Limited Soil, Groundwater, and Soil Gas Investigation

Tabor #1 Plugged and Abandoned Oil and Gas Well Site
Longmont, Colorado

June 1, 2018
Terracon Project No. 22177036

Prepared by:
Terracon Consultants, Inc.
Longmont, Colorado

June 1, 2018

WGG Longmont Development, LLC
c/o EKS&H Family Office Services
8181 East Tufts Avenue, Suite 600
Denver, Colorado 80238

Re: Limited Soil, Groundwater, and Soil Gas Investigation
Tabor #1 Well Site
Longmont, Colorado
Terracon Project No. 22177036

Terracon Consultants, Inc. (Terracon) is pleased to submit our report of Limited Soil, Groundwater, and Soil Gas Investigation activities completed at the site referenced above. Terracon conducted the Investigation in general accordance with our proposal (P22177036, Rev1), dated September 28, 2017.

Terracon appreciates this opportunity to provide environmental consulting services to WGG Longmont Development, LLC. Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.

Brian M. Williams
Staff Geologist

John C. Graves, P.G.
Senior Principal/Regional Manager

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EXECUTIVE SUMMARY

This Limited Soil and Soil Gas Investigation was performed in accordance with the scope of services outlined in Terracon Proposal No. P22177036, Rev 1, dated September 28, 2017. A total of three soil borings (SB-01 through SB-03), which were converted to groundwater monitoring wells (MW-01 through MW-03), and two soil vapor points (SVP-01 and SVP-02) were installed at the site to evaluate potential petroleum impacted soil, groundwater, and soil gas based on historical oil and gas (O&G) extraction operations at the site. Soil, groundwater, and soil vapor samples were collected and analyzed in accordance with the procedures outlined in Section 3 of this report.

A summary of our findings, conclusions, and recommendations is provided below. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

Findings

The lithology encountered at the site consists of sandy silt and sandy clay from the surface to between 7 and 10 feet below grade surface (bgs), underlain by sand and sandy clays to between 15 and 20 feet bgs. Interbedded claystone and sandstone was observed to soil boring termination from approximately 15 to 20 feet bgs. The depth to groundwater ranged from approximately 15 to 18 feet bgs observed during drilling activities.

Volatile organic compound (VOC) constituents were not reported at concentrations above laboratory detection limits in the soil and groundwater samples collected during this investigation. Several inorganic parameters from monitoring wells MW-01 (dissolved iron and chloride and sulfate), MW-02 (dissolved iron and sulfate) and MW-03 (dissolved iron and chloride and sulfate) exceeded their respective regulatory action levels for groundwater.

VOC constituents reported in the soil gas samples were compared to the 2016 Colorado Department of Public Health and Environment (CDPHE) Indoor Air Screening Concentrations (ASC) – Residential and Worker Remediation Goals, and the November 2017 United States Environmental Protection Agency (USEPA) Residential and Industrial Indoor Air RSLs, after applying a 3% attenuation factor for subslab soil gas per the USEPA Office of Solid Waste and Emergency Response (OSWER) Technical Guide for Assessing and Mitigating the Gas Intrusion Pathway from Subsurface Gas Sources to Indoor Air (OSWER Guidance, June 2015). Reference to the OSWER guidance is not meant to imply that the scope of this soil gas investigation was designed to include the guidance's subsurface characterization criteria or that Terracon conducted a detailed vapor intrusion risk assessment. A summary of the analytical results is provided below. The soil gas analytical data reported above laboratory detection limits and corresponding action levels are summarized in Table 2 (Appendix B) and the laboratory report is provided in Appendix D of this report.

VOC concentrations were reported across the site above Residential and Industrial RSLs including trichloroethylene and chloroform. After applying the 3% attenuation factor, trichloroethylene was reported in soil gas at concentrations exceeding USEPA residential RSLs. Trichloroethylene (TCE) is a chlorinated solvent typically utilized as a "degreaser" and associated with manufacturing, former O&G drilling operations, auto repair, and historical dry-cleaning operations. Chloroform can be a by-product to the use of chlorine, which is commonly used as a sterilizer found in potable water from water treatment processes. Methane was not reported in any of the soil gas samples collected as part of this investigation above its respective laboratory detection limit. Based on laboratory analytical detections, the site soil gas is potentially impacted with VOCs.

Conclusions

Soil gas at the site has been impacted by chloroform and the chlorinated solvent TCE, which was detected in soil gas at concentrations in SVP-01 exceeding the respective USEPA residential RSLs. Although concentrations of chloroform were reported above respective regulatory action levels, based on the reported concentration and the proximity to buildings, the vapor intrusion risk for concentrations reported at SVP-01 is currently considered low. The potential source of TCE in the soil gas could have originated from former oil and gas operations on the property, although the source of this constituent is currently unknown and soil and groundwater samples did not report levels of TCE above regulatory action levels. The reported concentrations of TCE at SVP-01 were above respective regulatory action levels and could potentially pose a vapor migration risk to site buildings. However, based on soil gas attenuation in the 160-foot distance from the vapor point location to the site building and further attenuation through the building slab, Terracon considers the vapor intrusion risk to indoor air to be low.

Groundwater at the site exhibits elevated concentrations of dissolved iron, chloride, and sulfate. These inorganic cations and anions can be secondary indicators of well site releases associated with produced water. Although concentrations were reported above regulatory action levels, based on the lack of detected petroleum constituents in soil and groundwater samples, these inorganic parameters are not necessarily indicative of impacts from O&G production activities at the site.

Recommendations

Terracon does not recommend additional investigation of the former Tabor #1 oil and gas production well site at this time. However, if planned construction activities change, the potential for soil vapor intrusion should be reevaluated.

1.0 SITE DESCRIPTION

Site Name	Tabor #1 O&G Well Site
Site Location	South Hover Street and Pike Road, Longmont, Colorado

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

2.0 SCOPE OF SERVICES

On May 2, 2017, the Colorado Oil and Gas Conservation Commission (COGCC) issued a statewide Notice to Operators (NTO) directing operators to inspect their inventory of existing flowlines and verify that any existing flowline not in active use, regardless of when it was installed or taken out of service, is abandoned pursuant to COGCC Rule 1103. Terracon understands that the City of Longmont would like all PA well sites within city limits investigated to include assessing the condition of soil, ground water, and soil gas at these locations.

The objective of the proposed environmental services is to provide information concerning the Tabor #1 O&G well located within the City of Longmont and to assess the potential presence of surficial/subsurface soil impacts, ground water impacts, and presence of methane and other gasses in the subsurface near the reported well location.

2.1 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, express or implied, regarding the findings, conclusions, or recommendations. Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These Investigation services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal and were not intended to be in strict conformance with ASTM E1903-11.

2.2 Additional Scope 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, nondetectable, 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 Investigation. 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.

2.3 Reliance

This report has been prepared for the exclusive use of the WGG Longmont Development, LLC, 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 the WGG Longmont Development, LLC. and Terracon. Reliance on the report by the client and all authorized parties will be subject to the terms, conditions, and limitations stated in the Agreement for Services Contract. The limitation of liability defined in the Agreement is the aggregate limit of Terracon's liability to the client and all relying parties.

3.0 FIELD INVESTIGATION

3.1 Safety and Subsurface Utilities

Terracon is committed 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. The plan identified site-specific job hazards and proper pre-task planning procedures. Work was performed using Occupational Safety & Health Administration (OSHA) Level D work attire consisting of hard hats, high-visibility attire, safety glasses, protective gloves, and protective boots. Terracon contacted Colorado 811 and requested location and markings for subsurface utilities that the service was responsible for before commencing intrusive activities at the site.

3.2 Sampling and Analytical Program Summary

On April 19, 2018, Terracon mobilized to the site to install three soil borings (SB-01 through SB-03), which were converted to groundwater monitoring wells (MW-01 through MW-03), and two soil vapor points (SVP-01 and SVP-02). The sample locations were selected to generally represent the area with the highest potential for detecting constituents of concern based on the historical locations of equipment used in previous oil and gas production at the site. Refer to the attached Site Diagram (Exhibit 2, Appendix A) for a depiction of the sample locations and pertinent site features. The sampling and analytical program is outlined below.

SAMPLING AND ANALYTICAL PROGRAM	
Area of Concern	**Tabor #1 Former O&G Well Site**
Soil Borings (Total Depth)	SB-01 through SB-03 (20-25 feet)
Groundwater	MW-01 through MW-03
Soil Vapor Points	SVP-01 and SVP-02
Soil Analysis	VOCs/TPH-GRO – EPA 8260 TPH-DRO/ORO – EPA 8015
Groundwater Analysis	VOCs – EPA 8260 Dissolved Gasses – RSK 175 Major Cations, Dissolved – EPA 6010B Nitrite, Nitrate, Bromide, Chloride, Sulfate – EPA 300.0 Alkalinity – SM 2320B Strontium – EPA 6020
Soil Gas Analysis	VOCs – EPA TO-15 Methane – EPA D1946

EPA = Environmental Protection Agency; SW-846 analytical methods
VOCs = volatile organic compounds
TPH = total petroleum hydrocarbons
G/D/ORO = gasoline, diesel, and oil range organics

3.3 Field Procedures

3.3.1 Soil Boring Advancement

Drilling services were performed using a hollow-stem auger (HSA) drilling rig. Oversight of the drilling activities was conducted by a Terracon field professional. Soil samples were collected during the advancement of the borings using 2-foot split spoon samplers.

Soil samples were collected every 5 feet to document soil lithology, color, moisture content and sensory evidence of impairment. The soil samples were field-screened using a photoionization detector (PID) equipped with a 10.6 electron volt ultraviolet lamp source to qualitatively evaluate the potential volatile organic vapors to indicate the presence of VOCs. Terracon calibrated the PID in accordance with the manufacturer's recommendations before the field activities. The boring logs attached in Appendix C include the lithology and field screening results for each soil boring completed as part of this investigation.

Terracon's soil sampling program involved assigning one soil sample from each soil boring for laboratory analysis. The soil sample selected for laboratory analysis was collected from the interval exhibiting the highest PID reading and/or highest likelihood of a release based on the field professional’s judgment. The soil samples were collected using Terracon standard operating

procedures (SOPs) and field methods. Soil sample intervals for each boring are presented on the soil boring logs included in Appendix C.

3.3.2 Groundwater Monitoring Well Installation

After soil borings were completed to depth and soil samples were collected, the soil borings were completed as groundwater monitoring wells. The wells MW-01 and MW-02 were constructed to approximately 25 feet bgs using 2.0-inch diameter polyvinyl chloride (PVC) with 15 feet of factory slotted well screen and 10 feet of blank PVC casing to surface. MW-03 was constructed to approximately 20 feet bgs using 2.0-inch diameter PVC with 10 feet of factory slotted well screen and 10 feet of blank PVC casing to surface. A silica sand filter pack was placed around the well screen to approximately one foot above the top of well screen, followed by a hydrated bentonite seal to approximately 0.5 below the surface. The monitoring well casing was extended approximately three feet above grade and fitted with J-plug well caps. The well construction details are provided on the soil boring logs presented in Appendix C. Following the conclusions of current grading activities associated with new construction at the site, the wells will be finished to grade with flush mounted well vaults. At that time, the wells will be surveyed in accordance with Terracon SOP *E.1800 Physical Field Measurements* to establish the relative elevation of ground surface and top of monitoring well casing (TOC) for each of the three wells constructed onsite.

On April 26, 2018, Terracon personnel visited the site to collect static groundwater levels, and develop the monitoring wells, and collect groundwater samples for laboratory analysis. Depth to groundwater ranged from 17.55 feet below TOC in MW-03 to 18.20 feet below TOC in MW-01. Monitoring wells MW-01, MW-02, and MW-03 were developed by repeatedly surging the wells with a 2-inch diameter PVC surge block and purging the groundwater from the wells with a single-use PVC bailer in accordance with the Terracon SOP 10 – *Monitor Well Development.* Monitoring wells MW-01 through MW-03 were sampled after development and after they were allowed to recharge for a short time.

3.3.3 Soil Vapor Point Installation

In order to collect soil gas samples for laboratory analysis, Terracon advanced two SVP borings, SVP-01 and SVP-02, on April 19, 2018 in the vicinity of the former O&G well head. Soil gas points, consisting of an 8.0-inch long stainless steel screened points and Teflon tubing, were placed into each boring at an approximate depth of 6 feet bgs and backfilled with silica sand to approximately 6 inches above the top of the screen. The boring was then filled with hydrated bentonite to near surface. Locations are depicted on Exhibit 2 in Appendix A.

Sampling of the soil gas points was performed by April 25, 2018 after allowing the soil gas points time to equilibrate. Soil gas sampling was conducted within a polyethylene shroud placed over the sample point. Extracted soil gas was screened in the field utilizing a Multi-Rae multi-gas meter, which was calibrated prior to use in accordance with the manufacturer's specifications.

The Multi-Rae was used to assess potential explosive gas (methane) and VOCs. Sample tubing was connected to the sampling point and routed to the exterior of the shroud. Leak detection was conducted by introducing helium tracer gas into the sampling shroud through a separate port prior to sampling and using a portable helium gas detector to monitor for potential leaks in the sampling train. A peristaltic pump was utilized to purge the sample train tubing prior to collecting the laboratory sample within laboratory supplied 1-liter summa canisters. Field measurements by the portable helium gas detector were within acceptable levels (less than [<]5 percent [%] of the helium concentration in the shroud was detected through the sampling train).

After purging the sampling point of approximately three sampling train volumes and observing that there were no detected leaks, a laboratory-supplied 1-liter summa canister was filled with soil gas for laboratory analysis. The canister was connected to the sampling point using dedicated nylon sample tubing and was equipped with a laboratory-supplied flow regulator allowing for sample collection at a low-flow rate (i.e. <200 milliliters per minute [ml/min]).

Upon completion of sample collection, the summa canister valve was closed, secured, and appropriately labeled with pertinent sample information. Canister pressures were recorded prior to and after sample collection. The sample canisters were placed into a shipping container and transported under chain-of-custody to ESC Lab Sciences (ESC) located in Mt. Juliet, Tennessee for analysis.

4.0 FIELD INVESTIGATION RESULTS

4.1 Geology/Hydrogeology

The boring logs contained in Appendix C detail the observed soil stratigraphy. In general, Terracon encountered sandy silt and sandy clay from the surface to between 7 and 10 feet bgs, underlain by sand and sandy clays to between 15 and 20 feet bgs. Interbedded claystone and sandstone was observed to soil boring termination from approximately 15 to 20 feet bgs. The depth to groundwater ranged from approximately 15 to 18 feet bgs observed during drilling activities.

4.2 Field Screening

The field screening results are summarized on the boring logs contained in Appendix C. PID readings were not observed above 0.1 parts per million (ppm) in any of the soil samples collected from the soil borings as part of this investigation.

5.0 ANALYTICAL RESULTS

The laboratory analytical reports and chain-of-custody records are attached in Appendix D. The following sections describe the results of the analytical testing performed as part of this limited site investigation. The constituents of concern concentrations were compared to the November 2017, USEPA, Residential and Industrial RSLs, and USEPA November 2017 Residential and Industrial Indoor Air RSLs, May 2018 COGCC Table 910-1 (Concentration Levels) for soil. Groundwater analytical results were compared to December 30, 2016 CDPHE Groundwater Quality Standards (GWQSs) and May 2018 COGCC Table 910-1 Groundwater Concentration Levels (910-1 Levels). CDPHE November 2016 Residential and Industrial Air Screening Concentrations (ASCs) and the November 2017 USEPA Residential and Industrial Indoor Air RSLs, after applying a 3% attenuation factor for subslab soil gas per the USEPA OSWER Technical Guide for Assessing and Mitigating the Gas Intrusion Pathway from Subsurface Gas Sources to Indoor Air (OSWER Guidance, June 2015) were used for soil gas comparison.

5.1 Soil Sample Results

VOC, TPH-GRO, TPH-DRO, and TPH-ORO constituents were not reported at concentrations above laboratory detection limits in any of the soil samples collected during this investigation.

5.2 Groundwater Sample Results

The groundwater analytical data and corresponding action levels are summarized in Table 1 (Appendix B).

VOC constituents were not reported at concentrations above laboratory detection limits in any of the groundwater samples collected during this investigation

Inorganic cations and anions can be secondary indicators of well site releases associated with produced water. Neither CDPHE nor the COGCC have developed groundwater standards for the following indicator parameters: dissolved calcium, dissolved magnesium, dissolved potassium, dissolved sodium, strontium, alkalinity species, or bromide.

The COGCC has defined the groundwater standard exceedance concentrations for chloride and sulfate to be a regional background concentration with a multiplier of 1.25. Terracon utilized 2017 analytical data for chloride and sulfate from the sites sampled during the City of Longmont 2017 Annual Groundwater Quality Monitoring sampling event (Terracon Project No. 22177002) to calculate respective regional background concentrations.

Terracon used the USEPA's statistical software (ProUCL), Version 5.1, to determine if the dataset used to calculate the mean was statistically normal. The ProUCL software can be downloaded at https://www.epa.gov/land-research/proucl-software. After eliminating monitoring well analytical data that was not representative of normal conditions, the data was inputted into ProUCL.

Analysis was conducted to evaluate if there are additional outlying data points and if the data set adhered to a normal distribution. Several sulfate analytical results were removed from the data set based on the results of the initial outlier test. The outlier test does state that there is a potential outlier. However, based on a 1% and 5% significance level, there were no potential outliers; therefore, no additional analytical results were removed from the data set. A normal Q-Q plot was then generated to evaluate if the data set for chloride and sulfate adhered to a normal distribution. The normal Q-Q plot illustrates that both data sets are normal. The mean and standard deviation were also calculated using ProUCL.

The COGCC cleanup goal was calculated by multiplying the mean (from background well data) times 1.25 per Table 910-1 from the COGCC rules. A summary of pertinent statistical results and the calculated COGCC cleanup levels for chloride and sulfate are listed below in micrograms per liter (µg/L):

Statistical Analysis	Chloride (µg/L)	Sulfate (µg/L)
Mean (from background well data)	41,730	665,900
COGCC cleanup goal (1.25 x background)	52,160	832,400
Standard Deviation	6,240	148,600
Sample Size	44	21

The chloride concentration reported in groundwater sample collected from monitoring wells MW-03 (300,000 µg/L) exceeded the CGWQS of 250,000 µg/L, and the COGCC statistical regional background concentration standard of 52,160 µg/L.

The sulfate concentration reported in groundwater samples collected from MW-01 (3,380,000 µg/L), MW-02 (2,690,000 µg/L), and MW-03 (2,710,000 µg/L) all exceeded the CGWQS of 250,000 µg/L, and the COGCC statistical regional background concentration standard of 832,400 µg/L.

Specific conductance was reported in the groundwater samples ranging from 4.617 to 5.412 micro Siemens per centimeter (µmhos/cm). Generally, relatively higher concentrations of specific conductance were reported in groundwater samples with higher concentrations of alkalinity, bromide, chloride, nitrate, nitrite, sulfate and sulfide. Higher concentrations of specific conductance generally correspond to more turbid samples which have more sediment and subsequently more inorganics from the sediment. This occurs when monitoring wells do not recharge sufficiently during purging and the formation contains silts and clays. Specific conductance was collected from each well during well development activities which may explain the elevated conductance readings.

Groundwater samples were reported to have a neutral pH (i.e. near 7.0), and within the CDPHE basic standard for groundwater range of 6.5 to 8.5; pH values in the monitoring wells measured during purging were reported in a range from 6.87 to 7.36.

5.3 Soil Gas Sample Results

VOC constituents reported in the soil gas samples were compared to the 2016 CDPHE Indoor Air Screening Concentrations (ASC) – Residential and Worker Remediation Goals, and the November 2017 USEPA Residential and Industrial Indoor Air RSLs, after applying a 3% attenuation factor for subslab soil gas per the USEPA OSWER Technical Guide for Assessing and Mitigating the Gas Intrusion Pathway from Subsurface Gas Sources to Indoor Air (OSWER Guidance, June 2015). Reference to the OSWER guidance is not meant to imply that the scope of this soil gas investigation was designed to include the guidance's subsurface characterization criteria or that Terracon conducted a detailed vapor intrusion risk assessment. A summary of the analytical results is provided below. The soil gas analytical data reported above laboratory detection limits and corresponding action levels are summarized in Table 2 (Appendix B).

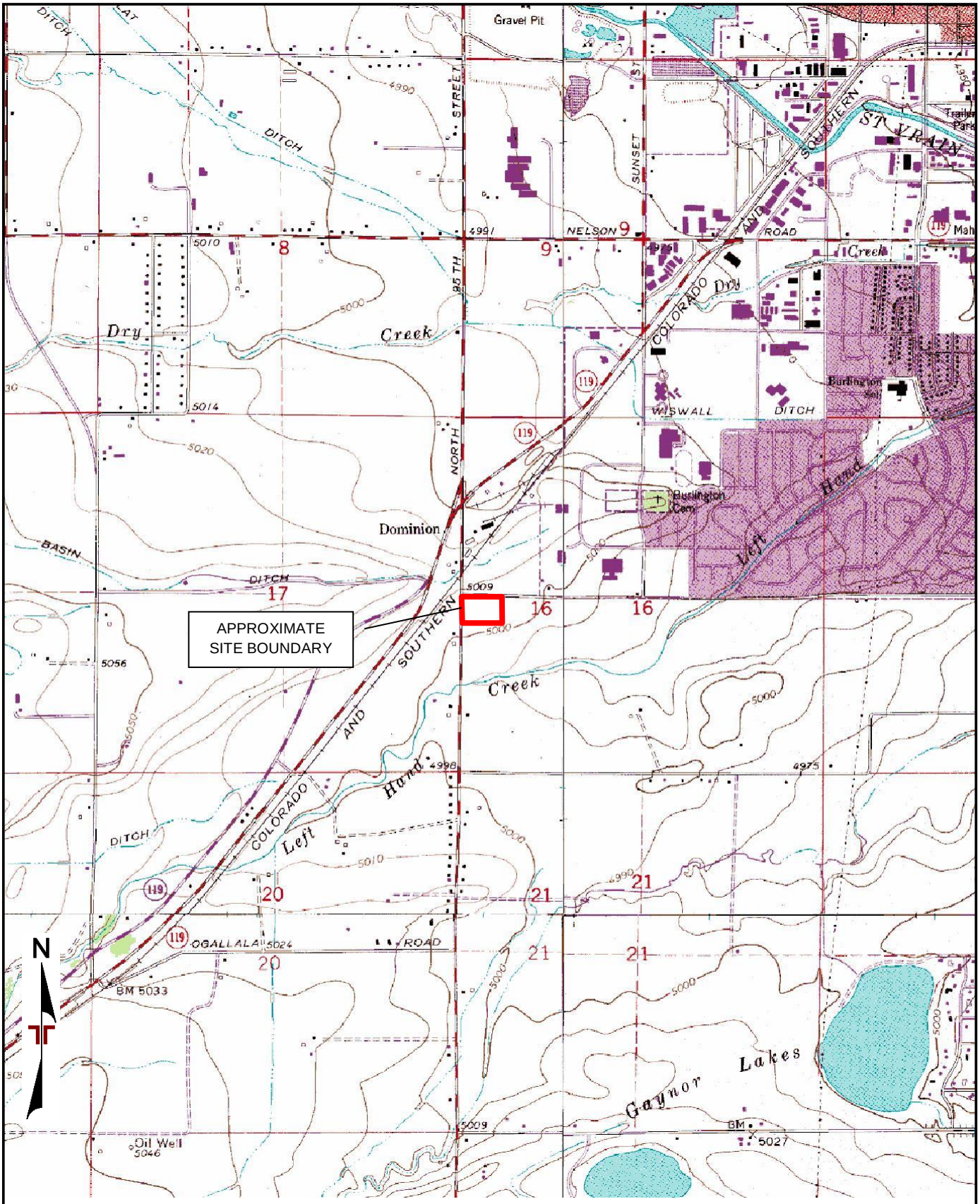
VOC concentrations were reported across the site above Residential and Industrial RSLs including trichloroethylene at 220 parts per billion (ppb) and chloroform at 4.02 ppb. Both chloroform and trichloroethylene were reported at concentrations that represent a potential vapor migration concern for residential/industrial/commercial property use.

Methane was not detected in any of the soil gas samples collected as part of this investigation above its respective laboratory detection limit.

APPENDIX A – EXHIBITS

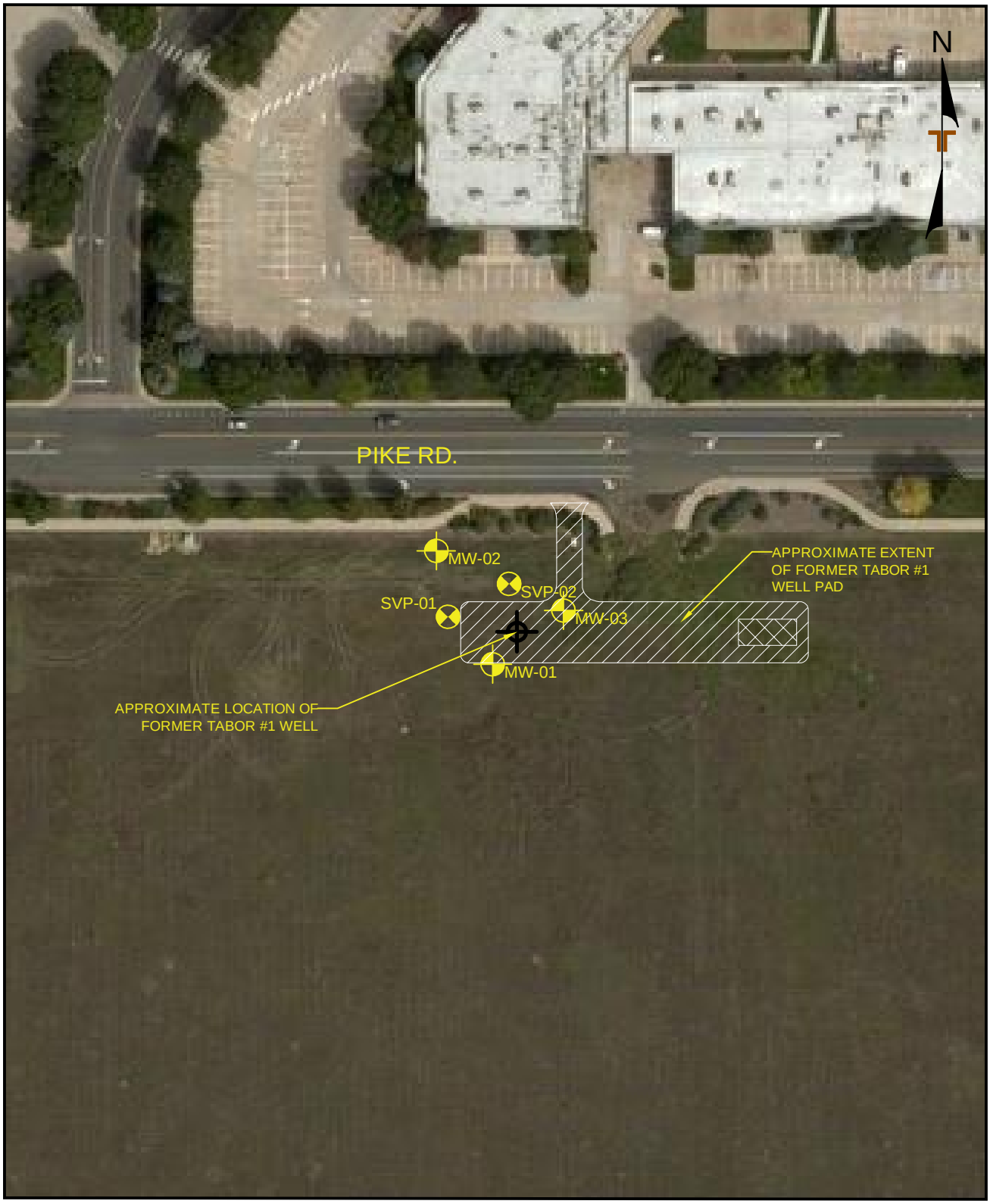
Exhibit 1 – Topographic Map

Exhibit 2 – Site Diagram



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: HYGIENE, CO (1/1/1979), LONGMONT, CO (1/1/1979), NIWOT, CO (1/1/1979) and ERIE, CO (1/1/1979).

Project Manager: MJS	Project No. 22177036	Terracon 1242 Bramwood Pl Longmont, CO 80501-6100	TOPOGRAPHIC MAP	Exhibit
Drawn by: BMW	Scale: 1"=2,000'		Tabor #1 PA Well Site Investigation Pike Road and South Hover Road Longmont, CO	1
Checked by: MJS	File Name: Exhibits.docx			
Approved by: JG	Date: 5/30/18			



LEGEND:

MW-01 APPROXIMATE LOCATION OF MONITORING WELL

SVP-01 APPROXIMATE LOCATION OF SOIL VAPOR POINT

0 50' 100' 200'

Project Mngr: MJS	Project No. 22177036	Terracon Consulting Engineers and Scientists 1242 BRAMWOOD PLACE LONGMONT, CO 80501-6100	SITE DIAGRAM TABOR #1 PA WELL SITE INVESTIGATION PIKE ROAD AND SOUTH HOVER ROAD LONGMONT, COLORADO	EXHIBIT No. 2
Drawn By: BMW	Scale: AS-SHOWN			
Checked By: JG	File No. EXHIBIT2.DWG			
Approved By: JG	Date: 05/31/2018			

APPENDIX B – TABLES

Table 1 – Groundwater Analytical Summary
Table 2 – Soil Gas Analytical Summary

Table 1
Groundwater Analytical Summary
Tabor #1 Well Site
Longmont, Colorado
Terracon Project No. 22177036

Sample ID			MW-01	MW-02	MW-03
Collect Date			4/26/18	4/26/18	4/26/18
Parameter	CDPHE Reg. 41 Groundwater Standard[1]	COGCC Concentration Levels[2]	µg/L	µg/L	µg/L
Other Organics					
Methane	NE	NE	<10	<10	<10
Ethane	NE	NE	<13	<13	<13
Ethene	NE	NE	<13	<13	<13
Inorganic Parameters					
Calcium, Dissolved	NE	NE	**676,000**	**506,000**	**606,000**
Iron, Dissolved	**300 to 5,000[M]**	NE	**101000**	**42400**	**85400**
Magnesium, Dissolved	NE	NE	**485,000**	**387,000**	**431,000**
Potassium, Dissolved	NE	NE	**32,900**	**15,200**	**22,200**
Sodium, Dissolved	NE	NE	**602,000**	**694,000**	**665,000**
Strontium	NE	NE	**8,210**	**7,990**	**8,280**
Alkalinity, Carbonate (CaCO3)	NE	NE	**282,000**	**362,000**	**367,000**
Bromide	NE	NE	<1000	<1000	<1000
Chloride	**250,000**	**52,160***	**201,000**	<1000	**300,000**
Nitrogen as Nitrate	**10,000**	NE	**5,940**	**9,410**	**9,190**
Nitrogen as Nitrite	**1,000**	NE	<100	<100	<100
Sulfate	**250,000**	**832,400***	**3,380,000**	**2,690,000**	**2,710,000**
General Parameters					
Specific Conductance (mmhos)	NE	NE	5412	5226	4617
Temperature (°C)	NE	NE	13.37	14.25	12.43
Dissolved Oxygen (mg/L)	NE	NE	7.7	7.38	6.24
ORP	NE	NE	172.6	166	122.6
pH	**6.5-8.5**	NE	6.87	7.16	7.17

1) CDPHE GW Quality Standards – Regulation 41 Table A, Ground Water Organic Chemical Standards (December 30, 20
2) COGCC Concentration Levels = COGCC Table 910-1 May 2018)

*) The COGCC cleanup standard for chloride and sulfate is 1.25 x background. Background concentrations from unimpacted wells were used to average and calculate an appropriate background concentration for this area.

Only detected analytes shown (detected concentrations are **bold**)
NE = Not Established
VOC = Volatile Organic Compounds
NA = Not Analyzed
COGCC = Colorado Oil and Gas Conservation Comission
M = Drinking Water Maximum Contaminant Level

Table 2
Soil Gas Analytical Summary
Tabor #1 Well Site
Longmont, Colorado
Terracon Project No. 22177036

Sample ID				SVP-01	SVP-02
Collect Date				4/25/2018	4/25/2018
Parameter	Residential RSL	CDPHE Residential ASC	Residential VISL[1]	µg/m^3	µg/m^3
VOC (TO-15)					
Acetone	**32,000**	**NE**	**1,066,667**	**7.72**	**23.6**
Benzene	**0.36**	**0.36**	**12**	<0.400	**1.53**
Carbon disulfide	**73**	**NE**	**2,433**	**0.498**	**10**
Chloroform	**0.12**	**0.12**	**4**	<0.400	**4.02**
1,3-Dichlorobenzene	**NE**	**NE**	**NE**	<0.400	**0.448**
cis-1,2-Dichloroethene	**NE**	**NE**	**NE**	**5.46**	<0.400
Ethanol	**NE**	**NE**	**NE**	**14.3**	**3.19**
Ethylbenzene	**1.1**	**1.1**	**37**	<0.400	**2.91**
4-Ethyltoluene	**NE**	**NE**	**NE**	<0.400	**1.83**
Heptane	**NE**	**NE**	**NE**	<0.400	**1.32**
n-Hexane	**730**	**NE**	**24,333**	**1.63**	**1.51**
Methylene Chloride	**100**	**100**	**3,333**	**7.57**	<0.400
2-Propanol	**210**	**NE**	**7,000**	**2.51**	<2.50
Propene	**3,100**	**NE**	**103,333**	**0.809**	**11.5**
Tetrahydrofuran	**2,100**	**NE**	**70,000**	<0.400	**1.14**
Toluene	**5,200**	**5200**	**173,333**	**0.62**	**11.5**
Trichloroethylene	**0.48**	**0.48**	**16**	**220**	**0.614**
1,2,4-Trimethylbenzene	**7.3**	**NE**	**243**	<0.400	**1.94**
1,3,5-Trimethylbenzene	**NE**	**NE**	**NE**	<0.400	**0.747**
m&p-Xylene	**100**	**100**	**3,333**	<0.800	**9.44**
o-Xylene	**100**	**100**	**3,333**	<0.400	**2.96**
Methane by D1946 (%)					
Methane	**NE**	**NE**	**NE**	<0.4	<0.4

1) VISL - Vapor Intrusion Screening Level (calculated by dividing the RSL for residential indoor air by the State approved 3% [0.03] attenuation factor).
RSL = US EPA Indoor Air Regional Screening Level (November 2017)
ASC = CDPHE Air Screening Concentrations, Remediation Goals (November 2016)
ND = Not Detected
NE = Not Established
NA = Not Applicable
Only detected analytes shown (detected concentrations are **bold**)

APPENDIX C – SOIL BORING LOGS

WELL LOG NO. SB-01/MW-01

PROJECT: Tabor #1 PA Well Site Investigation

CLIENT: Chandelle Development LLC
Denver, Colorado

SITE: Tabor #1
Longmont, Colorado

LOCATION See Exhibit A-2

INSTALLATION DETAILS

Well Completion:

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (%)	SPT N-VALUE	OVA/PID (ppm)
7.0	**SANDY SILT (ML)**, tan, dry	5			60	8-10-8-12 N=18	0.0
12.0	**SANDY CLAY (CL)**, tan, rust, moist	10			70	6-8-17-18 N=25	0.0
17.0	**INTERBEDDED CLAYSTONE AND SANDSTONE**, gray, tan, dry	15			70	9-20-50 N=70	0.0
22.0	**INTERBEDDED CLAYSTONE AND SANDSTONE**, tan, gray, slightly moist	20			90	12-15-35-45 N=50	0.0
	Boring Terminated at 25 Feet	25					

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.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Terracon
1242 Bramwood Pl
Longmont, CO

Well Started: 04-19-2018
Well Completed: 04-19-2018
Drill Rig: DR009
Driller:
Project No.: 22177036
Exhibit: B-1

WELL LOG NO. SB-02/MW-02

PROJECT: Tabor #1 PA Well Site Investigation

CLIENT: Chandelle Development LLC
Denver, Colorado

SITE: Tabor #1
Longmont, Colorado

LOCATION See Exhibit A-2

INSTALLATION DETAILS

Well Completion:

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (%)	SPT N-VALUE	OVA/PID (ppm)
0	**SANDY SILT (ML)**, light tan, dry	5			70	8-8-9-8 N=17	0.0
7.0	**SANDY CLAY (CL)**, tan, rust, moist	10			70	6-4-4-5 N=8	0.0
12.0	**SAND (SP)**, tan, wet	15	▽		50	5-6-11-21 N=17	
17.0	**CLAYSTONE BEDROCK**, tan, gray, moist	20				4-32 N=	
22.0	***Boring Terminated at 25 Feet***	25					

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.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *Observed during drilling 4/19/2018*

Terracon
1242 Bramwood Pl
Longmont, CO

Well Started: 04-19-2018
Well Completed: 04-19-2018
Drill Rig: DR009
Driller:
Project No.: 22177036
Exhibit: B-2

WELL LOG NO. SB-03/MW-03

PROJECT: Tabor #1 PA Well Site Investigation

CLIENT: Chandelle Development LLC
Denver, Colorado

SITE: Tabor #1
Longmont, Colorado

LOCATION See Exhibit A-2

INSTALLATION DETAILS

Well Completion:

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (%)	SPT N-VALUE	OVA/PID (ppm)
	SANDY CLAY (CL), tan, red, moist	5			80	3-2-4-4 N=6	0.1
7.0	**SAND (SP)**, red, tan, moist	10			50	3-4-3-4 N=7	0.1
12.0	**SAND (SP)**, red, tan, wet	15	▽			4-4-3-4 N=7	
17.0	**CLAYSTONE BEDROCK**, tan, gray, moist	20					
22.0	***Boring Terminated at 22 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.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *Observed during drilling 4/19/2018*

Terracon
1242 Bramwood Pl
Longmont, CO

Well Started: 04-19-2018
Well Completed: 04-19-2018
Drill Rig: DR009
Driller:
Project No.: 22177036
Exhibit: B-3

WELL LOG NO. SB-04/SVP-01

PROJECT: Tabor #1 PA Well Site Investigation

CLIENT: Chandelle Development LLC
Denver, Colorado

SITE: Tabor #1
Longmont, Colorado

GRAPHIC LOG	DEPTH	MATERIAL DESCRIPTION	INSTALLATION DETAILS	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (%)	OVA/PID (ppm)
LOCATION See Exhibit A-2			Well Completion:					
		SANDY SILT (ML), light tan, dry		5				
	6.0	***Boring Terminated at 6 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.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Terracon
1242 Bramwood Pl
Longmont, CO

Well Started: 04-19-2018
Well Completed: 04-19-2018
Drill Rig: DR009
Driller:
Project No.: 22177036
Exhibit: B-4

WELL LOG NO. SB-05/SVP-02

PROJECT: Tabor #1 PA Well Site Investigation

CLIENT: Chandelle Development LLC
Denver, Colorado

SITE: Tabor #1
Longmont, Colorado

GRAPHIC LOG	DEPTH	MATERIAL DESCRIPTION	INSTALLATION DETAILS	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (%)	OVA/PID (ppm)
LOCATION See Exhibit A-2			Well Completion:					
		SANDY CLAY (CL), tan, moist		5				
	6.0	***Boring Terminated at 6 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.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Terracon
1242 Bramwood Pl
Longmont, CO

Well Started: 04-19-2018
Well Completed: 04-19-2018
Drill Rig: DR009
Driller:
Project No.: 22177036
Exhibit: B-5

APPENDIX D – ANALYTICAL REPORTS AND CHAINS OF CUSTODY

ANALYTICAL REPORT

April 27, 2018

Terracon Consultants, Inc - Longmont, CO

Sample Delivery Group:	L987773
Samples Received:	04/21/2018
Project Number:	22177036
Description:	Tabor #1

Report To: Mike Skridulis
1242 Bramwood Place
Longmont, CO 80501

Entire Report Reviewed By:

Daphne R Richards

Daphne Richards
Technical Service Representative

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 ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

MW-01 L987773-01 Solid

Collected by	Collected date/time	Received date/time
Drew Stephens	04/19/18 09:00	04/21/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1102052	1	04/21/18 15:08	04/24/18 14:43	ACE
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1101841	1	04/21/18 15:08	04/24/18 12:34	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1102637	1	04/24/18 16:42	04/25/18 13:23	AAT

MW-02 L987773-02 Solid

Collected by	Collected date/time	Received date/time
Drew Stephens	04/19/18 10:30	04/21/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1102052	1	04/21/18 15:08	04/24/18 15:05	ACE
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1101841	1	04/21/18 15:08	04/24/18 12:55	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1102637	1	04/24/18 16:42	04/25/18 16:24	AAT

MW-03 L987773-03 Solid

Collected by	Collected date/time	Received date/time
Drew Stephens	04/19/18 11:30	04/21/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1102052	1	04/21/18 15:08	04/24/18 15:27	ACE
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1101841	1	04/21/18 15:08	04/24/18 13:16	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1102637	1	04/24/18 16:42	04/25/18 13:37	AAT

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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.

Daphne R Richards

Daphne Richards
Technical Service Representative

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	04/24/2018 14:43	WG1102052
(S) a,a,a-Trifluorotoluene(FID)	*91.1*		*77.0-120*		*04/24/2018 14:43*	WG1102052

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	ND		0.0500	1	04/24/2018 12:34	WG1101841
Acrylonitrile	ND		0.0100	1	04/24/2018 12:34	WG1101841
Benzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
Bromobenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
Bromodichloromethane	ND		0.00100	1	04/24/2018 12:34	WG1101841
Bromoform	ND		0.00100	1	04/24/2018 12:34	WG1101841
Bromomethane	ND		0.00500	1	04/24/2018 12:34	WG1101841
n-Butylbenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
sec-Butylbenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
tert-Butylbenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
Carbon tetrachloride	ND		0.00100	1	04/24/2018 12:34	WG1101841
Chlorobenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
Chlorodibromomethane	ND		0.00100	1	04/24/2018 12:34	WG1101841
Chloroethane	ND		0.00500	1	04/24/2018 12:34	WG1101841
Chloroform	ND		0.00500	1	04/24/2018 12:34	WG1101841
Chloromethane	ND		0.00250	1	04/24/2018 12:34	WG1101841
2-Chlorotoluene	ND		0.00100	1	04/24/2018 12:34	WG1101841
4-Chlorotoluene	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,2-Dibromo-3-Chloropropane	ND		0.00500	1	04/24/2018 12:34	WG1101841
1,2-Dibromoethane	ND		0.00100	1	04/24/2018 12:34	WG1101841
Dibromomethane	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,2-Dichlorobenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,3-Dichlorobenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,4-Dichlorobenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
Dichlorodifluoromethane	ND		0.00500	1	04/24/2018 12:34	WG1101841
1,1-Dichloroethane	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,2-Dichloroethane	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,1-Dichloroethene	ND		0.00100	1	04/24/2018 12:34	WG1101841
cis-1,2-Dichloroethene	ND		0.00100	1	04/24/2018 12:34	WG1101841
trans-1,2-Dichloroethene	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,2-Dichloropropane	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,1-Dichloropropene	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,3-Dichloropropane	ND		0.00100	1	04/24/2018 12:34	WG1101841
cis-1,3-Dichloropropene	ND		0.00100	1	04/24/2018 12:34	WG1101841
trans-1,3-Dichloropropene	ND		0.00100	1	04/24/2018 12:34	WG1101841
2,2-Dichloropropane	ND		0.00100	1	04/24/2018 12:34	WG1101841
Di-isopropyl ether	ND		0.00100	1	04/24/2018 12:34	WG1101841
Ethylbenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
Hexachloro-1,3-butadiene	ND	J4	0.00100	1	04/24/2018 12:34	WG1101841
Isopropylbenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
p-Isopropyltoluene	ND		0.00100	1	04/24/2018 12:34	WG1101841
2-Butanone (MEK)	ND		0.0100	1	04/24/2018 12:34	WG1101841
Methylene Chloride	ND		0.00500	1	04/24/2018 12:34	WG1101841
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	04/24/2018 12:34	WG1101841
Methyl tert-butyl ether	ND		0.00100	1	04/24/2018 12:34	WG1101841
Naphthalene	ND		0.00500	1	04/24/2018 12:34	WG1101841
n-Propylbenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
Styrene	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,1,1,2-Tetrachloroethane	ND		0.00100	1	04/24/2018 12:34	WG1101841

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,1,2-Trichlorotrifluoroethane	ND		0.00100	1	04/24/2018 12:34	WG1101841
Tetrachloroethene	ND		0.00100	1	04/24/2018 12:34	WG1101841
Toluene	ND		0.00500	1	04/24/2018 12:34	WG1101841
1,2,3-Trichlorobenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,2,4-Trichlorobenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,1,1-Trichloroethane	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,1,2-Trichloroethane	ND		0.00100	1	04/24/2018 12:34	WG1101841
Trichloroethene	ND		0.00100	1	04/24/2018 12:34	WG1101841
Trichlorofluoromethane	ND		0.00500	1	04/24/2018 12:34	WG1101841
1,2,3-Trichloropropane	ND		0.00250	1	04/24/2018 12:34	WG1101841
1,2,4-Trimethylbenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,2,3-Trimethylbenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
1,3,5-Trimethylbenzene	ND		0.00100	1	04/24/2018 12:34	WG1101841
Vinyl chloride	ND		0.00100	1	04/24/2018 12:34	WG1101841
Xylenes, Total	ND		0.00300	1	04/24/2018 12:34	WG1101841
(S) Toluene-d8	*100*		*80.0-120*		*04/24/2018 12:34*	WG1101841
(S) Dibromofluoromethane	*98.5*		*74.0-131*		*04/24/2018 12:34*	WG1101841
(S) 4-Bromofluorobenzene	*93.0*		*64.0-132*		*04/24/2018 12:34*	WG1101841

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	04/25/2018 13:23	WG1102637
C28-C40 Oil Range	ND		4.00	1	04/25/2018 13:23	WG1102637
(S) o-Terphenyl	*53.1*		*18.0-148*		*04/25/2018 13:23*	WG1102637

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	04/24/2018 15:05	WG1102052
(S) a,a,a-Trifluorotoluene(FID)	*91.4*		*77.0-120*		*04/24/2018 15:05*	WG1102052

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	ND		0.0500	1	04/24/2018 12:55	WG1101841
Acrylonitrile	ND		0.0100	1	04/24/2018 12:55	WG1101841
Benzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
Bromobenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
Bromodichloromethane	ND		0.00100	1	04/24/2018 12:55	WG1101841
Bromoform	ND		0.00100	1	04/24/2018 12:55	WG1101841
Bromomethane	ND		0.00500	1	04/24/2018 12:55	WG1101841
n-Butylbenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
sec-Butylbenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
tert-Butylbenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
Carbon tetrachloride	ND		0.00100	1	04/24/2018 12:55	WG1101841
Chlorobenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
Chlorodibromomethane	ND		0.00100	1	04/24/2018 12:55	WG1101841
Chloroethane	ND		0.00500	1	04/24/2018 12:55	WG1101841
Chloroform	ND		0.00500	1	04/24/2018 12:55	WG1101841
Chloromethane	ND		0.00250	1	04/24/2018 12:55	WG1101841
2-Chlorotoluene	ND		0.00100	1	04/24/2018 12:55	WG1101841
4-Chlorotoluene	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,2-Dibromo-3-Chloropropane	ND		0.00500	1	04/24/2018 12:55	WG1101841
1,2-Dibromoethane	ND		0.00100	1	04/24/2018 12:55	WG1101841
Dibromomethane	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,2-Dichlorobenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,3-Dichlorobenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,4-Dichlorobenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
Dichlorodifluoromethane	ND		0.00500	1	04/24/2018 12:55	WG1101841
1,1-Dichloroethane	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,2-Dichloroethane	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,1-Dichloroethene	ND		0.00100	1	04/24/2018 12:55	WG1101841
cis-1,2-Dichloroethene	ND		0.00100	1	04/24/2018 12:55	WG1101841
trans-1,2-Dichloroethene	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,2-Dichloropropane	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,1-Dichloropropene	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,3-Dichloropropane	ND		0.00100	1	04/24/2018 12:55	WG1101841
cis-1,3-Dichloropropene	ND		0.00100	1	04/24/2018 12:55	WG1101841
trans-1,3-Dichloropropene	ND		0.00100	1	04/24/2018 12:55	WG1101841
2,2-Dichloropropane	ND		0.00100	1	04/24/2018 12:55	WG1101841
Di-isopropyl ether	ND		0.00100	1	04/24/2018 12:55	WG1101841
Ethylbenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
Hexachloro-1,3-butadiene	ND	J4	0.00100	1	04/24/2018 12:55	WG1101841
Isopropylbenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
p-Isopropyltoluene	ND		0.00100	1	04/24/2018 12:55	WG1101841
2-Butanone (MEK)	ND		0.0100	1	04/24/2018 12:55	WG1101841
Methylene Chloride	ND		0.00500	1	04/24/2018 12:55	WG1101841
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	04/24/2018 12:55	WG1101841
Methyl tert-butyl ether	ND		0.00100	1	04/24/2018 12:55	WG1101841
Naphthalene	ND		0.00500	1	04/24/2018 12:55	WG1101841
n-Propylbenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
Styrene	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,1,1,2-Tetrachloroethane	ND		0.00100	1	04/24/2018 12:55	WG1101841

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,1,2-Trichlorotrifluoroethane	ND		0.00100	1	04/24/2018 12:55	WG1101841
Tetrachloroethene	ND		0.00100	1	04/24/2018 12:55	WG1101841
Toluene	ND		0.00500	1	04/24/2018 12:55	WG1101841
1,2,3-Trichlorobenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,2,4-Trichlorobenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,1,1-Trichloroethane	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,1,2-Trichloroethane	ND		0.00100	1	04/24/2018 12:55	WG1101841
Trichloroethene	ND		0.00100	1	04/24/2018 12:55	WG1101841
Trichlorofluoromethane	ND		0.00500	1	04/24/2018 12:55	WG1101841
1,2,3-Trichloropropane	ND		0.00250	1	04/24/2018 12:55	WG1101841
1,2,4-Trimethylbenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,2,3-Trimethylbenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
1,3,5-Trimethylbenzene	ND		0.00100	1	04/24/2018 12:55	WG1101841
Vinyl chloride	ND		0.00100	1	04/24/2018 12:55	WG1101841
Xylenes, Total	ND		0.00300	1	04/24/2018 12:55	WG1101841
(S) Toluene-d8	*104*		*80.0-120*		*04/24/2018 12:55*	WG1101841
(S) Dibromofluoromethane	*91.8*		*74.0-131*		*04/24/2018 12:55*	WG1101841
(S) 4-Bromofluorobenzene	*91.6*		*64.0-132*		*04/24/2018 12:55*	WG1101841

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	04/25/2018 16:24	WG1102637
C28-C40 Oil Range	ND		4.00	1	04/25/2018 16:24	WG1102637
(S) o-Terphenyl	*61.9*		*18.0-148*		*04/25/2018 16:24*	WG1102637

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	04/24/2018 15:27	WG1102052
(S) a,a,a-Trifluorotoluene(FID)	*92.1*		*77.0-120*		*04/24/2018 15:27*	WG1102052

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	ND		0.0500	1	04/24/2018 13:16	WG1101841
Acrylonitrile	ND		0.0100	1	04/24/2018 13:16	WG1101841
Benzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
Bromobenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
Bromodichloromethane	ND		0.00100	1	04/24/2018 13:16	WG1101841
Bromoform	ND		0.00100	1	04/24/2018 13:16	WG1101841
Bromomethane	ND		0.00500	1	04/24/2018 13:16	WG1101841
n-Butylbenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
sec-Butylbenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
tert-Butylbenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
Carbon tetrachloride	ND		0.00100	1	04/24/2018 13:16	WG1101841
Chlorobenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
Chlorodibromomethane	ND		0.00100	1	04/24/2018 13:16	WG1101841
Chloroethane	ND		0.00500	1	04/24/2018 13:16	WG1101841
Chloroform	ND		0.00500	1	04/24/2018 13:16	WG1101841
Chloromethane	ND		0.00250	1	04/24/2018 13:16	WG1101841
2-Chlorotoluene	ND		0.00100	1	04/24/2018 13:16	WG1101841
4-Chlorotoluene	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,2-Dibromo-3-Chloropropane	ND		0.00500	1	04/24/2018 13:16	WG1101841
1,2-Dibromoethane	ND		0.00100	1	04/24/2018 13:16	WG1101841
Dibromomethane	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,2-Dichlorobenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,3-Dichlorobenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,4-Dichlorobenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
Dichlorodifluoromethane	ND		0.00500	1	04/24/2018 13:16	WG1101841
1,1-Dichloroethane	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,2-Dichloroethane	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,1-Dichloroethene	ND		0.00100	1	04/24/2018 13:16	WG1101841
cis-1,2-Dichloroethene	ND		0.00100	1	04/24/2018 13:16	WG1101841
trans-1,2-Dichloroethene	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,2-Dichloropropane	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,1-Dichloropropene	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,3-Dichloropropane	ND		0.00100	1	04/24/2018 13:16	WG1101841
cis-1,3-Dichloropropene	ND		0.00100	1	04/24/2018 13:16	WG1101841
trans-1,3-Dichloropropene	ND		0.00100	1	04/24/2018 13:16	WG1101841
2,2-Dichloropropane	ND		0.00100	1	04/24/2018 13:16	WG1101841
Di-isopropyl ether	ND		0.00100	1	04/24/2018 13:16	WG1101841
Ethylbenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
Hexachloro-1,3-butadiene	ND	J4	0.00100	1	04/24/2018 13:16	WG1101841
Isopropylbenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
p-Isopropyltoluene	ND		0.00100	1	04/24/2018 13:16	WG1101841
2-Butanone (MEK)	ND		0.0100	1	04/24/2018 13:16	WG1101841
Methylene Chloride	ND		0.00500	1	04/24/2018 13:16	WG1101841
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	04/24/2018 13:16	WG1101841
Methyl tert-butyl ether	ND		0.00100	1	04/24/2018 13:16	WG1101841
Naphthalene	ND		0.00500	1	04/24/2018 13:16	WG1101841
n-Propylbenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
Styrene	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,1,1,2-Tetrachloroethane	ND		0.00100	1	04/24/2018 13:16	WG1101841

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,1,2-Trichlorotrifluoroethane	ND		0.00100	1	04/24/2018 13:16	WG1101841
Tetrachloroethene	ND		0.00100	1	04/24/2018 13:16	WG1101841
Toluene	ND		0.00500	1	04/24/2018 13:16	WG1101841
1,2,3-Trichlorobenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,2,4-Trichlorobenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,1,1-Trichloroethane	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,1,2-Trichloroethane	ND		0.00100	1	04/24/2018 13:16	WG1101841
Trichloroethene	ND		0.00100	1	04/24/2018 13:16	WG1101841
Trichlorofluoromethane	ND		0.00500	1	04/24/2018 13:16	WG1101841
1,2,3-Trichloropropane	ND		0.00250	1	04/24/2018 13:16	WG1101841
1,2,4-Trimethylbenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,2,3-Trimethylbenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
1,3,5-Trimethylbenzene	ND		0.00100	1	04/24/2018 13:16	WG1101841
Vinyl chloride	ND		0.00100	1	04/24/2018 13:16	WG1101841
Xylenes, Total	ND		0.00300	1	04/24/2018 13:16	WG1101841
(S) Toluene-d8	*104*		*80.0-120*		*04/24/2018 13:16*	WG1101841
(S) Dibromofluoromethane	*91.7*		*74.0-131*		*04/24/2018 13:16*	WG1101841
(S) 4-Bromofluorobenzene	*90.7*		*64.0-132*		*04/24/2018 13:16*	WG1101841

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	04/25/2018 13:37	WG1102637
C28-C40 Oil Range	ND		4.00	1	04/25/2018 13:37	WG1102637
(S) o-Terphenyl	*66.5*		*18.0-148*		*04/25/2018 13:37*	WG1102637

Method Blank (MB)

(MB) R3304107-3 04/23/18 22:52

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0251	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*95.7*			*77.0-120*

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

(LCS) R3304107-1 04/23/18 21:45 • (LCSD) R3304107-2 04/23/18 22:07

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 %
TPH (GC/FID) Low Fraction	5.50	5.57	5.79	101	105	70.0-136			3.81	20
(S) a,a,a-Trifluorotoluene(FID)				*108*	*110*	*77.0-120*				

L987722-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L987722-09 04/24/18 15:49 • (MS) R3304107-4 04/24/18 16:12 • (MSD) R3304107-5 04/24/18 16:34

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 %
TPH (GC/FID) Low Fraction	5.50	ND	69.3	70.0	49.8	50.3	25	10.0-147			1.11	30
(S) a,a,a-Trifluorotoluene(FID)					*102*	*101*		*77.0-120*				

Method Blank (MB)

(MB) R3304141-3 04/23/18 21:39

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0100	0.0500
Acrylonitrile	U		0.00179	0.0100
Benzene	U		0.000270	0.00100
Bromobenzene	U		0.000284	0.00100
Bromodichloromethane	U		0.000254	0.00100
Bromoform	U		0.000424	0.00100
Bromomethane	U		0.00134	0.00500
n-Butylbenzene	U		0.000258	0.00100
sec-Butylbenzene	U		0.000201	0.00100
tert-Butylbenzene	U		0.000206	0.00100
Carbon tetrachloride	U		0.000328	0.00100
Chlorobenzene	U		0.000212	0.00100
Chlorodibromomethane	U		0.000373	0.00100
Chloroethane	U		0.000946	0.00500
Chloroform	U		0.000229	0.00500
Chloromethane	U		0.000375	0.00250
2-Chlorotoluene	U		0.000301	0.00100
4-Chlorotoluene	U		0.000240	0.00100
1,2-Dibromo-3-Chloropropane	U		0.00105	0.00500
1,2-Dibromoethane	U		0.000343	0.00100
Dibromomethane	U		0.000382	0.00100
1,2-Dichlorobenzene	U		0.000305	0.00100
1,3-Dichlorobenzene	U		0.000239	0.00100
1,4-Dichlorobenzene	U		0.000226	0.00100
Dichlorodifluoromethane	U		0.000713	0.00500
1,1-Dichloroethane	U		0.000199	0.00100
1,2-Dichloroethane	U		0.000265	0.00100
1,1-Dichloroethene	U		0.000303	0.00100
cis-1,2-Dichloroethene	U		0.000235	0.00100
trans-1,2-Dichloroethene	U		0.000264	0.00100
1,2-Dichloropropane	U		0.000358	0.00100
1,1-Dichloropropene	U		0.000317	0.00100
1,3-Dichloropropane	U		0.000207	0.00100
cis-1,3-Dichloropropene	U		0.000262	0.00100
trans-1,3-Dichloropropene	U		0.000267	0.00100
2,2-Dichloropropane	U		0.000279	0.00100
Di-isopropyl ether	U		0.000248	0.00100
Ethylbenzene	U		0.000297	0.00100
Hexachloro-1,3-butadiene	U		0.000342	0.00100
Isopropylbenzene	U		0.000243	0.00100

Method Blank (MB)

(MB) R3304141-3 04/23/18 21:39

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.000204	0.00100
2-Butanone (MEK)	U		0.00468	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00188	0.0100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000206	0.00100
Styrene	U		0.000234	0.00100
1,1,1,2-Tetrachloroethane	U		0.000264	0.00100
1,1,2,2-Tetrachloroethane	U		0.000365	0.00100
Tetrachloroethene	U		0.000276	0.00100
Toluene	U		0.000434	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000365	0.00100
1,2,3-Trichlorobenzene	U		0.000306	0.00100
1,2,4-Trichlorobenzene	U		0.000388	0.00100
1,1,1-Trichloroethane	U		0.000286	0.00100
1,1,2-Trichloroethane	U		0.000277	0.00100
Trichloroethene	U		0.000279	0.00100
Trichlorofluoromethane	U		0.000382	0.00500
1,2,3-Trichloropropane	U		0.000741	0.00250
1,2,3-Trimethylbenzene	U		0.000287	0.00100
1,2,4-Trimethylbenzene	U		0.000211	0.00100
1,3,5-Trimethylbenzene	U		0.000266	0.00100
Vinyl chloride	U		0.000291	0.00100
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*115*			*80.0-120*
(S) Dibromofluoromethane	*85.2*			*74.0-131*
(S) 4-Bromofluorobenzene	*92.7*			*64.0-132*

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

(LCS) R3304141-1 04/23/18 20:35 • (LCSD) R3304141-2 04/23/18 20:56

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	0.125	0.0934	0.0911	74.7	72.8	11.0-160			2.57	23
Acrylonitrile	0.125	0.121	0.115	96.7	91.9	61.0-143			5.03	20
Benzene	0.0250	0.0234	0.0230	93.8	91.9	71.0-124			2.05	20
Bromobenzene	0.0250	0.0248	0.0251	99.3	100	78.0-120			0.864	20
Bromodichloromethane	0.0250	0.0259	0.0260	104	104	75.0-120			0.310	20

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

(LCS) R3304141-1 04/23/18 20:35 • (LCSD) R3304141-2 04/23/18 20:56

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 %
Bromoform	0.0250	0.0270	0.0272	108	109	65.0-133			0.993	20
Bromomethane	0.0250	0.0213	0.0203	85.1	81.2	26.0-160			4.63	20
n-Butylbenzene	0.0250	0.0261	0.0262	104	105	73.0-126			0.204	20
sec-Butylbenzene	0.0250	0.0261	0.0266	104	106	75.0-121			2.04	20
tert-Butylbenzene	0.0250	0.0270	0.0273	108	109	74.0-122			1.14	20
Carbon tetrachloride	0.0250	0.0236	0.0235	94.4	94.0	66.0-123			0.404	20
Chlorobenzene	0.0250	0.0286	0.0286	115	114	79.0-121			0.128	20
Chlorodibromomethane	0.0250	0.0290	0.0286	116	114	74.0-128			1.30	20
Chloroethane	0.0250	0.0207	0.0199	82.9	79.6	51.0-147			3.98	20
Chloroform	0.0250	0.0240	0.0237	96.1	94.8	73.0-123			1.35	20
Chloromethane	0.0250	0.0227	0.0221	90.9	88.6	51.0-138			2.66	20
2-Chlorotoluene	0.0250	0.0258	0.0265	103	106	72.0-124			2.56	20
4-Chlorotoluene	0.0250	0.0248	0.0252	99.3	101	78.0-120			1.62	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0269	0.0254	108	102	65.0-126			5.60	20
1,2-Dibromoethane	0.0250	0.0283	0.0280	113	112	78.0-122			1.17	20
Dibromomethane	0.0250	0.0262	0.0259	105	103	79.0-120			1.50	20
1,2-Dichlorobenzene	0.0250	0.0269	0.0270	108	108	80.0-120			0.0790	20
1,3-Dichlorobenzene	0.0250	0.0265	0.0268	106	107	72.0-123			1.21	20
1,4-Dichlorobenzene	0.0250	0.0255	0.0255	102	102	77.0-120			0.214	20
Dichlorodifluoromethane	0.0250	0.0248	0.0244	99.4	97.8	49.0-155			1.61	20
1,1-Dichloroethane	0.0250	0.0243	0.0242	97.3	96.7	70.0-128			0.696	20
1,2-Dichloroethane	0.0250	0.0239	0.0235	95.7	93.9	69.0-128			1.90	20
1,1-Dichloroethene	0.0250	0.0249	0.0243	99.5	97.4	63.0-131			2.12	20
cis-1,2-Dichloroethene	0.0250	0.0242	0.0233	96.7	93.4	74.0-123			3.44	20
trans-1,2-Dichloroethene	0.0250	0.0243	0.0240	97.3	96.1	72.0-122			1.20	20
1,2-Dichloropropane	0.0250	0.0270	0.0267	108	107	75.0-126			1.11	20
1,1-Dichloropropene	0.0250	0.0242	0.0238	96.6	95.3	72.0-130			1.35	20
1,3-Dichloropropane	0.0250	0.0277	0.0271	111	108	80.0-121			2.33	20
cis-1,3-Dichloropropene	0.0250	0.0280	0.0279	112	111	80.0-125			0.533	20
trans-1,3-Dichloropropene	0.0250	0.0285	0.0283	114	113	75.0-129			0.509	20
2,2-Dichloropropane	0.0250	0.0244	0.0233	97.7	93.1	60.0-129			4.88	20
Di-isopropyl ether	0.0250	0.0246	0.0238	98.4	95.4	62.0-133			3.10	20
Ethylbenzene	0.0250	0.0287	0.0288	115	115	77.0-120			0.431	20
Hexachloro-1,3-butadiene	0.0250	0.0338	0.0337	135	135	68.0-128	J4	J4	0.388	20
Isopropylbenzene	0.0250	0.0262	0.0268	105	107	75.0-120			2.35	20
p-Isopropyltoluene	0.0250	0.0278	0.0280	111	112	74.0-125			0.709	20
2-Butanone (MEK)	0.125	0.112	0.107	89.8	86.0	37.0-159			4.29	20
Methylene Chloride	0.0250	0.0232	0.0226	92.7	90.5	67.0-123			2.43	20
4-Methyl-2-pentanone (MIBK)	0.125	0.143	0.138	114	111	60.0-144			3.32	20
Methyl tert-butyl ether	0.0250	0.0242	0.0233	96.9	93.2	66.0-125			3.94	20

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

(LCS) R3304141-1 04/23/18 20:35 • (LCSD) R3304141-2 04/23/18 20:56

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 %
Naphthalene	0.0250	0.0262	0.0261	105	104	64.0-125			0.374	20
n-Propylbenzene	0.0250	0.0257	0.0262	103	105	78.0-120			1.67	20
Styrene	0.0250	0.0254	0.0259	102	104	78.0-124			1.81	20
1,1,1,2-Tetrachloroethane	0.0250	0.0305	0.0303	122	121	74.0-124			0.721	20
1,1,2,2-Tetrachloroethane	0.0250	0.0242	0.0240	96.8	96.1	73.0-120			0.698	20
Tetrachloroethene	0.0250	0.0309	0.0310	123	124	70.0-127			0.472	20
Toluene	0.0250	0.0270	0.0271	108	109	77.0-120			0.540	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0260	0.0257	104	103	64.0-135			1.13	20
1,2,3-Trichlorobenzene	0.0250	0.0294	0.0292	118	117	68.0-126			0.587	20
1,2,4-Trichlorobenzene	0.0250	0.0282	0.0284	113	113	70.0-127			0.752	20
1,1,1-Trichloroethane	0.0250	0.0248	0.0243	99.1	97.2	69.0-125			1.91	20
1,1,2-Trichloroethane	0.0250	0.0273	0.0269	109	108	78.0-120			1.29	20
Trichloroethene	0.0250	0.0284	0.0286	114	114	79.0-120			0.495	20
Trichlorofluoromethane	0.0250	0.0241	0.0233	96.5	93.2	59.0-136			3.51	20
1,2,3-Trichloropropane	0.0250	0.0243	0.0241	97.1	96.6	73.0-124			0.517	20
1,2,3-Trimethylbenzene	0.0250	0.0260	0.0263	104	105	76.0-120			1.20	20
1,2,4-Trimethylbenzene	0.0250	0.0262	0.0263	105	105	75.0-120			0.446	20
1,3,5-Trimethylbenzene	0.0250	0.0265	0.0268	106	107	75.0-120			1.08	20
Vinyl chloride	0.0250	0.0236	0.0228	94.5	91.3	63.0-134			3.42	20
Xylenes, Total	0.0750	0.0882	0.0879	118	117	77.0-120			0.341	20
(S) Toluene-d8				*111*	*111*	*80.0-120*				
(S) Dibromofluoromethane				*87.3*	*85.9*	*74.0-131*				
(S) 4-Bromofluorobenzene				*89.5*	*89.4*	*64.0-132*				

L987811-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L987811-11 04/24/18 17:09 • (MS) R3304141-4 04/24/18 17:30 • (MSD) R3304141-5 04/24/18 17:51

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	0.148	0.0180	0.111	0.105	62.9	58.5	1	10.0-160			5.94	36
Acrylonitrile	0.148	U	0.144	0.136	97.3	91.8	1	14.0-160			5.81	33
Benzene	0.0296	U	0.0218	0.0223	73.7	75.5	1	13.0-146			2.33	27
Bromobenzene	0.0296	U	0.0197	0.0199	66.4	67.4	1	10.0-149			1.49	33
Bromodichloromethane	0.0296	U	0.0239	0.0249	80.7	84.3	1	15.0-142			4.31	28
Bromoform	0.0296	U	0.0270	0.0274	91.4	92.7	1	10.0-147			1.43	31
Bromomethane	0.0296	U	0.0195	0.0203	65.8	68.6	1	10.0-160			4.08	32
n-Butylbenzene	0.0296	U	0.0166	0.0157	56.2	53.1	1	10.0-154			5.63	37
sec-Butylbenzene	0.0296	U	0.0201	0.0192	67.8	64.8	1	10.0-151			4.42	36
tert-Butylbenzene	0.0296	U	0.0218	0.0215	73.7	72.6	1	10.0-152			1.59	35

L987811-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L987811-11 04/24/18 17:09 • (MS) R3304141-4 04/24/18 17:30 • (MSD) R3304141-5 04/24/18 17:51

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 %
Carbon tetrachloride	0.0296	U	0.0223	0.0220	75.4	74.2	1	13.0-140			1.54	30
Chlorobenzene	0.0296	U	0.0221	0.0232	74.8	78.3	1	10.0-149			4.64	31
Chlorodibromomethane	0.0296	U	0.0261	0.0268	88.3	90.7	1	12.0-147			2.60	29
Chloroethane	0.0296	U	0.0197	0.0204	66.7	69.1	1	10.0-159			3.53	33
Chloroform	0.0296	U	0.0230	0.0238	77.8	80.5	1	18.0-148			3.33	28
Chloromethane	0.0296	U	0.0201	0.0215	67.9	72.7	1	10.0-146			6.82	29
2-Chlorotoluene	0.0296	U	0.0199	0.0197	67.1	66.7	1	10.0-151			0.600	35
4-Chlorotoluene	0.0296	U	0.0174	0.0179	58.7	60.3	1	10.0-150			2.74	35
1,2-Dibromo-3-Chloropropane	0.0296	U	0.0304	0.0285	103	96.3	1	10.0-149			6.29	34
1,2-Dibromoethane	0.0296	U	0.0266	0.0265	89.9	89.4	1	14.0-145			0.500	28
Dibromomethane	0.0296	U	0.0255	0.0261	86.2	88.2	1	18.0-144			2.27	27
1,2-Dichlorobenzene	0.0296	U	0.0198	0.0207	67.0	70.0	1	10.0-153			4.44	34
1,3-Dichlorobenzene	0.0296	U	0.0180	0.0181	60.8	61.3	1	10.0-150			0.742	35
1,4-Dichlorobenzene	0.0296	U	0.0168	0.0172	56.8	58.1	1	10.0-148			2.33	34
Dichlorodifluoromethane	0.0296	U	0.0173	0.0174	58.3	58.8	1	10.0-160			0.787	30
1,1-Dichloroethane	0.0296	U	0.0233	0.0242	78.9	81.6	1	19.0-148			3.42	28
1,2-Dichloroethane	0.0296	U	0.0236	0.0245	79.6	82.6	1	17.0-147			3.77	27
1,1-Dichloroethene	0.0296	U	0.0219	0.0219	73.9	73.8	1	10.0-150			0.131	31
cis-1,2-Dichloroethene	0.0296	U	0.0222	0.0232	75.0	78.3	1	16.0-145			4.31	28
trans-1,2-Dichloroethene	0.0296	U	0.0219	0.0223	73.9	75.2	1	11.0-142			1.84	29
1,2-Dichloropropane	0.0296	U	0.0252	0.0255	85.2	86.2	1	17.0-148			1.14	28
1,1-Dichloropropene	0.0296	U	0.0219	0.0216	73.9	73.0	1	10.0-150			1.20	30
1,3-Dichloropropane	0.0296	U	0.0248	0.0257	83.9	86.8	1	16.0-148			3.31	27
cis-1,3-Dichloropropene	0.0296	U	0.0226	0.0235	76.3	79.6	1	13.0-150			4.14	28
trans-1,3-Dichloropropene	0.0296	U	0.0232	0.0239	78.3	80.8	1	10.0-152			3.19	29
2,2-Dichloropropane	0.0296	U	0.0218	0.0210	73.6	70.9	1	16.0-143			3.70	30
Di-isopropyl ether	0.0296	U	0.0230	0.0237	77.6	80.1	1	16.0-149			3.13	28
Ethylbenzene	0.0296	U	0.0226	0.0224	76.4	75.8	1	10.0-147			0.772	31
Hexachloro-1,3-butadiene	0.0296	U	0.0197	0.0199	66.7	67.2	1	10.0-154			0.738	40
Isopropylbenzene	0.0296	U	0.0214	0.0207	72.2	69.8	1	10.0-147			3.26	33
p-Isopropyltoluene	0.0296	U	0.0195	0.0178	65.8	60.3	1	10.0-156			8.77	37
2-Butanone (MEK)	0.148	U	0.141	0.133	95.5	89.6	1	10.0-160			6.34	33
Methylene Chloride	0.0296	U	0.0223	0.0230	75.3	77.8	1	16.0-139			3.23	29
4-Methyl-2-pentanone (MIBK)	0.148	U	0.169	0.160	114	108	1	12.0-160			5.50	32
Methyl tert-butyl ether	0.0296	U	0.0248	0.0253	83.8	85.4	1	21.0-145			1.93	29
Naphthalene	0.0296	U	0.0213	0.0203	72.1	68.6	1	10.0-153			4.89	36
n-Propylbenzene	0.0296	U	0.0195	0.0185	65.8	62.5	1	10.0-151			5.10	34
Styrene	0.0296	U	0.0131	0.00581	44.2	19.6	1	10.0-155		J3	77.1	34
1,1,1,2-Tetrachloroethane	0.0296	U	0.0245	0.0263	82.8	89.0	1	10.0-147			7.29	30

L987811-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L987811-11 04/24/18 17:09 • (MS) R3304141-4 04/24/18 17:30 • (MSD) R3304141-5 04/24/18 17:51

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 %
1,1,2,2-Tetrachloroethane	0.0296	U	0.0278	0.0264	93.8	89.3	1	10.0-155			4.89	31
Tetrachloroethene	0.0296	U	0.0235	0.0221	79.5	74.7	1	10.0-144			6.14	32
Toluene	0.0296	U	0.0221	0.0225	74.7	76.0	1	10.0-144			1.74	28
1,1,2-Trichlorotrifluoroethane	0.0296	U	0.0214	0.0200	72.2	67.7	1	10.0-153			6.36	33
1,2,3-Trichlorobenzene	0.0296	U	0.0169	0.0180	57.0	60.7	1	10.0-153			6.35	40
1,2,4-Trichlorobenzene	0.0296	U	0.0136	0.0146	46.0	49.3	1	10.0-156			6.99	40
1,1,1-Trichloroethane	0.0296	U	0.0237	0.0245	80.2	82.9	1	18.0-145			3.31	29
1,1,2-Trichloroethane	0.0296	U	0.0255	0.0260	86.2	87.7	1	12.0-151			1.68	28
Trichloroethene	0.0296	0.00417	0.0265	0.0262	75.3	74.3	1	11.0-148			1.15	29
Trichlorofluoromethane	0.0296	U	0.0216	0.0217	73.1	73.2	1	10.0-157			0.0759	34
1,2,3-Trichloropropane	0.0296	U	0.0265	0.0269	89.5	90.8	1	10.0-154			1.47	32
1,2,3-Trimethylbenzene	0.0296	U	0.0198	0.0193	66.8	65.2	1	10.0-150			2.37	33
1,2,4-Trimethylbenzene	0.0296	U	0.0186	0.0165	62.9	55.9	1	10.0-151			11.8	34
1,3,5-Trimethylbenzene	0.0296	U	0.0199	0.0187	67.3	63.3	1	10.0-150			6.22	33
Vinyl chloride	0.0296	U	0.0209	0.0218	70.5	73.7	1	10.0-150			4.44	29
Xylenes, Total	0.0888	U	0.0674	0.0661	75.9	74.4	1	10.0-150			1.95	31
(S) Toluene-d8					*101*	*103*		*80.0-120*				
(S) Dibromofluoromethane					*94.0*	*93.2*		*74.0-131*				
(S) 4-Bromofluorobenzene					*88.3*	*87.6*		*64.0-132*				

Method Blank (MB)

(MB) R3304659-1 04/25/18 12:04

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*80.0*			*18.0-148*

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

(LCS) R3304659-2 04/25/18 12:19 • (LCSD) R3304659-3 04/25/18 12:31

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
C10-C28 Diesel Range	50.0	25.7	29.3	51.5	58.7	50.0-150			13.0	20
(S) o-Terphenyl				*58.4*	*71.3*	*18.0-148*				

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.
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, 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.

ESC Lab Sciences 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 ESC Lab Sciences.

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

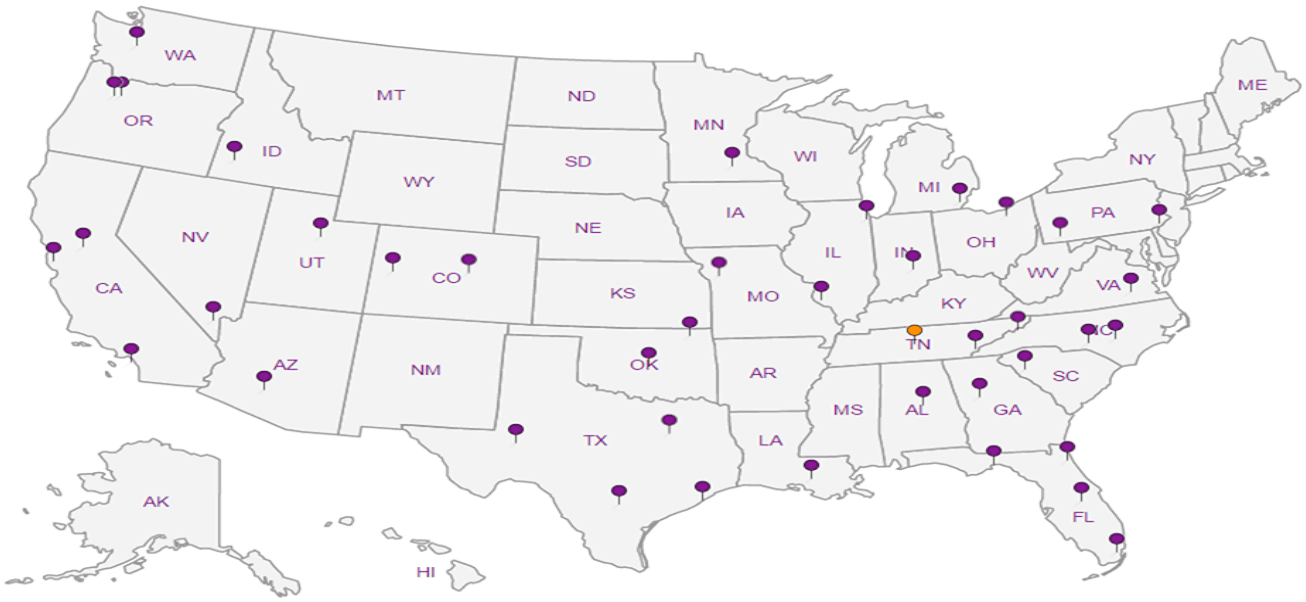
Third Party Federal Accreditations

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

ESC Lab Sciences 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. ESC Lab Sciences performs all testing at our central laboratory.



Terracon Consultants, Inc
1242 Bramwood Place
Longmont, CO 80501

Billing Information: SAME

Pres Chk

Report to: Mike Skidulis

Email To: mike.skidulis@terracon.com

Project Description: Tabor #1

City/State Collected: Longmont CO

Phone: 303-454-5249
Fax:

Client Project # ~~22175~~ 22177036

Lab Project #

Collected by (print): Drew Stephens

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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: STANDARD

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative: VOC's - 8260	TPH-GRO/DRO - 8015	Remarks	Sample # (lab only)
MW-01	Grab	SS	10-12'	4/19/18	0900	2	X	X		-01
MW-02	Grab	SS	10-12'	4/19/18	1030	2	X	X		-02
MW-03	Grab	SS	5'-7'	4/19/18	1130	2	X	X		-03

Chain of Custody Page 1 of 1

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 997773
H139

Acctnum:
Template:
Prelogin:
TSR:
PB:
Shipped Via:

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

Remarks: Fed ex:

pH _____ Temp _____
Flow _____ Other _____

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

Tracking # 4276 0141 4556

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
Drew Stephens	4/20/18	1000		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.6 °C Bottles Received: 6
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/21/18 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

May 04, 2018

Terracon Consultants, Inc - Longmont, CO

Sample Delivery Group:	L989164
Samples Received:	04/27/2018
Project Number:	22177036
Description:	Tabor #1

Report To: Michael Skridulis
1242 Bramwood Place
Longmont, CO 80501

Entire Report Reviewed By:

Jason Romer
Technical Service Representative

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 ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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MW-01 L989164-01 GW

Collected by: D. Stephens
Collected date/time: 04/26/18 13:15
Received date/time: 04/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1105464	1	05/02/18 12:45	05/02/18 12:45	MCG
Wet Chemistry by Method 4500CO2 D-2011	WG1105464	1	05/02/18 12:45	05/02/18 12:45	MCG
Wet Chemistry by Method 9056A	WG1104025	1	04/28/18 00:00	04/28/18 00:00	MCG
Wet Chemistry by Method 9056A	WG1104025	20	04/28/18 00:15	04/28/18 00:15	MCG
Wet Chemistry by Method 9056A	WG1104494	100	05/01/18 00:30	05/01/18 00:30	MAJ
Metals (ICP) by Method 6010B	WG1104003	1	04/27/18 16:13	04/28/18 16:33	ST
Volatile Organic Compounds (GC) by Method RSK175	WG1106095	1	05/03/18 14:07	05/03/18 14:07	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1104211	1	04/28/18 04:14	04/28/18 04:14	CAH

MW-02 L989164-02 GW

Collected by: D. Stephens
Collected date/time: 04/26/18 13:35
Received date/time: 04/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1105464	1	05/02/18 13:32	05/02/18 13:32	MCG
Wet Chemistry by Method 4500CO2 D-2011	WG1105464	1	05/02/18 13:32	05/02/18 13:32	MCG
Wet Chemistry by Method 9056A	WG1104025	1	04/28/18 00:31	04/28/18 00:31	MCG
Wet Chemistry by Method 9056A	WG1104025	20	04/28/18 00:46	04/28/18 00:46	MCG
Wet Chemistry by Method 9056A	WG1104494	100	05/01/18 00:45	05/01/18 00:45	MAJ
Metals (ICP) by Method 6010B	WG1104003	1	04/27/18 16:13	04/28/18 16:36	ST
Volatile Organic Compounds (GC) by Method RSK175	WG1106095	1	05/03/18 14:11	05/03/18 14:11	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1104211	1	04/28/18 04:34	04/28/18 04:34	CAH

MW-03 L989164-03 GW

Collected by: D. Stephens
Collected date/time: 04/26/18 13:55
Received date/time: 04/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1105464	1	05/02/18 13:39	05/02/18 13:39	MCG
Wet Chemistry by Method 4500CO2 D-2011	WG1105464	1	05/02/18 13:39	05/02/18 13:39	MCG
Wet Chemistry by Method 9056A	WG1104025	1	04/28/18 01:01	04/28/18 01:01	MCG
Wet Chemistry by Method 9056A	WG1104025	20	04/28/18 01:17	04/28/18 01:17	MCG
Wet Chemistry by Method 9056A	WG1104494	100	05/01/18 01:00	05/01/18 01:00	MAJ
Metals (ICP) by Method 6010B	WG1104003	1	04/27/18 16:13	04/28/18 16:40	ST
Volatile Organic Compounds (GC) by Method RSK175	WG1106095	1	05/03/18 14:16	05/03/18 14:16	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1104211	1	04/28/18 04:54	04/28/18 04:54	CAH

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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.

Jason Romer
Technical Service Representative

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	282		20.0	1	05/02/2018 12:45	WG1105464

Sample Narrative:
L989164-01 WG1105464: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	ND	T8	20.0	1	05/02/2018 12:45	WG1105464

Sample Narrative:
L989164-01 WG1105464: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Bromide	ND		1.00	1	04/28/2018 00:00	WG1104025
Chloride	201		20.0	20	04/28/2018 00:15	WG1104025
Nitrate as (N)	5.94		0.100	1	04/28/2018 00:00	WG1104025
Nitrite as (N)	ND		0.100	1	04/28/2018 00:00	WG1104025
Sulfate	3380		500	100	05/01/2018 00:30	WG1104494

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	676		1.00	1	04/28/2018 16:33	WG1104003
Iron	101		0.100	1	04/28/2018 16:33	WG1104003
Magnesium	485		1.00	1	04/28/2018 16:33	WG1104003
Potassium	32.9		1.00	1	04/28/2018 16:33	WG1104003
Sodium	602		1.00	1	04/28/2018 16:33	WG1104003
Strontium	8.21		0.0100	1	04/28/2018 16:33	WG1104003

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Methane	ND		0.0100	1	05/03/2018 14:07	WG1106095
Ethane	ND		0.0130	1	05/03/2018 14:07	WG1106095
Ethene	ND		0.0130	1	05/03/2018 14:07	WG1106095

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Acetone	ND		0.0500	1	04/28/2018 04:14	WG1104211
Acrolein	ND		0.0500	1	04/28/2018 04:14	WG1104211
Acrylonitrile	ND		0.0100	1	04/28/2018 04:14	WG1104211
Benzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
Bromobenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
Bromodichloromethane	ND		0.00100	1	04/28/2018 04:14	WG1104211
Bromoform	ND		0.00100	1	04/28/2018 04:14	WG1104211
Bromomethane	ND		0.00500	1	04/28/2018 04:14	WG1104211
n-Butylbenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
sec-Butylbenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
tert-Butylbenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Carbon tetrachloride	ND		0.00100	1	04/28/2018 04:14	WG1104211
Chlorobenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
Chlorodibromomethane	ND		0.00100	1	04/28/2018 04:14	WG1104211
Chloroethane	ND		0.00500	1	04/28/2018 04:14	WG1104211
Chloroform	ND		0.00500	1	04/28/2018 04:14	WG1104211
Chloromethane	ND		0.00250	1	04/28/2018 04:14	WG1104211
2-Chlorotoluene	ND		0.00100	1	04/28/2018 04:14	WG1104211
4-Chlorotoluene	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,2-Dibromo-3-Chloropropane	ND		0.00500	1	04/28/2018 04:14	WG1104211
1,2-Dibromoethane	ND		0.00100	1	04/28/2018 04:14	WG1104211
Dibromomethane	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,2-Dichlorobenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,3-Dichlorobenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,4-Dichlorobenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
Dichlorodifluoromethane	ND		0.00500	1	04/28/2018 04:14	WG1104211
1,1-Dichloroethane	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,2-Dichloroethane	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,1-Dichloroethene	ND		0.00100	1	04/28/2018 04:14	WG1104211
cis-1,2-Dichloroethene	ND		0.00100	1	04/28/2018 04:14	WG1104211
trans-1,2-Dichloroethene	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,2-Dichloropropane	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,1-Dichloropropene	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,3-Dichloropropane	ND		0.00100	1	04/28/2018 04:14	WG1104211
cis-1,3-Dichloropropene	ND		0.00100	1	04/28/2018 04:14	WG1104211
trans-1,3-Dichloropropene	ND		0.00100	1	04/28/2018 04:14	WG1104211
2,2-Dichloropropane	ND		0.00100	1	04/28/2018 04:14	WG1104211
Di-isopropyl ether	ND		0.00100	1	04/28/2018 04:14	WG1104211
Ethylbenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
Hexachloro-1,3-butadiene	ND		0.00100	1	04/28/2018 04:14	WG1104211
Isopropylbenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
p-Isopropyltoluene	ND		0.00100	1	04/28/2018 04:14	WG1104211
2-Butanone (MEK)	ND		0.0100	1	04/28/2018 04:14	WG1104211
Methylene Chloride	ND		0.00500	1	04/28/2018 04:14	WG1104211
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	04/28/2018 04:14	WG1104211
Methyl tert-butyl ether	ND		0.00100	1	04/28/2018 04:14	WG1104211
Naphthalene	ND		0.00500	1	04/28/2018 04:14	WG1104211
n-Propylbenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
Styrene	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,1,1,2-Tetrachloroethane	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,1,2,2-Tetrachloroethane	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,1,2-Trichlorotrifluoroethane	ND		0.00100	1	04/28/2018 04:14	WG1104211
Tetrachloroethene	ND		0.00100	1	04/28/2018 04:14	WG1104211
Toluene	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,2,3-Trichlorobenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,2,4-Trichlorobenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,1,1-Trichloroethane	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,1,2-Trichloroethane	ND		0.00100	1	04/28/2018 04:14	WG1104211
Trichloroethene	ND		0.00100	1	04/28/2018 04:14	WG1104211
Trichlorofluoromethane	ND		0.00500	1	04/28/2018 04:14	WG1104211
1,2,3-Trichloropropane	ND		0.00250	1	04/28/2018 04:14	WG1104211
1,2,4-Trimethylbenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,2,3-Trimethylbenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
1,3,5-Trimethylbenzene	ND		0.00100	1	04/28/2018 04:14	WG1104211
Vinyl chloride	ND		0.00100	1	04/28/2018 04:14	WG1104211
Xylenes, Total	ND		0.00300	1	04/28/2018 04:14	WG1104211
(S) Toluene-d8	*104*		*80.0-120*		*04/28/2018 04:14*	WG1104211

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
(S) Dibromofluoromethane	*112*		*76.0-123*		*04/28/2018 04:14*	WG1104211
(S) 4-Bromofluorobenzene	*101*		*80.0-120*		*04/28/2018 04:14*	WG1104211

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	362		20.0	1	05/02/2018 13:32	WG1105464

Sample Narrative:
L989164-02 WG1105464: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	ND	T8	20.0	1	05/02/2018 13:32	WG1105464

Sample Narrative:
L989164-02 WG1105464: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Bromide	ND		1.00	1	04/28/2018 00:31	WG1104025
Chloride	ND		1.00	1	04/28/2018 00:31	WG1104025
Nitrate as (N)	9.41		2.00	20	04/28/2018 00:46	WG1104025
Nitrite as (N)	ND		0.100	1	04/28/2018 00:31	WG1104025
Sulfate	2690		500	100	05/01/2018 00:45	WG1104494

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	506		1.00	1	04/28/2018 16:36	WG1104003
Iron	42.4		0.100	1	04/28/2018 16:36	WG1104003
Magnesium	387		1.00	1	04/28/2018 16:36	WG1104003
Potassium	15.2		1.00	1	04/28/2018 16:36	WG1104003
Sodium	694		1.00	1	04/28/2018 16:36	WG1104003
Strontium	7.99		0.0100	1	04/28/2018 16:36	WG1104003

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Methane	ND		0.0100	1	05/03/2018 14:11	WG1106095
Ethane	ND		0.0130	1	05/03/2018 14:11	WG1106095
Ethene	ND		0.0130	1	05/03/2018 14:11	WG1106095

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Acetone	ND		0.0500	1	04/28/2018 04:34	WG1104211
Acrolein	ND		0.0500	1	04/28/2018 04:34	WG1104211
Acrylonitrile	ND		0.0100	1	04/28/2018 04:34	WG1104211
Benzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
Bromobenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
Bromodichloromethane	ND		0.00100	1	04/28/2018 04:34	WG1104211
Bromoform	ND		0.00100	1	04/28/2018 04:34	WG1104211
Bromomethane	ND		0.00500	1	04/28/2018 04:34	WG1104211
n-Butylbenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
sec-Butylbenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
tert-Butylbenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Carbon tetrachloride	ND		0.00100	1	04/28/2018 04:34	WG1104211
Chlorobenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
Chlorodibromomethane	ND		0.00100	1	04/28/2018 04:34	WG1104211
Chloroethane	ND		0.00500	1	04/28/2018 04:34	WG1104211
Chloroform	ND		0.00500	1	04/28/2018 04:34	WG1104211
Chloromethane	ND		0.00250	1	04/28/2018 04:34	WG1104211
2-Chlorotoluene	ND		0.00100	1	04/28/2018 04:34	WG1104211
4-Chlorotoluene	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,2-Dibromo-3-Chloropropane	ND		0.00500	1	04/28/2018 04:34	WG1104211
1,2-Dibromoethane	ND		0.00100	1	04/28/2018 04:34	WG1104211
Dibromomethane	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,2-Dichlorobenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,3-Dichlorobenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,4-Dichlorobenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
Dichlorodifluoromethane	ND		0.00500	1	04/28/2018 04:34	WG1104211
1,1-Dichloroethane	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,2-Dichloroethane	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,1-Dichloroethene	ND		0.00100	1	04/28/2018 04:34	WG1104211
cis-1,2-Dichloroethene	ND		0.00100	1	04/28/2018 04:34	WG1104211
trans-1,2-Dichloroethene	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,2-Dichloropropane	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,1-Dichloropropene	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,3-Dichloropropane	ND		0.00100	1	04/28/2018 04:34	WG1104211
cis-1,3-Dichloropropene	ND		0.00100	1	04/28/2018 04:34	WG1104211
trans-1,3-Dichloropropene	ND		0.00100	1	04/28/2018 04:34	WG1104211
2,2-Dichloropropane	ND		0.00100	1	04/28/2018 04:34	WG1104211
Di-isopropyl ether	ND		0.00100	1	04/28/2018 04:34	WG1104211
Ethylbenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
Hexachloro-1,3-butadiene	ND		0.00100	1	04/28/2018 04:34	WG1104211
Isopropylbenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
p-Isopropyltoluene	ND		0.00100	1	04/28/2018 04:34	WG1104211
2-Butanone (MEK)	ND		0.0100	1	04/28/2018 04:34	WG1104211
Methylene Chloride	ND		0.00500	1	04/28/2018 04:34	WG1104211
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	04/28/2018 04:34	WG1104211
Methyl tert-butyl ether	ND		0.00100	1	04/28/2018 04:34	WG1104211
Naphthalene	ND		0.00500	1	04/28/2018 04:34	WG1104211
n-Propylbenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
Styrene	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,1,1,2-Tetrachloroethane	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,1,2,2-Tetrachloroethane	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,1,2-Trichlorotrifluoroethane	ND		0.00100	1	04/28/2018 04:34	WG1104211
Tetrachloroethene	ND		0.00100	1	04/28/2018 04:34	WG1104211
Toluene	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,2,3-Trichlorobenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,2,4-Trichlorobenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,1,1-Trichloroethane	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,1,2-Trichloroethane	ND		0.00100	1	04/28/2018 04:34	WG1104211
Trichloroethene	ND		0.00100	1	04/28/2018 04:34	WG1104211
Trichlorofluoromethane	ND		0.00500	1	04/28/2018 04:34	WG1104211
1,2,3-Trichloropropane	ND		0.00250	1	04/28/2018 04:34	WG1104211
1,2,4-Trimethylbenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,2,3-Trimethylbenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
1,3,5-Trimethylbenzene	ND		0.00100	1	04/28/2018 04:34	WG1104211
Vinyl chloride	ND		0.00100	1	04/28/2018 04:34	WG1104211
Xylenes, Total	ND		0.00300	1	04/28/2018 04:34	WG1104211
(S) Toluene-d8	*103*		*80.0-120*		*04/28/2018 04:34*	WG1104211

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
(S) Dibromofluoromethane	*110*		*76.0-123*		*04/28/2018 04:34*	WG1104211
(S) 4-Bromofluorobenzene	*109*		*80.0-120*		*04/28/2018 04:34*	WG1104211

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	367		20.0	1	05/02/2018 13:39	WG1105464

Sample Narrative:
L989164-03 WG1105464: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	ND	T8	20.0	1	05/02/2018 13:39	WG1105464

Sample Narrative:
L989164-03 WG1105464: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Bromide	ND		1.00	1	04/28/2018 01:01	WG1104025
Chloride	300		20.0	20	04/28/2018 01:17	WG1104025
Nitrate as (N)	9.19		0.100	1	04/28/2018 01:01	WG1104025
Nitrite as (N)	ND		0.100	1	04/28/2018 01:01	WG1104025
Sulfate	2710		500	100	05/01/2018 01:00	WG1104494

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	606		1.00	1	04/28/2018 16:40	WG1104003
Iron	85.4		0.100	1	04/28/2018 16:40	WG1104003
Magnesium	431		1.00	1	04/28/2018 16:40	WG1104003
Potassium	22.2		1.00	1	04/28/2018 16:40	WG1104003
Sodium	665		1.00	1	04/28/2018 16:40	WG1104003
Strontium	8.28		0.0100	1	04/28/2018 16:40	WG1104003

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Methane	ND		0.0100	1	05/03/2018 14:16	WG1106095
Ethane	ND		0.0130	1	05/03/2018 14:16	WG1106095
Ethene	ND		0.0130	1	05/03/2018 14:16	WG1106095

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Acetone	ND		0.0500	1	04/28/2018 04:54	WG1104211
Acrolein	ND		0.0500	1	04/28/2018 04:54	WG1104211
Acrylonitrile	ND		0.0100	1	04/28/2018 04:54	WG1104211
Benzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
Bromobenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
Bromodichloromethane	ND		0.00100	1	04/28/2018 04:54	WG1104211
Bromoform	ND		0.00100	1	04/28/2018 04:54	WG1104211
Bromomethane	ND		0.00500	1	04/28/2018 04:54	WG1104211
n-Butylbenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
sec-Butylbenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
tert-Butylbenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Carbon tetrachloride	ND		0.00100	1	04/28/2018 04:54	WG1104211
Chlorobenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
Chlorodibromomethane	ND		0.00100	1	04/28/2018 04:54	WG1104211
Chloroethane	ND		0.00500	1	04/28/2018 04:54	WG1104211
Chloroform	ND		0.00500	1	04/28/2018 04:54	WG1104211
Chloromethane	ND		0.00250	1	04/28/2018 04:54	WG1104211
2-Chlorotoluene	ND		0.00100	1	04/28/2018 04:54	WG1104211
4-Chlorotoluene	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,2-Dibromo-3-Chloropropane	ND		0.00500	1	04/28/2018 04:54	WG1104211
1,2-Dibromoethane	ND		0.00100	1	04/28/2018 04:54	WG1104211
Dibromomethane	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,2-Dichlorobenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,3-Dichlorobenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,4-Dichlorobenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
Dichlorodifluoromethane	ND		0.00500	1	04/28/2018 04:54	WG1104211
1,1-Dichloroethane	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,2-Dichloroethane	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,1-Dichloroethene	ND		0.00100	1	04/28/2018 04:54	WG1104211
cis-1,2-Dichloroethene	ND		0.00100	1	04/28/2018 04:54	WG1104211
trans-1,2-Dichloroethene	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,2-Dichloropropane	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,1-Dichloropropene	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,3-Dichloropropane	ND		0.00100	1	04/28/2018 04:54	WG1104211
cis-1,3-Dichloropropene	ND		0.00100	1	04/28/2018 04:54	WG1104211
trans-1,3-Dichloropropene	ND		0.00100	1	04/28/2018 04:54	WG1104211
2,2-Dichloropropane	ND		0.00100	1	04/28/2018 04:54	WG1104211
Di-isopropyl ether	ND		0.00100	1	04/28/2018 04:54	WG1104211
Ethylbenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
Hexachloro-1,3-butadiene	ND		0.00100	1	04/28/2018 04:54	WG1104211
Isopropylbenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
p-Isopropyltoluene	ND		0.00100	1	04/28/2018 04:54	WG1104211
2-Butanone (MEK)	ND		0.0100	1	04/28/2018 04:54	WG1104211
Methylene Chloride	ND		0.00500	1	04/28/2018 04:54	WG1104211
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	04/28/2018 04:54	WG1104211
Methyl tert-butyl ether	ND		0.00100	1	04/28/2018 04:54	WG1104211
Naphthalene	ND		0.00500	1	04/28/2018 04:54	WG1104211
n-Propylbenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
Styrene	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,1,1,2-Tetrachloroethane	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,1,2,2-Tetrachloroethane	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,1,2-Trichlorotrifluoroethane	ND		0.00100	1	04/28/2018 04:54	WG1104211
Tetrachloroethene	ND		0.00100	1	04/28/2018 04:54	WG1104211
Toluene	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,2,3-Trichlorobenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,2,4-Trichlorobenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,1,1-Trichloroethane	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,1,2-Trichloroethane	ND		0.00100	1	04/28/2018 04:54	WG1104211
Trichloroethene	ND		0.00100	1	04/28/2018 04:54	WG1104211
Trichlorofluoromethane	ND		0.00500	1	04/28/2018 04:54	WG1104211
1,2,3-Trichloropropane	ND		0.00250	1	04/28/2018 04:54	WG1104211
1,2,4-Trimethylbenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,2,3-Trimethylbenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
1,3,5-Trimethylbenzene	ND		0.00100	1	04/28/2018 04:54	WG1104211
Vinyl chloride	ND		0.00100	1	04/28/2018 04:54	WG1104211
Xylenes, Total	ND		0.00300	1	04/28/2018 04:54	WG1104211
(S) Toluene-d8	*103*		*80.0-120*		*04/28/2018 04:54*	WG1104211

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
(S) Dibromofluoromethane	*111*		*76.0-123*		*04/28/2018 04:54*	WG1104211
(S) 4-Bromofluorobenzene	*102*		*80.0-120*		*04/28/2018 04:54*	WG1104211

L988847-01 Original Sample (OS) • Duplicate (DUP)

(OS) L988847-01 05/02/18 09:58 • (DUP) R3306538-1 05/02/18 10:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	270	281	1	4.22		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L989163-01 Original Sample (OS) • Duplicate (DUP)

(OS) L989163-01 05/02/18 12:32 • (DUP) R3306538-4 05/02/18 12:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	416	423	1	1.45		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

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

(LCS) R3306538-3 05/02/18 11:08 • (LCSD) R3306538-6 05/02/18 12:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Alkalinity	100	104	104	104	104	85.0-115			0.150	20

Sample Narrative:

LCS: Endpoint pH 4.5

LCSD: Endpoint pH 4.5

L988847-01 Original Sample (OS) • Duplicate (DUP)

(OS) L988847-01 05/02/18 09:58 • (DUP) R3306538-2 05/02/18 10:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Free Carbon Dioxide	U	ND	1	200	J P1	20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L989163-01 Original Sample (OS) • Duplicate (DUP)

(OS) L989163-01 05/02/18 12:32 • (DUP) R3306538-5 05/02/18 12:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Free Carbon Dioxide	ND	ND	1	5.54		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3305514-1 04/27/18 14:11

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.0790	1.00
Chloride	U		0.0519	1.00
Nitrate	U		0.0227	0.100
Nitrite	U		0.0277	0.100

L988084-37 Original Sample (OS) • Duplicate (DUP)

(OS) L988084-37 04/27/18 18:52 • (DUP) R3305514-4 04/27/18 19:07

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	0.000	1	0.000		15
Chloride	26.4	26.2	1	0.785		15
Nitrate	0.659	0.667	1	1.21		15
Nitrite	U	0.000	1	0.000		15

L989169-01 Original Sample (OS) • Duplicate (DUP)

(OS) L989169-01 04/28/18 01:48 • (DUP) R3305514-7 04/28/18 02:03

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	0.000	1	0.000		15
Nitrate	0.378	0.459	1	19.5	P1	15
Nitrite	U	0.000	1	0.000		15

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

(LCS) R3305514-2 04/27/18 14:26 • (LCSD) R3305514-3 04/27/18 14:42

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromide	40.0	40.1	40.1	100	100	80.0-120			0.146	15
Chloride	40.0	39.9	39.5	99.6	98.7	80.0-120			0.892	15
Nitrate	8.00	8.18	8.13	102	102	80.0-120			0.566	15
Nitrite	8.00	8.07	8.06	101	101	80.0-120			0.0744	15

L988084-37 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L988084-37 04/27/18 18:52 • (MS) R3305514-5 04/27/18 19:22 • (MSD) R3305514-6 04/27/18 19:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	50.0	U	45.5	45.7	91.1	91.4	1	80.0-120			0.374	15
Chloride	50.0	26.4	74.1	73.7	95.4	94.6	1	80.0-120			0.524	15
Nitrate	5.00	0.659	5.44	5.47	95.6	96.2	1	80.0-120			0.607	15
Nitrite	5.00	U	5.06	5.05	101	101	1	80.0-120			0.281	15

L989169-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L989169-01 04/28/18 01:48 • (MS) R3305514-8 04/28/18 02:19

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	50.0	U	44.5	88.9	1	80.0-120	
Nitrate	5.00	0.378	4.88	90.0	1	80.0-120	
Nitrite	5.00	U	4.66	93.2	1	80.0-120	

Method Blank (MB)

(MB) R3306754-1 04/30/18 16:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	U		0.0774	5.00

L988871-05 Original Sample (OS) • Duplicate (DUP)

(OS) L988871-05 04/30/18 21:09 • (DUP) R3306754-4 04/30/18 21:25

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	5.01	0.000	1	200	P1	15

L988871-07 Original Sample (OS) • Duplicate (DUP)

(OS) L988871-07 04/30/18 22:57 • (DUP) R3306754-7 04/30/18 23:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	0.733	0.754	1	2.76	J	15

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

(LCS) R3306754-2 04/30/18 16:24 • (LCSD) R3306754-3 04/30/18 16:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Sulfate	40.0	40.2	40.3	101	101	80.0-120			0.135	15

L988871-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L988871-05 04/30/18 21:09 • (MS) R3306754-5 04/30/18 21:40 • (MSD) R3306754-6 04/30/18 21:55

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50.0	5.01	47.4	47.7	84.7	85.3	1	80.0-120			0.683	15

L988871-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L988871-07 04/30/18 22:57 • (MS) R3306754-8 04/30/18 23:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	0.733	50.5	99.6	1	80.0-120	

Method Blank (MB)

(MB) R3305577-1 04/28/18 15:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Calcium	U		0.0463	1.00
Iron	U		0.0141	0.100
Magnesium	U		0.0111	1.00
Potassium	0.246	J	0.102	1.00
Sodium	0.586	J	0.0985	1.00
Strontium	U		0.00170	0.0100

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

(LCS) R3305577-2 04/28/18 15:05 • (LCSD) R3305577-3 04/28/18 15:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Calcium	10.0	10.0	10.1	100	101	80.0-120			0.873	20
Iron	10.0	9.93	10.0	99.3	100	80.0-120			0.860	20
Magnesium	10.0	10.2	10.2	102	102	80.0-120			0.180	20
Potassium	10.0	10.0	10.2	100	102	80.0-120			1.67	20
Sodium	10.0	10.2	10.2	102	102	80.0-120			0.532	20
Strontium	1.00	1.02	1.02	102	102	80.0-120			0.181	20

L988578-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L988578-02 04/28/18 15:11 • (MS) R3305577-5 04/28/18 15:18 • (MSD) R3305577-6 04/28/18 15:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10.0	220	226	225	57.8	46.6	1	75.0-125	V	V	0.500	20
Iron	10.0	12.4	22.1	21.9	96.6	94.7	1	75.0-125			0.853	20
Magnesium	10.0	45.1	54.3	53.7	91.9	86.3	1	75.0-125			1.03	20
Potassium	10.0	10.1	20.3	20.2	103	101	1	75.0-125			0.534	20
Sodium	10.0	1960	1950	1940	0.000	0.000	1	75.0-125	E V	E V	0.963	20
Strontium	1.00	0.762	1.76	1.75	99.6	98.5	1	75.0-125			0.627	20

Method Blank (MB)

(MB) R3306879-1 05/03/18 14:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Methane	U		0.00291	0.0100
Ethane	U		0.00407	0.0130
Ethene	U		0.00426	0.0130

L989163-01 Original Sample (OS) • Duplicate (DUP)

(OS) L989163-01 05/03/18 14:03 • (DUP) R3306879-2 05/03/18 14:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Methane	ND	0.000	1	0.000		20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

L989388-07 Original Sample (OS) • Duplicate (DUP)

(OS) L989388-07 05/03/18 14:55 • (DUP) R3306879-3 05/03/18 15:43

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Methane	ND	0.000	1	0.000		20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

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

(LCS) R3306879-4 05/03/18 15:47 • (LCSD) R3306879-5 05/03/18 15:49

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Methane	0.0678	0.0748	0.0720	110	106	85.0-115			3.80	20
Ethane	0.129	0.116	0.119	89.6	92.1	85.0-115			2.73	20
Ethene	0.127	0.117	0.121	92.2	95.1	85.0-115			3.07	20

Method Blank (MB)

(MB) R3305902-3 04/28/18 01:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0100	0.0500
Acrolein	U		0.00887	0.0500
Acrylonitrile	U		0.00187	0.0100
Benzene	U		0.000331	0.00100
Bromobenzene	U		0.000352	0.00100
Bromodichloromethane	U		0.000380	0.00100
Bromoform	U		0.000469	0.00100
Bromomethane	U		0.000866	0.00500
n-Butylbenzene	U		0.000361	0.00100
sec-Butylbenzene	U		0.000365	0.00100
tert-Butylbenzene	U		0.000399	0.00100
Carbon tetrachloride	U		0.000379	0.00100
Chlorobenzene	U		0.000348	0.00100
Chlorodibromomethane	U		0.000327	0.00100
Chloroethane	U		0.000453	0.00500
Chloroform	U		0.000324	0.00500
Chloromethane	U		0.000276	0.00250
2-Chlorotoluene	U		0.000375	0.00100
4-Chlorotoluene	U		0.000351	0.00100
1,2-Dibromo-3-Chloropropane	U		0.00133	0.00500
1,2-Dibromoethane	U		0.000381	0.00100
Dibromomethane	U		0.000346	0.00100
1,2-Dichlorobenzene	U		0.000349	0.00100
1,3-Dichlorobenzene	U		0.000220	0.00100
1,4-Dichlorobenzene	U		0.000274	0.00100
Dichlorodifluoromethane	U		0.000551	0.00500
1,1-Dichloroethane	U		0.000259	0.00100
1,2-Dichloroethane	U		0.000361	0.00100
1,1-Dichloroethene	U		0.000398	0.00100
cis-1,2-Dichloroethene	U		0.000260	0.00100
trans-1,2-Dichloroethene	U		0.000396	0.00100
1,2-Dichloropropane	U		0.000306	0.00100
1,1-Dichloropropene	U		0.000352	0.00100
1,3-Dichloropropane	U		0.000366	0.00100
cis-1,3-Dichloropropene	U		0.000418	0.00100
trans-1,3-Dichloropropene	U		0.000419	0.00100
2,2-Dichloropropane	U		0.000321	0.00100
Di-isopropyl ether	U		0.000320	0.00100
Ethylbenzene	U		0.000384	0.00100
Hexachloro-1,3-butadiene	0.000337	J	0.000256	0.00100

Method Blank (MB)

(MB) R3305902-3 04/28/18 01:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Isopropylbenzene	U		0.000326	0.00100
p-Isopropyltoluene	U		0.000350	0.00100
2-Butanone (MEK)	U		0.00393	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000349	0.00100
Styrene	U		0.000307	0.00100
1,1,1,2-Tetrachloroethane	U		0.000385	0.00100
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100
Tetrachloroethene	U		0.000372	0.00100
Toluene	U		0.000412	0.00100
1,1,2-Trichlorotrifluoroethane	U		0.000303	0.00100
1,2,3-Trichlorobenzene	0.000236	J	0.000230	0.00100
1,2,4-Trichlorobenzene	U		0.000355	0.00100
1,1,1-Trichloroethane	U		0.000319	0.00100
1,1,2-Trichloroethane	U		0.000383	0.00100
Trichloroethene	U		0.000398	0.00100
Trichlorofluoromethane	U		0.00120	0.00500
1,2,3-Trichloropropane	U		0.000807	0.00250
1,2,3-Trimethylbenzene	U		0.000321	0.00100
1,2,4-Trimethylbenzene	U		0.000373	0.00100
1,3,5-Trimethylbenzene	U		0.000387	0.00100
Vinyl chloride	U		0.000259	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	*102*			*80.0-120*
(S) Dibromofluoromethane	*107*			*76.0-123*
(S) 4-Bromofluorobenzene	*102*			*80.0-120*

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

(LCS) R3305902-1 04/28/18 00:57 • (LCSD) R3305902-2 04/28/18 01:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.160	0.160	128	128	10.0-160			0.249	23
Acrolein	0.125	0.0696	0.0711	55.7	56.9	10.0-160			2.11	20
Acrylonitrile	0.125	0.136	0.136	109	109	60.0-142			0.228	20
Benzene	0.0250	0.0243	0.0241	97.4	96.5	69.0-123			0.942	20

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

(LCS) R3305902-1 04/28/18 00:57 • (LCSD) R3305902-2 04/28/18 01:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromobenzene	0.0250	0.0230	0.0229	92.0	91.7	79.0-120			0.272	20
Bromodichloromethane	0.0250	0.0233	0.0239	93.3	95.5	76.0-120			2.29	20
Bromoform	0.0250	0.0257	0.0259	103	104	67.0-132			0.899	20
Bromomethane	0.0250	0.0296	0.0290	119	116	18.0-160			2.03	20
n-Butylbenzene	0.0250	0.0229	0.0235	91.7	94.2	72.0-126			2.64	20
sec-Butylbenzene	0.0250	0.0249	0.0250	99.4	99.9	74.0-121			0.495	20
tert-Butylbenzene	0.0250	0.0241	0.0244	96.3	97.6	75.0-122			1.34	20
Carbon tetrachloride	0.0250	0.0234	0.0233	93.7	93.2	63.0-122			0.532	20
Chlorobenzene	0.0250	0.0223	0.0227	89.3	91.0	79.0-121			1.90	20
Chlorodibromomethane	0.0250	0.0232	0.0239	93.0	95.5	75.0-125			2.65	20
Chloroethane	0.0250	0.0292	0.0289	117	116	47.0-152			0.988	20
Chloroform	0.0250	0.0236	0.0233	94.2	93.2	72.0-121			1.08	20
Chloromethane	0.0250	0.0251	0.0254	100	102	48.0-139			1.34	20
2-Chlorotoluene	0.0250	0.0226	0.0238	90.5	95.2	74.0-122			5.10	20
4-Chlorotoluene	0.0250	0.0239	0.0237	95.5	95.0	79.0-120			0.585	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0236	0.0237	94.3	94.9	64.0-127			0.615	20
1,2-Dibromoethane	0.0250	0.0231	0.0237	92.4	94.7	77.0-123			2.44	20
Dibromomethane	0.0250	0.0232	0.0239	92.8	95.7	78.0-120			3.11	20
1,2-Dichlorobenzene	0.0250	0.0231	0.0230	92.5	92.1	80.0-120			0.398	20
1,3-Dichlorobenzene	0.0250	0.0236	0.0235	94.3	94.1	72.0-123			0.180	20
1,4-Dichlorobenzene	0.0250	0.0229	0.0232	91.8	92.7	77.0-120			1.04	20
Dichlorodifluoromethane	0.0250	0.0226	0.0233	90.4	93.3	49.0-155			3.14	20
1,1-Dichloroethane	0.0250	0.0245	0.0243	97.8	97.3	70.0-126			0.497	20
1,2-Dichloroethane	0.0250	0.0239	0.0238	95.5	95.2	67.0-126			0.361	20
1,1-Dichloroethene	0.0250	0.0240	0.0236	95.9	94.6	64.0-129			1.33	20
cis-1,2-Dichloroethene	0.0250	0.0241	0.0236	96.3	94.2	73.0-120			2.21	20
trans-1,2-Dichloroethene	0.0250	0.0236	0.0234	94.4	93.8	71.0-121			0.688	20
1,2-Dichloropropane	0.0250	0.0228	0.0234	91.4	93.4	75.0-125			2.22	20
1,1-Dichloropropene	0.0250	0.0240	0.0243	96.0	97.4	71.0-129			1.39	20
1,3-Dichloropropane	0.0250	0.0229	0.0235	91.8	94.2	80.0-121			2.60	20
cis-1,3-Dichloropropene	0.0250	0.0235	0.0237	93.9	94.8	79.0-123			0.921	20
trans-1,3-Dichloropropene	0.0250	0.0228	0.0239	91.3	95.4	74.0-127			4.39	20
2,2-Dichloropropane	0.0250	0.0235	0.0225	93.9	90.1	60.0-125			4.11	20
Di-isopropyl ether	0.0250	0.0262	0.0262	105	105	59.0-133			0.141	20
Ethylbenzene	0.0250	0.0221	0.0227	88.5	90.7	77.0-120			2.46	20
Hexachloro-1,3-butadiene	0.0250	0.0196	0.0205	78.4	81.9	64.0-131			4.47	20
Isopropylbenzene	0.0250	0.0248	0.0252	99.3	101	75.0-120			1.36	20
p-Isopropyltoluene	0.0250	0.0249	0.0249	99.4	99.6	74.0-126			0.155	20
2-Butanone (MEK)	0.125	0.145	0.149	116	119	37.0-158			2.50	20
Methylene Chloride	0.0250	0.0257	0.0246	103	98.4	66.0-121			4.51	20

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

(LCS) R3305902-1 04/28/18 00:57 • (LCSD) R3305902-2 04/28/18 01:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	0.125	0.135	0.141	108	112	59.0-143			3.83	20
Methyl tert-butyl ether	0.0250	0.0243	0.0243	97.0	97.3	64.0-123			0.288	20
Naphthalene	0.0250	0.0196	0.0201	78.3	80.4	62.0-128			2.64	20
n-Propylbenzene	0.0250	0.0246	0.0249	98.4	99.6	79.0-120			1.20	20
Styrene	0.0250	0.0248	0.0252	99.1	101	78.0-124			1.77	20
1,1,1,2-Tetrachloroethane	0.0250	0.0228	0.0231	91.4	92.3	75.0-122			1.04	20
1,1,2,2-Tetrachloroethane	0.0250	0.0236	0.0240	94.2	96.0	71.0-122			1.85	20
Tetrachloroethene	0.0250	0.0224	0.0232	89.7	92.6	70.0-127			3.24	20
Toluene	0.0250	0.0234	0.0238	93.4	95.2	77.0-120			1.91	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0235	0.0232	94.2	92.6	61.0-136			1.65	20
1,2,3-Trichlorobenzene	0.0250	0.0187	0.0194	74.9	77.6	61.0-133			3.47	20
1,2,4-Trichlorobenzene	0.0250	0.0188	0.0199	75.3	79.6	69.0-129			5.57	20
1,1,1-Trichloroethane	0.0250	0.0239	0.0237	95.6	94.7	68.0-122			1.02	20
1,1,2-Trichloroethane	0.0250	0.0231	0.0235	92.4	94.1	78.0-120			1.84	20
Trichloroethene	0.0250	0.0227	0.0234	90.8	93.7	78.0-120			3.20	20
Trichlorofluoromethane	0.0250	0.0253	0.0249	101	99.7	56.0-137			1.50	20
1,2,3-Trichloropropane	0.0250	0.0240	0.0238	95.8	95.3	72.0-124			0.552	20
1,2,3-Trimethylbenzene	0.0250	0.0232	0.0240	92.8	96.1	75.0-120			3.55	20
1,2,4-Trimethylbenzene	0.0250	0.0242	0.0247	96.8	99.0	75.0-120			2.21	20
1,3,5-Trimethylbenzene	0.0250	0.0244	0.0247	97.5	98.7	75.0-120			1.20	20
Vinyl chloride	0.0250	0.0243	0.0240	97.1	96.2	64.0-133			1.01	20
Xylenes, Total	0.0750	0.0690	0.0706	92.0	94.1	77.0-120			2.29	20
(S) Toluene-d8				*100*	*103*	*80.0-120*				
(S) Dibromofluoromethane				*102*	*102*	*76.0-123*				
(S) 4-Bromofluorobenzene				*98.4*	*101*	*80.0-120*				

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.
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
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ESC Lab Sciences 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 ESC Lab Sciences.

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

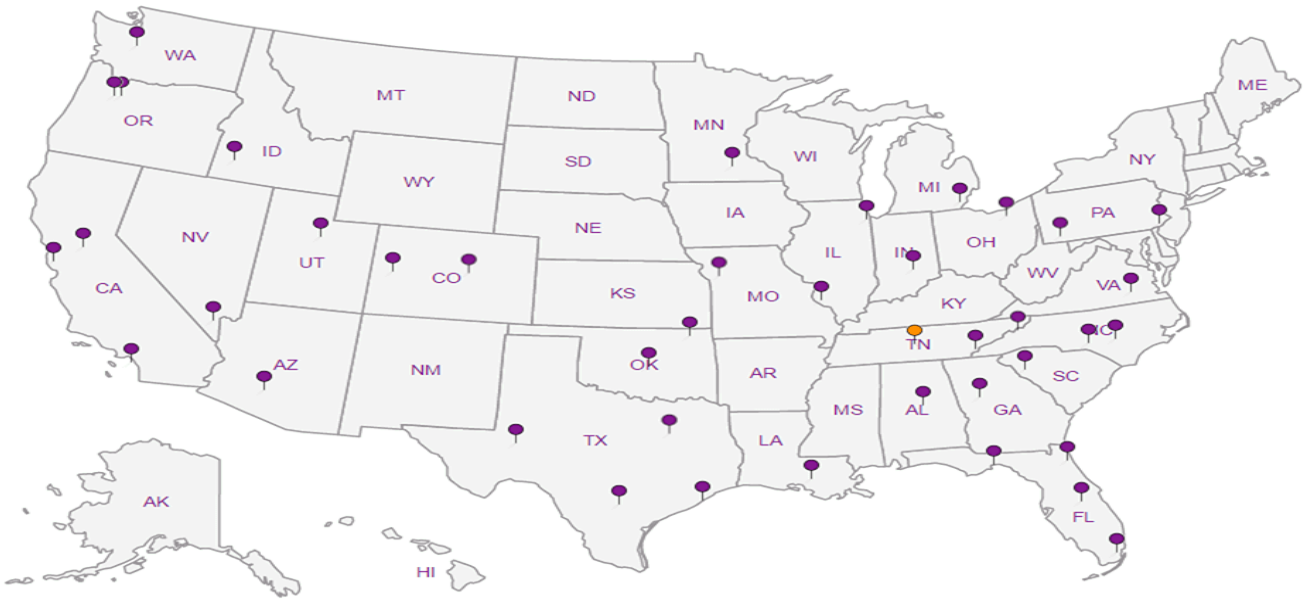
Third Party Federal Accreditations

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

ESC Lab Sciences 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. ESC Lab Sciences performs all testing at our central laboratory.



Company Name/Address:
Terracon - Longmont
1242 Bramwood Pl.
Longmont, CO 80501

Billing Information: SAME

Report to: **Michael Skridulis**

Email To: **mjskridulis@terracon.com**

Project Description: Tabor #1

City/State Collected: Longmont CO

Phone: **303-776-3921**
Fax: **303-776-4041**

Client Project # 22177036

Lab Project #

Collected by (print): D. Stephens

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Date Results Needed: STANDARD

Email? ___No ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260 (2) 40ml Amber w/HCl	RSK-175 (2) 40ml Amber w/HCl	Carbon Dioxide - 250ml HDPE No PRes	Ca,Mg,Na,Fe,K,Sr - 250ml HDPE w/HNO3	N02,N03,Cl,S04,Br,Alk - 500ml HDPE No Pres	Rem./Contaminant	Sample # (lab only)
MW-01	G	GW		4/26/18	1315	7	X	X	X	X	X		-01
MW-02	↓	GW		↓	1335	7	X	X	X	X	X		-02
MW-03	↓	GW		↓	1355	7	X	X	X	X	X		-03

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks: 7215 4514 9662

pH _____ Temp _____
Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	4/26/18	1600	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 4.2 °C Bottles Received: 21

Date: 4/27/18 Time: 0845

Hold #

Condition: OK (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Tracking #: 7215 4514 9662

Chain of Custody Page 1 of 1

ESC LABS SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L989164
C210

Table #

Acctnum: TERRALCO
Template:
Prelogin:
TSR:
PB:
Shipped Via:

ESC LAB SCIENCES
Cooler Receipt Form

Client: TERRACO	SDG#	L989164
Cooler Received/Opened On: 04/17/18	Temperature:	4.2
Received By: Kelly Mercer		
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?		✓	

ANALYTICAL REPORT

May 07, 2018

Terracon Consultants, Inc - Longmont, CO

Sample Delivery Group:	L989231
Samples Received:	04/27/2018
Project Number:	22187036
Description:	Tabor #1

Report To: Mike Skridulis
1242 Bramwood Place
Longmont, CO 80501

Entire Report Reviewed By:

Daphne R Richards

Daphne Richards
Technical Service Representative

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 ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

SVP-01 L989231-01 Air

Collected by	Collected date/time	Received date/time
M. Skridulis	04/25/18 15:30	04/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015M	WG1107794	1	05/07/18 09:20	05/07/18 09:20	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1103966	2	04/27/18 21:12	04/27/18 21:12	AMC
Volatile Organic Compounds (MS) by Method TO-15	WG1104403	25	04/28/18 21:02	04/28/18 21:02	MBF
Organic Compounds (GC) by Method D1946	WG1106370	1	05/03/18 11:11	05/03/18 11:11	MEL
Organic Compounds (GC) by Method D1946	WG1106879	1	05/04/18 10:40	05/04/18 10:40	MEL

SVP-02 L989231-02 Air

Collected by	Collected date/time	Received date/time
M. Skridulis	04/25/18 16:00	04/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015M	WG1107794	1	05/07/18 09:23	05/07/18 09:23	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1103966	2	04/27/18 22:09	04/27/18 22:09	AMC
Organic Compounds (GC) by Method D1946	WG1106370	1	05/03/18 11:24	05/03/18 11:24	MEL
Organic Compounds (GC) by Method D1946	WG1106879	1	05/04/18 10:46	05/04/18 10:46	MEL

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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.

Daphne Richards
Technical Service Representative

Volatile Organic Compounds (GC) by Method 8015M

Analyte	CAS #	Mol. Wt.	RDL1 ppmv	RDL2 mg/m3	Result ppmv	Result mg/m3	Qualifier	Dilution	Batch
Methane	74-82-8	16	10.0	6.54	ND	ND		1	WG1107794
Ethane	74-84-0	30	10.0	12.3	ND	ND		1	WG1107794
Ethene	74-85-1	28	10.0	11.5	ND	ND		1	WG1107794

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	7.72	18.3		2	WG1103966
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1103966
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1103966
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1103966
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1103966
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1103966
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1103966
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1103966
Carbon disulfide	75-15-0	76.10	0.400	1.24	0.498	1.55		2	WG1103966
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1103966
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1103966
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1103966
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1103966
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1103966
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1103966
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1103966
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1103966
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1103966
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1103966
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1103966
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1103966
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1103966
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1103966
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1103966
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	5.46	21.6		2	WG1103966
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1103966
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1103966
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1103966
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1103966
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1103966
Ethanol	64-17-5	46.10	1.26	2.38	14.3	27.1		2	WG1103966
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1103966
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1103966
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1103966
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1103966
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1103966
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1103966
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1103966
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1103966
n-Hexane	110-54-3	86.20	0.400	1.41	1.63	5.74		2	WG1103966
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1103966
Methylene Chloride	75-09-2	84.90	0.400	1.39	7.57	26.3		2	WG1103966
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1103966
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1103966
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1103966
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1103966
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1103966
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1103966

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
2-Propanol	67-63-0	60.10	2.50	6.15	2.51	6.16		2	WG1103966
Propene	115-07-1	42.10	0.800	1.38	0.809	1.39	B	2	WG1103966
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1103966
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1103966
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1103966
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1103966
Toluene	108-88-3	92.10	0.400	1.51	0.620	2.34		2	WG1103966
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1103966
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1103966
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1103966
Trichloroethylene	79-01-6	131	5.00	26.8	220	1180		25	WG1104403
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG1103966
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1103966
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1103966
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1103966
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1103966
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1103966
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1103966
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1103966
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*94.9*				WG1103966
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*93.2*				WG1104403

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Oxygen	7782-44-7	32	2.00	17.5		1	WG1106879
Carbon Monoxide	630-08-0	28	2.00	ND		1	WG1106370
Carbon Dioxide	124-38-9	44.01	0.500	ND		1	WG1106370

Volatile Organic Compounds (GC) by Method 8015M

Analyte	CAS #	Mol. Wt.	RDL1 ppmv	RDL2 mg/m3	Result ppmv	Result mg/m3	Qualifier	Dilution	Batch
Methane	74-82-8	16	10.0	6.54	ND	ND		1	WG1107794
Ethane	74-84-0	30	10.0	12.3	ND	ND		1	WG1107794
Ethene	74-85-1	28	10.0	11.5	ND	ND		1	WG1107794

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	23.6	56.0		2	WG1103966
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1103966
Benzene	71-43-2	78.10	0.400	1.28	1.53	4.88		2	WG1103966
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1103966
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1103966
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1103966
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1103966
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1103966
Carbon disulfide	75-15-0	76.10	0.400	1.24	10.0	31.2		2	WG1103966
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1103966
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1103966
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1103966
Chloroform	67-66-3	119	0.400	1.95	4.02	19.5		2	WG1103966
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1103966
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1103966
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1103966
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1103966
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1103966
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1103966
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	0.448	2.69		2	WG1103966
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1103966
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1103966
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1103966
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1103966
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1103966
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1103966
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1103966
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1103966
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1103966
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1103966
Ethanol	64-17-5	46.10	1.26	2.38	3.19	6.01		2	WG1103966
Ethylbenzene	100-41-4	106	0.400	1.73	2.91	12.6		2	WG1103966
4-Ethyltoluene	622-96-8	120	0.400	1.96	1.83	8.99		2	WG1103966
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1103966
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1103966
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1103966
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1103966
Heptane	142-82-5	100	0.400	1.64	1.32	5.40		2	WG1103966
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1103966
n-Hexane	110-54-3	86.20	0.400	1.41	1.51	5.31		2	WG1103966
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1103966
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG1103966
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1103966
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	3.43	10.1		2	WG1103966
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1103966
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1103966
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1103966
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1103966

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
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1103966
Propene	115-07-1	42.10	0.800	1.38	11.5	19.8		2	WG1103966
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1103966
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1103966
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1103966
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	1.14	3.37		2	WG1103966
Toluene	108-88-3	92.10	0.400	1.51	11.5	43.5		2	WG1103966
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1103966
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1103966
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1103966
Trichloroethylene	79-01-6	131	0.400	2.14	0.614	3.29		2	WG1103966
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	1.94	9.54		2	WG1103966
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	0.747	3.67		2	WG1103966
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1103966
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1103966
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1103966
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1103966
m&p-Xylene	1330-20-7	106	0.800	3.47	9.44	40.9		2	WG1103966
o-Xylene	95-47-6	106	0.400	1.73	2.96	12.8		2	WG1103966
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.3*				WG1103966

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Oxygen	7782-44-7	32	2.00	17.5		1	WG1106879
Carbon Monoxide	630-08-0	28	2.00	ND		1	WG1106370
Carbon Dioxide	124-38-9	44.01	0.500	ND		1	WG1106370

Method Blank (MB)

(MB) R3307496-3 05/07/18 09:10

Analyte	MB Result ppmv	MB Qualifier	MB MDL ppmv	MB RDL ppmv
Methane	U		1.85	10.0
Ethane	U		2.88	10.0
Ethene	U		2.47	10.0

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

(LCS) R3307496-1 05/07/18 08:57 • (LCSD) R3307496-2 05/07/18 09:01

Analyte	Spike Amount ppmv	LCS Result ppmv	LCSD Result ppmv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Methane	500	472	451	94.5	90.2	77.0-115			4.60	20
Ethane	500	505	486	101	97.3	85.0-115			3.68	20
Ethene	500	531	514	106	103	85.0-115			3.39	20

Method Blank (MB)

(MB) R3305484-3 04/27/18 10:43

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	0.426	J	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) R3305484-3 04/27/18 10:43

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methylene Chloride	U		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	0.125	J	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	*92.7*			*60.0-140*

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

(LCS) R3305484-1 04/27/18 09:13 • (LCSD) R3305484-2 04/27/18 09:57

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	3.17	2.89	84.6	77.0	52.0-158			9.50	25
Propene	3.75	4.35	3.89	116	104	54.0-155			11.1	25
Dichlorodifluoromethane	3.75	3.47	3.30	92.5	88.0	69.0-143			4.95	25
1,2-Dichlorotetrafluoroethane	3.75	3.72	3.63	99.3	96.9	70.0-130			2.44	25
Chloromethane	3.75	3.33	3.35	88.9	89.3	70.0-130			0.475	25

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

(LCS) R3305484-1 04/27/18 09:13 • (LCSD) R3305484-2 04/27/18 09:57

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	3.46	3.50	92.3	93.3	70.0-130			1.04	25
1,3-Butadiene	3.75	3.27	3.24	87.1	86.4	70.0-130			0.864	25
Bromomethane	3.75	3.68	3.71	98.1	98.8	70.0-130			0.782	25
Chloroethane	3.75	3.51	3.55	93.6	94.7	70.0-130			1.18	25
Trichlorofluoromethane	3.75	3.63	3.66	96.7	97.5	70.0-130			0.830	25
1,1,2-Trichlorotrifluoroethane	3.75	3.70	3.70	98.6	98.5	70.0-130			0.0839	25
1,1-Dichloroethene	3.75	3.45	3.49	92.0	93.0	70.0-130			1.13	25
1,1-Dichloroethane	3.75	3.36	3.50	89.7	93.3	70.0-130			3.91	25
Acetone	3.75	3.50	3.49	93.3	93.2	70.0-130			0.105	25
2-Propanol	3.75	3.53	3.54	94.1	94.5	66.0-150			0.408	25
Carbon disulfide	3.75	3.49	3.50	93.2	93.4	70.0-130			0.242	25
Methylene Chloride	3.75	3.12	3.19	83.2	85.0	70.0-130			2.15	25
MTBE	3.75	3.63	3.61	96.8	96.3	70.0-130			0.429	25
trans-1,2-Dichloroethene	3.75	3.52	3.52	93.9	93.8	70.0-130			0.0859	25
n-Hexane	3.75	3.46	3.51	92.4	93.7	70.0-130			1.38	25
Vinyl acetate	3.75	3.65	3.67	97.4	97.9	70.0-130			0.464	25
Methyl Ethyl Ketone	3.75	3.97	3.98	106	106	70.0-130			0.269	25
cis-1,2-Dichloroethene	3.75	3.59	3.62	95.8	96.5	70.0-130			0.678	25
Chloroform	3.75	3.61	3.58	96.2	95.5	70.0-130			0.722	25
Cyclohexane	3.75	3.72	3.68	99.1	98.2	70.0-130			0.979	25
1,1,1-Trichloroethane	3.75	3.62	3.62	96.6	96.5	70.0-130			0.0572	25
Carbon tetrachloride	3.75	3.72	3.69	99.1	98.3	70.0-130			0.877	25
Benzene	3.75	3.71	3.69	99.0	98.5	70.0-130			0.467	25
1,2-Dichloroethane	3.75	3.48	3.45	92.9	92.1	70.0-130			0.900	25
Heptane	3.75	3.34	3.31	89.0	88.2	70.0-130			0.843	25
Trichloroethylene	3.75	3.70	3.74	98.6	99.7	70.0-130			1.15	25
1,2-Dichloropropane	3.75	3.53	3.57	94.0	95.3	70.0-130			1.33	25
1,4-Dioxane	3.75	3.87	3.95	103	105	70.0-152			1.99	25
Bromodichloromethane	3.75	3.61	3.67	96.2	97.9	70.0-130			1.83	25
cis-1,3-Dichloropropene	3.75	3.78	3.78	101	101	70.0-130			0.0246	25
4-Methyl-2-pentanone (MIBK)	3.75	3.38	3.43	90.2	91.4	70.0-142			1.36	25
Toluene	3.75	3.70	3.72	98.6	99.1	70.0-130			0.483	25
trans-1,3-Dichloropropene	3.75	3.67	3.57	97.8	95.2	70.0-130			2.65	25
1,1,2-Trichloroethane	3.75	3.53	3.47	94.3	92.7	70.0-130			1.73	25
Tetrachloroethylene	3.75	3.74	3.70	99.7	98.8	70.0-130			0.899	25
Methyl Butyl Ketone	3.75	3.40	3.40	90.8	90.7	70.0-150			0.0444	25
Dibromochloromethane	3.75	3.62	3.70	96.5	98.8	70.0-130			2.36	25
1,2-Dibromoethane	3.75	3.72	3.68	99.2	98.1	70.0-130			1.15	25
Chlorobenzene	3.75	3.65	3.61	97.2	96.4	70.0-130			0.854	25
Ethylbenzene	3.75	3.92	3.88	105	103	70.0-130			1.01	25

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

(LCS) R3305484-1 04/27/18 09:13 • (LCSD) R3305484-2 04/27/18 09:57

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	7.64	7.68	102	102	70.0-130			0.413	25
o-Xylene	3.75	3.79	3.77	101	100	70.0-130			0.547	25
Styrene	3.75	4.11	3.93	110	105	70.0-130			4.58	25
Bromoform	3.75	4.18	4.19	111	112	70.0-130			0.263	25
1,1,2,2-Tetrachloroethane	3.75	3.69	3.74	98.4	99.7	70.0-130			1.29	25
4-Ethyltoluene	3.75	3.99	3.96	106	106	70.0-130			0.750	25
1,3,5-Trimethylbenzene	3.75	3.92	3.88	105	103	70.0-130			0.993	25
1,2,4-Trimethylbenzene	3.75	4.01	4.02	107	107	70.0-130			0.356	25
1,3-Dichlorobenzene	3.75	4.26	4.23	114	113	70.0-130			0.536	25
1,4-Dichlorobenzene	3.75	4.37	4.33	117	116	70.0-130			0.852	25
Benzyl Chloride	3.75	4.56	4.42	121	118	70.0-144			3.04	25
1,2-Dichlorobenzene	3.75	4.14	4.16	110	111	70.0-130			0.695	25
1,2,4-Trichlorobenzene	3.75	5.47	5.38	146	143	70.0-155			1.64	25
Hexachloro-1,3-butadiene	3.75	4.37	4.24	116	113	70.0-145			2.93	25
Naphthalene	3.75	4.98	4.91	133	131	70.0-155			1.31	25
Allyl Chloride	3.75	3.28	3.30	87.4	87.9	70.0-130			0.562	25
2-Chlorotoluene	3.75	3.98	3.95	106	105	70.0-130			0.673	25
Methyl Methacrylate	3.75	3.49	3.47	93.1	92.5	70.0-130			0.668	25
Tetrahydrofuran	3.75	3.40	3.38	90.6	90.1	70.0-140			0.500	25
2,2,4-Trimethylpentane	3.75	3.49	3.52	93.1	93.8	70.0-130			0.793	25
Vinyl Bromide	3.75	3.71	3.77	99.0	100	70.0-130			1.52	25
Isopropylbenzene	3.75	3.84	3.84	102	102	70.0-130			0.139	25
(S) 1,4-Bromofluorobenzene				*98.5*	*98.6*	*60.0-140*				

Method Blank (MB)

(MB) R3305716-3 04/28/18 10:43

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Trichloroethylene	U		0.0545	0.200
(S) 1,4-Bromofluorobenzene	*89.8*			*60.0-140*

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

(LCS) R3305716-1 04/28/18 09:03 • (LCSD) R3305716-2 04/28/18 09:53

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Trichloroethylene	3.75	4.29	4.36	114	116	70.0-130			1.68	25
(S) 1,4-Bromofluorobenzene				*94.5*	*93.9*	*60.0-140*				

Method Blank (MB)

(MB) R3306743-3 05/03/18 10:50

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Carbon Monoxide	U		0.665	2.00
Carbon Dioxide	U		0.121	0.500

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

(LCS) R3306743-1 05/03/18 10:31 • (LCSD) R3306743-2 05/03/18 10:40

Analyte	Spike Amount %	LCS Result %	LCSD Result %	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Carbon Monoxide	2.50	2.69	2.68	108	107	70.0-130			0.492	20
Carbon Dioxide	2.50	2.48	2.50	99.2	100	70.0-130			0.760	20

Method Blank (MB)

(MB) R3307082-3 05/04/18 10:20

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	%		%	%
Oxygen	0.616	J	0.225	2.00

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

(LCS) R3307082-1 05/04/18 09:40 • (LCSD) R3307082-2 05/04/18 09:58

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	%	%	%	%	%	%			%	%
Oxygen	2.50	2.65	2.59	106	103	70.0-130			2.35	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.

ESC Lab Sciences 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 ESC Lab Sciences.

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

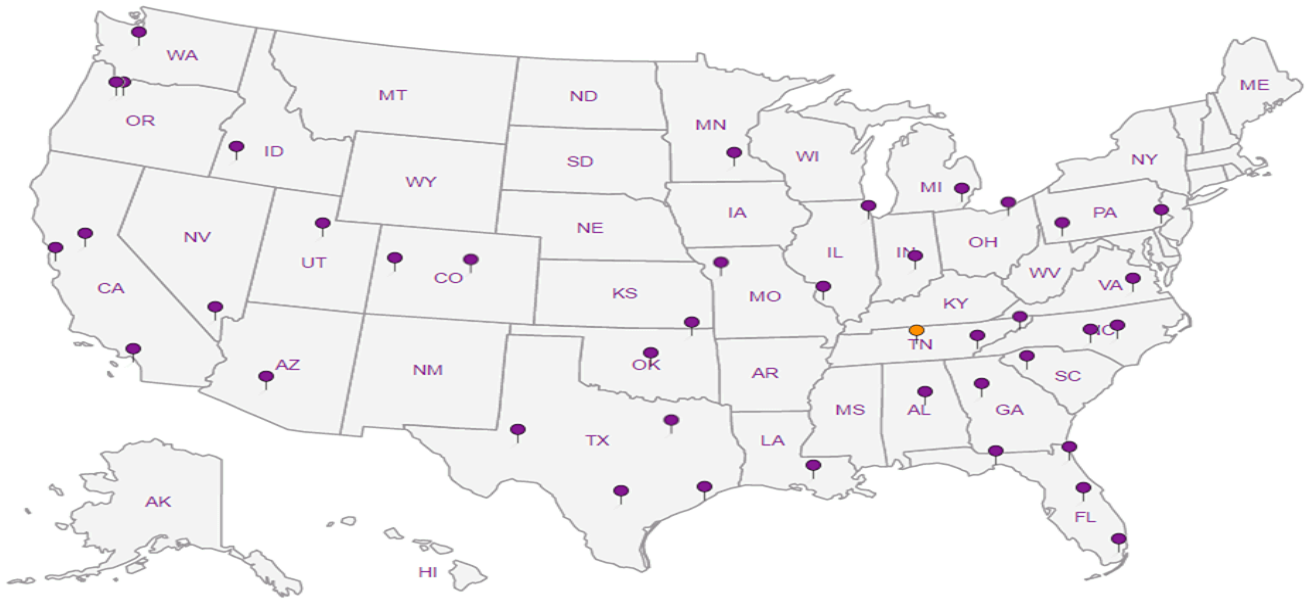
Third Party Federal Accreditations

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

ESC Lab Sciences 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. ESC Lab Sciences performs all testing at our central laboratory.



Company Name/Address:
Terracon Consultants, Inc
1242 Bramwood Place
Longmont, CO 80501

Billing Information:
SAME

Report to: mike.skridulis@terracon.com

Email To: SAME

Project Description: Tabor #1

City/State Collected: Longmont, CO

Phone: 303-454-5249
Fax: -

Client Project #: 22177036

Lab Project #

Collected by (print): M. Skridulis

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: STANDARD

Email? ___No X Yes
FAX? X No ___Yes

Canister Pressure/Vacuum

Analysis: VOC's by TO-15; Fixed gases (methane, ethane, ethene)

Chain of Custody Page 1 of 1

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

L# L989131
M217

Acctnum: TERRALCO
Template: T134618
Prelogin: P647436
TSR: Daphne Richards
PB: BF 4.13.18
Shipped Via: Saver

Sample ID	Sample Description	Can #	Date	Time	Initial	Final	Rem./Contaminant	Sample # (lab only)
SVP-01	Soil Vapor	6292	4/25/18	1530	24	8		-01
SVP-02	Soil Vapor	6162	4/25/18	1600	24	8		-02

Remarks: Fedex: 4361 6929 4886

Hold #

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	4/26/18	1200	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: °C Bottles Received: 2

Date: 4/27/18 Time: 0845

Condition: OK (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

ESC LAB SCIENCES
Cooler Receipt Form

Client: TERRACON	SDG#	L989231
Cooler Received/Opened On: 04/27/18	Temperature:	4
Received By: Ian White		
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?			