	70.0-139			4.43	25
Carbon disulfide	3.75	4.22	4.13	113	110	70.0-130			2.18	25
Methylene Chloride	3.75	4.02	3.93	107	105	70.0-130			2.40	25
MTBE	3.75	4.27	4.30	114	115	70.0-130			0.747	25
trans-1,2-Dichloroethene	3.75	4.19	4.19	112	112	70.0-130			0.0322	25
n-Hexane	3.75	4.42	4.36	118	116	70.0-130			1.31	25
Vinyl acetate	3.75	4.44	4.43	119	118	70.0-130			0.393	25
Methyl Ethyl Ketone	3.75	4.48	4.44	119	118	70.0-130			0.913	25
cis-1,2-Dichloroethene	3.75	4.13	4.20	110	112	70.0-130			1.52	25
Chloroform	3.75	4.16	4.21	111	112	70.0-130			0.991	25
Cyclohexane	3.75	4.29	4.34	114	116	70.0-130			1.05	25
1,1,1-Trichloroethane	3.75	4.16	4.24	111	113	70.0-130			1.86	25
Carbon tetrachloride	3.75	4.22	4.22	112	113	70.0-130			0.206	25
Benzene	3.75	4.13	4.13	110	110	70.0-130			0.0819	25
1,2-Dichloroethane	3.75	4.14	4.13	110	110	70.0-130			0.219	25
Heptane	3.75	4.34	4.35	116	116	70.0-130			0.145	25
Trichloroethylene	3.75	4.16	4.15	111	111	70.0-130			0.152	25
1,2-Dichloropropane	3.75	4.23	4.27	113	114	70.0-130			0.935	25
1,4-Dioxane	3.75	4.35	4.71	116	126	70.0-140			7.98	25
Bromodichloromethane	3.75	4.16	4.26	111	114	70.0-130			2.44	25
cis-1,3-Dichloropropene	3.75	4.26	4.40	113	117	70.0-130			3.24	25
4-Methyl-2-pentanone (MIBK)	3.75	4.49	4.67	120	124	70.0-139			3.89	25
Toluene	3.75	4.25	4.38	113	117	70.0-130			3.08	25
trans-1,3-Dichloropropene	3.75	4.29	4.47	114	119	70.0-130			4.14	25
1,1,2-Trichloroethane	3.75	4.16	4.34	111	116	70.0-130			4.35	25
Tetrachloroethylene	3.75	4.07	4.36	108	116	70.0-130			6.88	25
Methyl Butyl Ketone	3.75	4.75	5.00	127	133	70.0-149			4.99	25
Dibromochloromethane	3.75	4.19	4.42	112	118	70.0-130			5.55	25
1,2-Dibromoethane	3.75	4.24	4.40	113	117	70.0-130			3.65	25
Chlorobenzene	3.75	4.19	4.41	112	117	70.0-130			5.03	25
Ethylbenzene	3.75	4.40	4.49	117	120	70.0-130			2.05	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3341513-1 09/12/18 08:35 • (LCSD) R3341513-2 09/12/18 09:16

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
m&p-Xylene	7.50	8.95	9.21	119	123	70.0-130			2.94	25
o-Xylene	3.75	4.40	4.56	117	122	70.0-130			3.55	25
Styrene	3.75	4.39	4.54	117	121	70.0-130			3.36	25
Bromoform	3.75	4.31	4.51	115	120	70.0-130			4.54	25
1,1,2,2-Tetrachloroethane	3.75	4.36	4.59	116	122	70.0-130			4.98	25
4-Ethyltoluene	3.75	4.49	4.82	120	129	70.0-130			7.16	25
1,3,5-Trimethylbenzene	3.75	4.39	4.66	117	124	70.0-130			5.88	25
1,2,4-Trimethylbenzene	3.75	4.49	4.76	120	127	70.0-130			5.83	25
1,3-Dichlorobenzene	3.75	4.35	4.62	116	123	70.0-130			5.82	25
1,4-Dichlorobenzene	3.75	4.42	4.73	118	126	70.0-130			6.75	25
Benzyl Chloride	3.75	4.67	4.90	124	131	70.0-152			4.91	25
1,2-Dichlorobenzene	3.75	4.33	4.56	115	122	70.0-130			5.29	25
1,2,4-Trichlorobenzene	3.75	4.30	4.32	115	115	70.0-160			0.380	25
Hexachloro-1,3-butadiene	3.75	4.22	4.24	113	113	70.0-151			0.275	25
Naphthalene	3.75	4.42	4.44	118	118	70.0-159			0.510	25
Allyl Chloride	3.75	4.28	4.14	114	110	70.0-130			3.32	25
2-Chlorotoluene	3.75	4.46	4.69	119	125	70.0-130			4.84	25
Methyl Methacrylate	3.75	4.29	4.44	114	118	70.0-130			3.57	25
Tetrahydrofuran	3.75	4.28	4.40	114	117	70.0-137			2.96	25
2,2,4-Trimethylpentane	3.75	4.48	4.51	119	120	70.0-130			0.769	25
Vinyl Bromide	3.75	4.33	3.73	116	99.4	70.0-130			15.0	25
Isopropylbenzene	3.75	4.42	4.62	118	123	70.0-130			4.44	25
(S) 1,4-Bromofluorobenzene				*102*	*105*	*60.0-140*				

Method Blank (MB)

(MB) R3341728-3 09/13/18 10:18

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Tetrachloroethylene	U		0.0497	0.200
(S) 1,4-Bromofluorobenzene	*92.7*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3341728-1 09/13/18 08:47 • (LCSD) R3341728-2 09/13/18 09:32

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Tetrachloroethylene	3.75	4.01	4.00	107	107	70.0-130			0.359	25
(S) 1,4-Bromofluorobenzene				*95.5*	*95.6*	*60.0-140*				

Method Blank (MB)

(MB) R3340795-3 09/11/18 08:28

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Oxygen	0.502	J	0.225	2.00
Carbon Dioxide	U		0.121	0.500

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3340795-1 09/11/18 08:11 • (LCSD) R3340795-2 09/11/18 08:18

Analyte	Spike Amount %	LCS Result %	LCSD Result %	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Oxygen	2.50	2.70	2.63	108	105	70.0-130			2.64	20
Carbon Dioxide	2.50	2.69	2.63	108	105	70.0-130			2.24	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

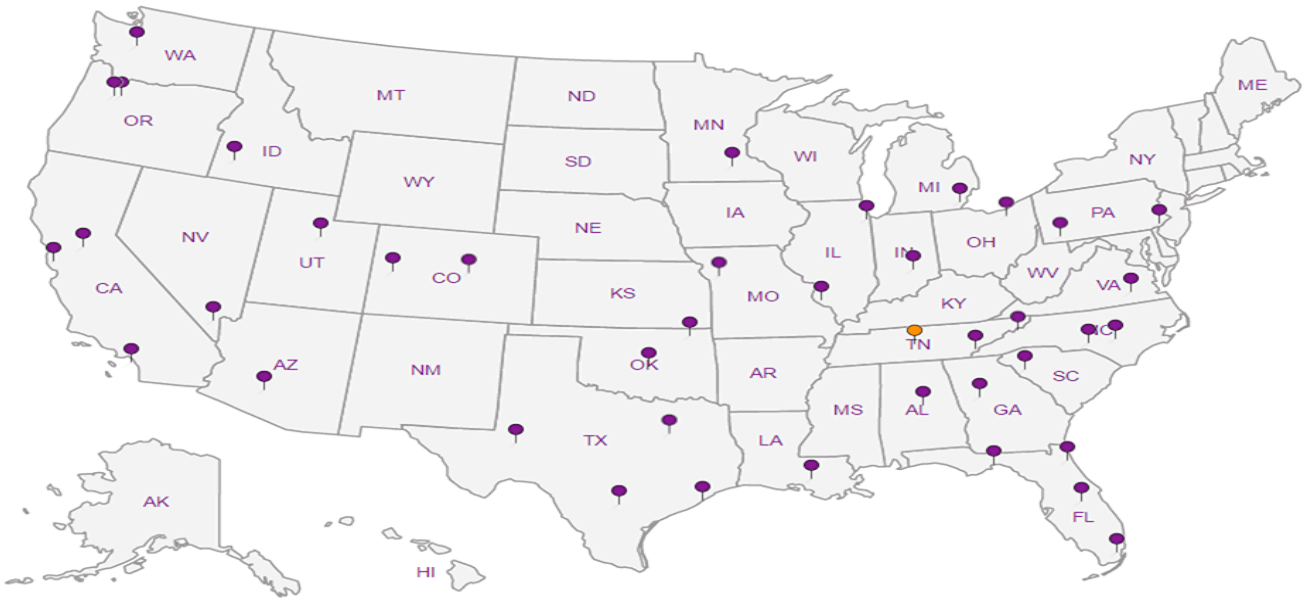
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Company Name/Address:
Terracon - Sacramento, CA
50 Goldenland Ct.
Suite 100
Sacramento, CA 95834

Billing Information:
Accounts Payable
50 Goldenland Ct., Ste. 100
Sacramento, CA 95834

Report to: **Scott Gable**

Email To: **pat.keicher@terracon.com;scott.gable@terracon.com**

Project Description:

City/State Collected: Santa Cruz CA

Phone: **916-246-5079**
Fax:

Client Project # **NB187049A**

Lab Project # **TERRSCA-NB187049A**

Collected by (print): Patrick Keicher

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No ___Yes
FAX? ___No ___Yes

Canister Pressure/Vacuum

Analysis: CO2 FIXGASPC Summa; Helium Summa; O2 FIXGASPC Summa; TO-15 Summa + Naphthalene

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # L1024287
M209
Tal

Acctnum: **TERRSCA**
Template: **T139967**
Prelogin: **P668686**
TSR: **110 - Brian Ford**
PB:
Shipped Via:

Sample ID	Sample Description	Can #	Date	Time	Initial	Final	Rem./Contaminant	Sample # (lab only)
SV7		7375	9/7/18	9:38	-30	-4		-01
SV8		8066	9/7/18	10:07	-27	-4		-02
SV9		8626	9/7/18	9:01	-29.5	-2		-03
SV10		7283	9/7/18	11:45	-30	-3		-04

Remarks:

Hold #

Condition: (lab use only) OK

COC Seal Intact: ___Y ___N ✓NA

pH Checked: NCF:

	Date:	Time:		
Relinquished by: (Signature) Patrick Keicher	9/7/2018	12:00	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: Amb °C Bottles Received: 4
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9/8/18 Time: 0845

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: TERRSCA	SDG#	L1024287
Cooler Received/Opened On: 09/ 8 /18	Temperature:	Amb
Received By: Eric Struck		
Signature:		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			