2022 ANNUAL MONITORING REPORT

Groundwater Quality Monitoring Program
Multiple Oil & Gas Well Sites
Longmont, Colorado

June 20, 2022
Terracon Project No. 22227013

Prepared for:
City of Longmont
Longmont, Colorado

Prepared by:
Terracon Consultants, Inc.
Longmont, Colorado

June 20, 2022

City of Longmont
1100 South Sherman Street
Longmont, Colorado 80501

Attn: Dr. Jane Turner, P.E., PhD
(303) 774-4545
jane.turner@longmontcolorado.gov

Re: 2022 Annual Monitoring Report
Groundwater Quality Monitoring Program
Multiple Oil & Gas Well Sites
Longmont, Colorado
Terracon Project No. 22227013

Dear Dr. Turner:

Terracon Consultants, Inc. (Terracon) is pleased to submit our report of the 2022 Annual Groundwater Quality Monitoring Program activities performed at seventeen plugged and abandoned (PA) O&G well sites, and one former tank battery site located within the City of Longmont, Colorado. The report presents data from recent field activities that included the collection of groundwater samples for laboratory analysis. Terracon conducted the Investigation in general accordance with our proposal (P22227013), dated February 16, 2022.

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

Sincerely,

Terracon Consultants, Inc.

Charles A. Covington
Staff Geologist

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

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1.0 EXECUTIVE SUMMARY

In 2013, Terracon installed and/or sampled groundwater monitoring wells at the active oil and gas (O&G) wells located within the City of Longmont (the City). The results of these activities are described in the First and Third Quarter 2013 Monitoring Reports (May 31, 2013 and December 31, 2013, respectively). Terracon has continued to execute sampling activities for the City of Longmont Groundwater Quality Monitoring Program and the results of these activities are described in the subsequent 2014 through 2021 monitoring reports.

Since 2013, Terracon has assisted the City with the investigation of additional active and PA well sites within Longmont City limits to add to the annual groundwater quality monitoring program. All of the current program sites were sampled during the 2022 monitoring event.

This groundwater quality sampling event was performed in accordance with the scope of services outlined in Terracon Proposal No. P22227013, dated February 16, 2022. A total of 57 of the planned 59 monitoring wells were sampled on April 5th-6th, April 18th-22nd, and April 25th-27th, to evaluate potential impacts to groundwater from current or historical oil and gas (O&G) extraction and production (E&P) operations at the sites. The two monitoring wells not sampled were observed to have been silted in and a groundwater sample could not be obtained. Groundwater samples were 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 and Conclusions

Volatile organic compound (VOC) constituents were not reported at concentrations above laboratory detection limits in groundwater samples collected during this sampling event.

Dissolved methane in groundwater may be an indication of a release at an O&G production well site. Neither the COGCC nor the CDPHE have developed standards for methane in groundwater. The COGCC has developed standards for source water (e.g., water wells) in the Greater Wattenberg Area (GWA), which includes the project area. Water wells that are registered with Colorado Division of Water Resources (DWR), and include:

- Household;
- Domestic;
- Livestock;
- Irrigation;
- Municipal/Public;
- Commercial; and

- permitted or adjudicated springs

Section 318A.f.(8) of the COGCC Rules and Regulations for baseline sampling of water wells in the GWA states that concentrations of methane greater than 1.0 mg/L require a gas compositional and stable isotope analysis of the methane to determine the source of the methane (e.g. thermogenic, biogenic or a mixture of the two). Currently, the reported methane concentrations do not require additional investigation of groundwater.

Several inorganic parameters (nitrogen, sulfates, and chloride) were reported above Colorado Department of Public Health and Environment (CDPHE) and Colorado Oil and Gas Conservation Commission (COGCC) Groundwater Standards. However, laboratory analytical results have remained consistent with former sampling events and results may be indicative of background concentrations based on former analytical data and lack of production of produced water at currently active sites.

In general, increased chloride and sulfate concentrations correspond to increases in specific conductance and turbidity due to slow recharge of the monitoring well and the presence of clay in the formation. Clay is a smaller particle and passes through the monitoring well filter pack, and inorganics can attach to the clay particles.

Recommendations

The objective of the investigation was to evaluate the presence of constituents of concern in the groundwater above relevant laboratory detection limits and/or regulatory limits associated with historical O&G operations at the sites.

Terracon recommends the continued monitoring of all sites currently enrolled in the City of Longmont Annual Groundwater Quality Monitoring Event on an annual basis. The continued monitoring of the aforementioned sites will work to augment the existing data set. This information will be used to further assess the extent groundwater impacts present, track trends in the groundwater quality, and to evaluate if sites shall be added to or removed from the annual sampling list.

Additionally, Terracon recommends properly abandoning monitoring wells SH2-MW03 and SGU-MW07, at the Sherwood #2 and Serafini Gas Unit sites, respectively, which have been filled in with sediment and are no longer usable. Terracon also recommends replacing these silted in wells with newly installed groundwater monitoring wells for continued monitoring as part of the City of Longmont Annual Groundwater Quality Monitoring Event. Terracon can provide a supplemental proposal and cost estimate for these additional services.

2.0 SITE DESCRIPTION

This project consists of sampling monitoring wells associated with seventeen PA O&G well sites and one former tank battery site located in the City of Longmont, Colorado, (the City). The 2022 monitoring event analyzed potential impacts to groundwater, in accordance with Terracon Proposal No. P22227013, at the following sites:

- Domenico #1: three monitoring wells;
- Evans #6 Tank Battery: three monitoring wells;
- Evans #6 Wellhead: two monitoring wells;
- Stamp #1 Well Site: three monitoring wells;
- Stamp 31-2C Well Site: six monitoring wells;
- City of Longmont #1: three monitoring wells;
- Powell #1: three monitoring wells;
- Sherwood #1: three monitoring wells;
- Sherwood #2: two monitoring wells;
- Tabor #1: three monitoring wells;
- Tabor #7: three monitoring wells;
- Longmont 8-10k: three monitoring wells;
- Rider #1: three monitoring wells;
- Maruyama #1: three monitoring wells;
- George Mayeda #1; three monitoring wells;
- Mary #2: three monitoring wells;
- Wertman #1: three monitoring wells; and
- Serafini Gas Unit: five monitoring wells.

The 2022 monitoring event well site locations are shown on Exhibit 1.

3.0 SCOPE OF SERVICES

The 2022 annual groundwater quality monitoring services described below were performed on April 5th-6th, April 18th-22nd, and April 25th-27th, as a modification to the sampling strategy outlined in the Sampling and Analysis Plan (SAP) prepared and issued by Terracon on February 1, 2013. Based on the initial groundwater sampling results reported in 2013, the sampling frequency and laboratory analyte list have been modified.

The monitoring wells at the following well sites were sampled during this annual event:

- Domenico #1: DM1-MW01, DM1-MW02, and DM1-MW03;
- Evans #6 Tank Battery: E6T-MW01, E6T-MW-02, and E6T-MW03;
- Evans #6 Wellhead: E6W-MW-01, E6W-MW02, and E6W-MW03;

- Stamp #1: ST1-MW02, ST1-MW03 and ST1-MW05;
- Stamp 31-2C Well Site: S31-MW01, S31-MW02, S31-MW03, S31-MW04, S31-MW05, and S31-MW06
- City of Longmont #1: CL1-MW01, CL1-MW02, and CL1-MW03;
- Powell #1: PL1-MW01, PL1-MW02, and PL1-MW03;
- Sherwood #1: SH1-MW01, SH1-MW02, and SH1-MW03;
- Sherwood #2: SH2-MW01 and SH2-MW02;
- Tabor #1: TB1-MW01, TB1-MW02, and TB1-MW03R;
- Tabor #7: TB7-MW01, TB7-MW02, and TB7-MW03;
- Longmont 8-10K: LM8-MW01, LM8-MW02, and LM8-MW03;
- Rider #1 Well Site: RD1-MW-01, RD1-MW02, and RD1-MW03;
- Maruyama #1: MY1-MW01, MY1-MW02, and MY1-MW03;
- George Mayeda #1: GM1-MW01, GM1-MW02, and GM1-MW03;
- Mary #2: MR2-MW01, MR2-MW02, and MR2-MW03;
- Wertman #1: WT1-MW01, WT1-MW02, and WT1-MW03; and
- Serafini Gas Unit: SGU-MW01, SGU-MW02, SGU-MW03, SGU-MW-06, and SGU-MW07.

Monitoring wells SH2-MW03 at the Sherwood #2 site and SGU-MW07 at the Serafini Gas Unit site were not sampled during this annual groundwater sampling event due to both monitoring wells being filled in with sediment.

3.1 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 E1903-19.

3.2 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 sampling event. Subsurface conditions may vary from those encountered at specific 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.

3.3 Reliance

This report has been prepared for the exclusive use of the City of Longmont, 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 City of Longmont and Terracon. Any unauthorized distribution or reuse is at the City of Longmont's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, Investigation report, and Terracon's Master Services Agreement (MSA) with the City of Longmont. The limitation of liability defined in the terms and conditions of the MSA is the aggregate limit of Terracon's liability to the City of Longmont and all relying parties unless otherwise agreed in writing.

4.0 FIELD INVESTIGATION

4.1 Safety

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.

4.2 Sampling and Analytical Program Summary

Terracon sampled a total of 57 groundwater monitoring wells for the analytical suite listed in the table below.

Groundwater Sample Constituents

Parameters	Analytical Method
Volatile Organic Compounds (VOCs)	EPA Method 8260
Dissolved Gases: Methane, Ethane and Ethylene	RSK 175
Dissolved Gases: Carbon Dioxide	4500CO2 D22011
Chloride	EPA Method 300.0
Sulfate	EPA Method 300.0
Total Dissolved Solids (TDS)	SM 2320B

EPA = Environmental Protection Agency; SW-846 analytical methods

Additionally, temperature, pH, specific conductance, dissolved oxygen and oxygen reducing potential measurements were collected in the field during groundwater sampling. Specific conductance and pH measurements are summarized on Table 2 in Appendix A of this report.

4.3 Groundwater Sampling

Terracon used hand bailing sampling techniques with a disposable bailer to purge and obtain a representative groundwater sample from the monitoring wells. The monitoring wells were sampled in accordance with February 1, 2013 SAP. After groundwater field parameters had stabilized, a groundwater sample was collected from each of the monitoring wells. The groundwater samples were placed in laboratory provided, pre-cleaned containers and stored in a cooler with ice during delivery to the laboratory. The samples were submitted under chain-of-custody protocol and analyzed for the parameters summarized in Section 3.2 on a standard turn-around time and according to the appropriate United States Environmental Protection Agency (USEPA) analytical methods.

The groundwater sample naming convention used is as follows:

- [Site Abbreviation]-[Well Designation].
- Example: SH2-MW01 is the groundwater sample collected from Sherwood #2 well site, monitoring well MW01.

The groundwater samples were submitted to Pace Analytical (Pace) in Mount Juliet, Tennessee. The laboratories performed Quality Analysis/Quality Control (QA/QC) during the analysis process of the groundwater samples. The QA/QC process involved completing a method blank, laboratory control sample, matrix spike, matrix spike duplicate, and a sample duplicate to test the accuracy and calibration of the laboratory equipment and processes.

5.0 FIELD INVESTIGATION RESULTS

5.1 Hydrogeology

Depth to groundwater and groundwater elevation data measured in April 2022 were used to generate potentiometric surface maps and estimated groundwater flow direction. Potentiometric surface maps are only available at sites where sufficient wellhead survey information is available. The potentiometric surface maps and groundwater elevation data are included in Appendix A as site-specific Exhibits and Table 1, respectively. As depicted on the potentiometric surface maps groundwater beneath most of the well sites, in general, flows towards the St. Vrain Creek. The well site groundwater flow directions are as follows:

- City of Longmont #1: northeast, towards the St. Vrain Creek;
- Serafini Gas Unit: northeast, towards the St. Vrain Creek;

- Powell #1: northeast, towards the St. Vrain Creek;
- Sherwood #1: northeast, towards the St. Vrain Creek;
- Sherwood #2: unknown, well filled with sediment – assumed northeast, towards St. Vrain Creek;
- Evans #6 Wellhead: south, towards the St. Vrain Creek;
- Evans #6 Tank Battery: southwest towards the St. Vrain Creek;
- Domenico #1: northwest, towards Boulder Creek;
- Stamp #1: unknown, insufficient survey data available – assumed east, towards Union Reservoir;
- Tabor #1: south, towards Lefthand Creek;
- Tabor #7: north, towards the Lefthand Creek;
- Longmont 8-10K: southeast, towards the St. Vrain Creek;
- Rider #1: unknown, insufficient survey data available – assumed east, towards Union Reservoir;
- Maruyama #1: south, towards the St. Vrain Creek;
- George Mayeda #1: east, towards Calkins Reservoir;
- Mary #2: northeast, towards James Ditch; and
- Wertman #1: northeast, towards the St. Vrain Creek

6.0 ANALYTICAL RESULTS

The laboratory analytical reports and chain-of-custody records are included in Appendix B. The following sections summarize the results of the analytical testing.

Laboratory analytical results for the groundwater samples were compared to the groundwater standard applicable to O&G well sites, COGCC Table 910-1 standards (May 1, 2018). The Colorado Department of Public Health and Environment's (CDPHE) Regulation 41 Groundwater Quality Standards, December 30, 2016 (GWQS). A summary of constituent concentrations exceeding these standards in the groundwater samples is include in Table 2.

The groundwater analytical results for detected concentrations are discussed in the following sections. Groundwater analytical data and corresponding action levels are summarized in Table 2 (Appendix A).

6.1 Organic Compounds

Dissolved ethane and ethene were not detected above their respective laboratory reporting limit in the groundwater samples collected. Carbon dioxide was reported at a concentration above laboratory detection limits in groundwater samples collected from multiple sites during this annual sampling event. Neither the CDPHE nor the COGCC has set a regulatory standard for these organic compounds in groundwater, but the reported concentrations are observed to be relatively low and are not considered to be indicative of an environmental concern.

Dissolved methane was reported at the Domenico #1 Wellsite in sample DM1-MW02 at a concentration of 0.0629 mg/L. Section 318A.f.(8) of the COGCC Rules and Regulations for baseline sampling of water wells in the GWA states that concentrations of methane greater than 1.0 mg/L require a gas compositional and stable isotope analysis of the methane to determine the source of the methane (e.g. thermogenic, biogenic or a mixture of the two). In accordance with the COGCC Rules and Regulations, the reported methane concentrations do not require additional analyses of groundwater to be performed.

6.2 Inorganics in Groundwater

Inorganic cations and anions present in groundwater can be secondary indicators of well site releases associated with produced water. 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 was able to determine a regional background concentration levels for chloride and sulfate by comparing current concentrations to data from previous years monitoring events. Terracon utilized analytical data from the current and previous annual sampling events (as far back as 2013 at some sites) from each of the sites and has determined that the reported concentrations of chloride and sulfate for the 2022 sampling event are within their respective regional background concentrations. Chloride and sulfate concentrations measured at each site are comparable in magnitude with that of previous values and therefore have been determined to exist at elevated concentrations above COGCC and CDPHE regulatory limits, but within the regional background levels.

Elevated concentrations of sulfates and chlorides above their respective laboratory analytical detection limits were reported in groundwater samples collected from monitoring wells at each site sampled during this monitoring event. Please refer to the groundwater analytical results in Table 2 included in this report for a detailed overview of regulatory exceedances. A brief summary of the analytical results is included below.

Sulfate concentrations were reported above COGCC and CDPHE limits, but within regional background levels in groundwater samples collected from monitoring wells at the Powell #1, Evans #6 Tank Battery, Evans #6 Wellhead, Longmont 8-10K, Domenico #1, Sherwood #1, Sherwood #2, City of Longmont #1, George Mayeda #1, Maruyama #1, Tabor #1, Tabor #7,

Stamp #1, Rider #1, and Mary #2 well sites. Chloride concentrations were reported above COGCC and CDPHE limits, but within regional background levels in groundwater samples collected from monitoring wells at the Sherwood #1, Sherwood #2, Evans #6 Tank Battery, Domenico #1, Tabor #1, Tabor #7, Stamp #1, Rider #1, and Mary #2 well sites.

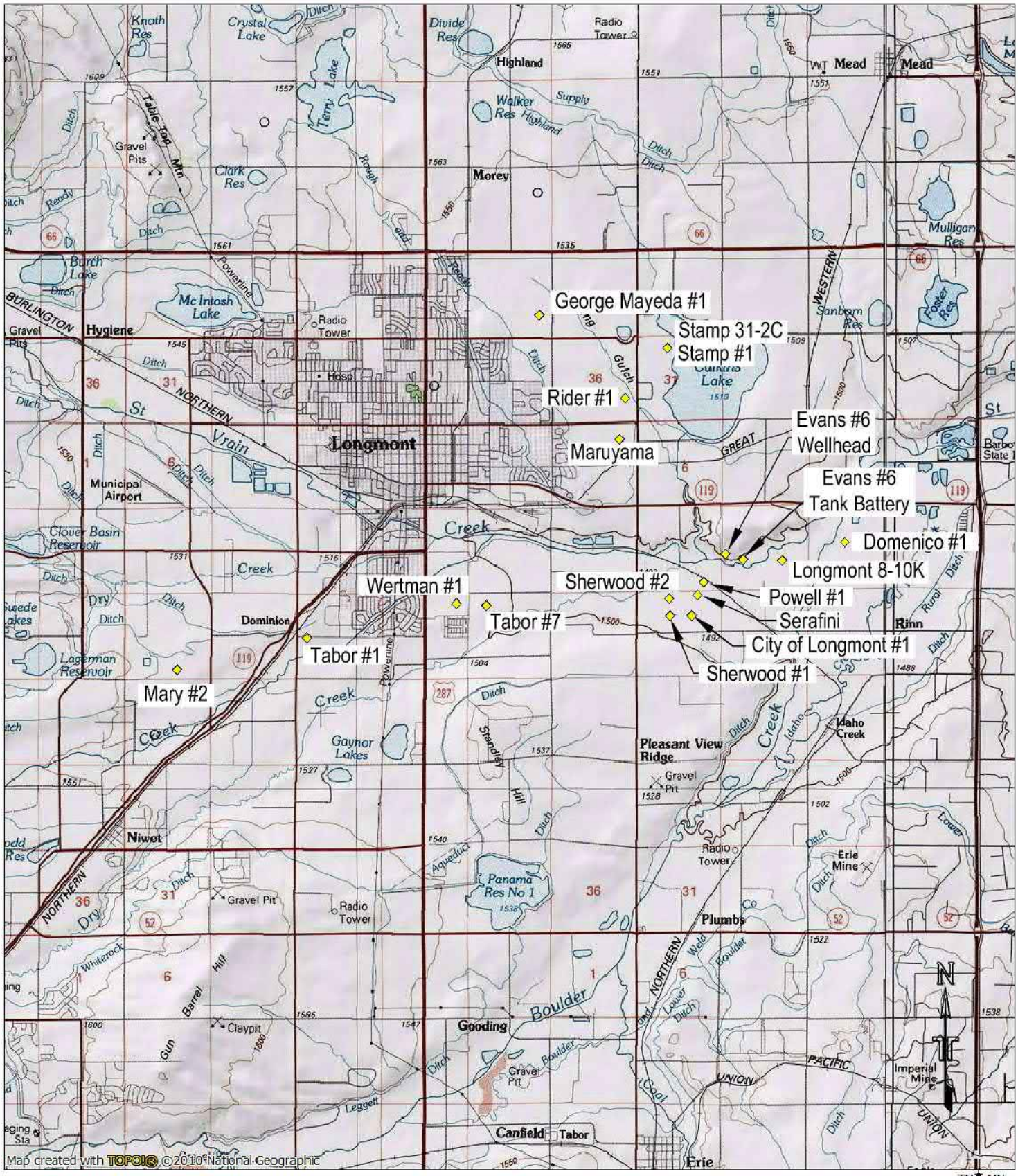
APPENDIX A – EXHIBITS & TABLES

Exhibit 1 – Wellsite Locations Map

Exhibit 2 through Exhibit 19 – Site and Potentiometric Surface Diagrams: Multiple Well Sites (18)

Table 1 – Groundwater Elevation Data

Table 2 – Groundwater Analytical Results



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Topographic and Site Location Map

City of Longmont Oil and Gas Well Sites

Longmont
Colorado

Exhibit 1

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	6/2022
JOB NO.	22227013
ACAD NO.	001
SHEET NO.:	1 OF 19

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, April 21, 2022

– Approximate Grounwater Flow Direction, April 21, 2022

0' 100'
Approximate Scale

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Site and Piezometric Surface Diagram - Domenico #1
City of Longmont Oil and Gas Well Sites
Longmont
Colorado

Exhibit 2

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	6/1/22
JOB NO.	22227013
ACAD NO.	002
SHEET NO.:	2 OF 19

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, April 21, 2022

– Approximate Grounwater Flow Direction, April 21, 2022

0' 100'
Approximate Scale

Terracon
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Site and Piezometric Surface Diagram - Evans #6 Tank Battery

City of Longmont Oil and Gas Well Sites

Longmont
Colorado

Exhibit 3

DESIGNED BY:	JAS
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DATE:	6/2022
JOB NO.	22227013
ACAD NO.	003
SHEET NO.:	3 OF 19

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, April 21, 2022

– Approximate Grounwater Flow Direction, April 21, 2022

0' 100'
Approximate Scale

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Site and Piezometric Surface Diagram - Evans #6 Wellhead
City of Longmont Oil and Gas Well Sites
Longmont
Colorado

Exhibit 4

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DATE:	6/2022
JOB NO.	22227013
ACAD NO.	004
SHEET NO.:	4 OF 19

LEGEND

– Approximate Location of Groundwater Monitoring Wells

0' 100'

Approximate Scale

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Site Diagram - Stamp 1 Well Site

City of Longmont Oil and Gas Well Sites

Longmont

Colorado

Exhibit 5

DESIGNED BY:	JAS
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SCALE:	AS SHOWN
DATE:	6/2022
JOB NO.	22227013
ACAD NO.	005
SHEET NO.:	5 OF 19

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, April 5, 2022

– Approximate Grounwater Flow Direction, April 5, 2022

0' 100'
Approximate Scale

Terracon
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Site and Piezometric Surface Diagram - City of Longmont #1

City of Longmont Oil and Gas Well Sites

Longmont
Colorado

Exhibit 6

DESIGNED BY:	JAS
DRAWN BY:	JAS
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SCALE:	AS SHOWN
DATE:	6/2/22
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ACAD NO.	000
SHEET NO.:	6 OF 19

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, April 22, 2022

– Approximate Grounwater Flow Direction, April 22, 2022

0' 100'
Approximate Scale

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Site and Piezometric Surface Diagram - Powell #1

City of Longmont Oil and Gas Well Sites

Longmont
Colorado

Exhibit 7

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DATE:	6/2022
JOB NO.	22227013
ACAD NO.	007
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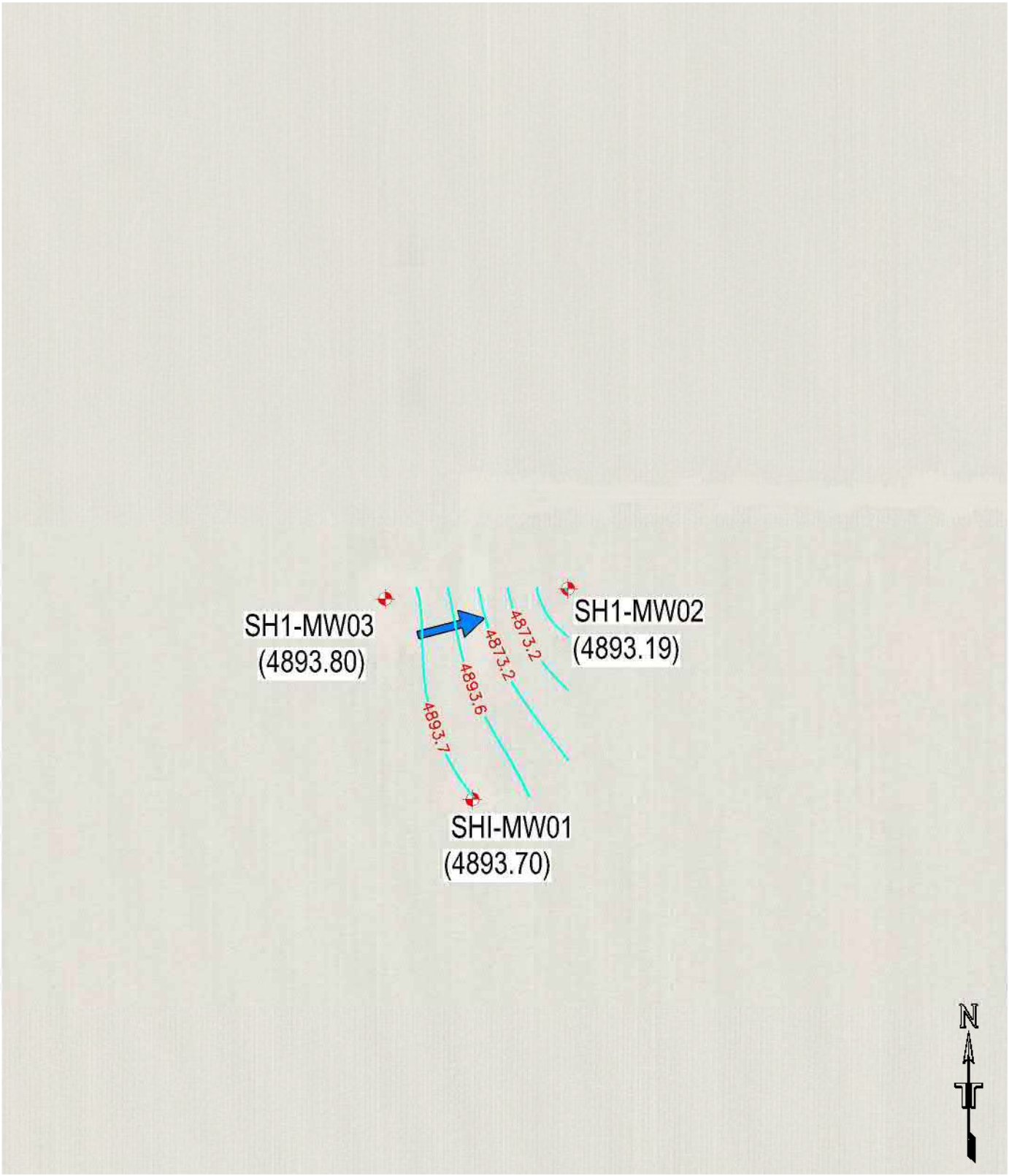

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, April 5, 2022

– Approximate Grounwater Flow Direction, April 5, 2022

0' 100'
Approximate Scale

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Site and Piezometric Surface Diagram - Sherwood #1

City of Longmont Oil and Gas Well Sites

Longmont
Colorado

Exhibit 8

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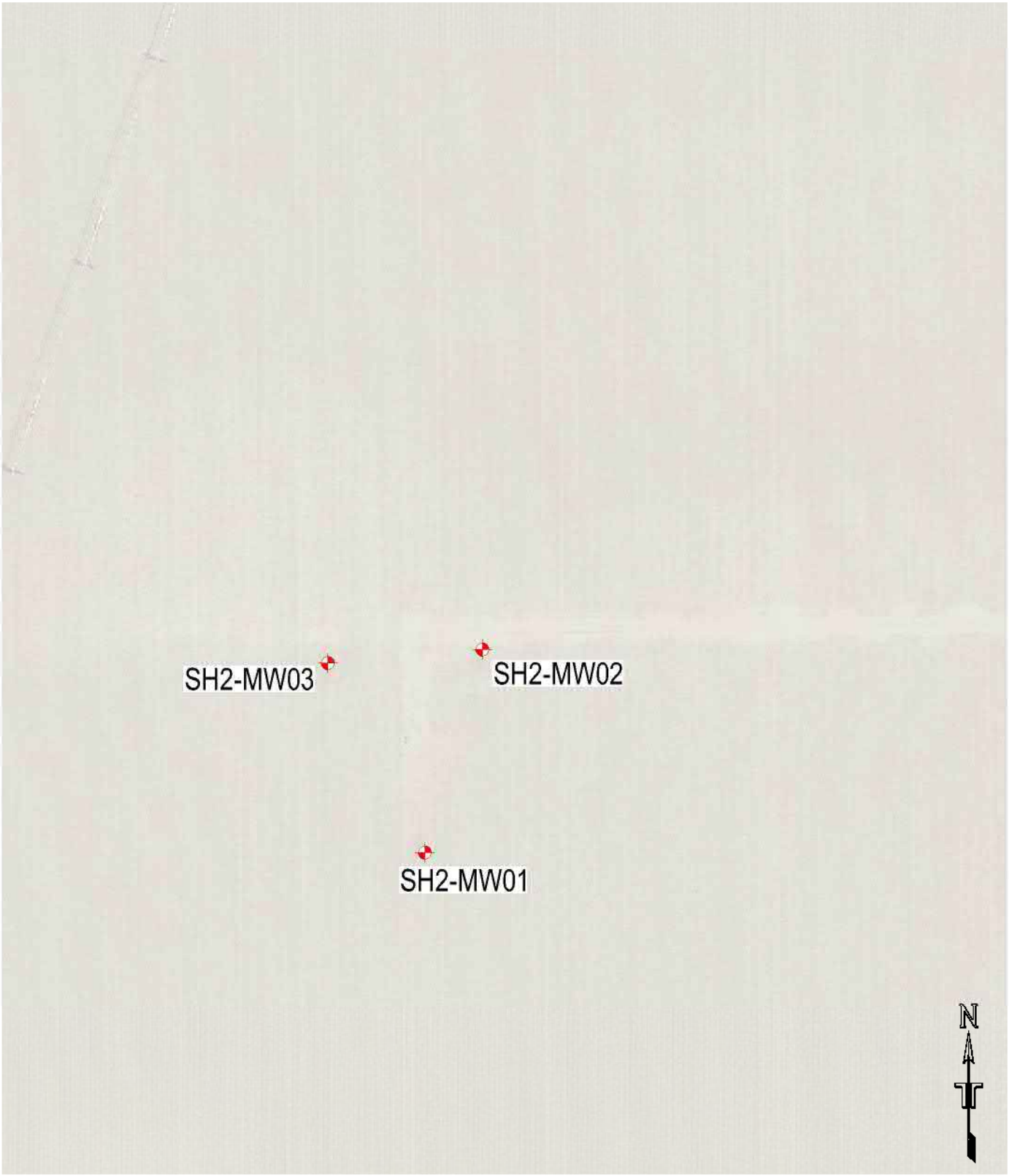
DATE:	6/2/22
JOB NO.	20227213
ACAD NO.	008
SHEET NO.:	8 OF 19



LEGEND

⊕ – Approximate Location of Groundwater Monitoring Wells

0' 100'

Approximate Scale

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Site Diagram - Sherwood #2

City of Longmont Oil and Gas Well Sites

Longmont

Colorado

Exhibit 9

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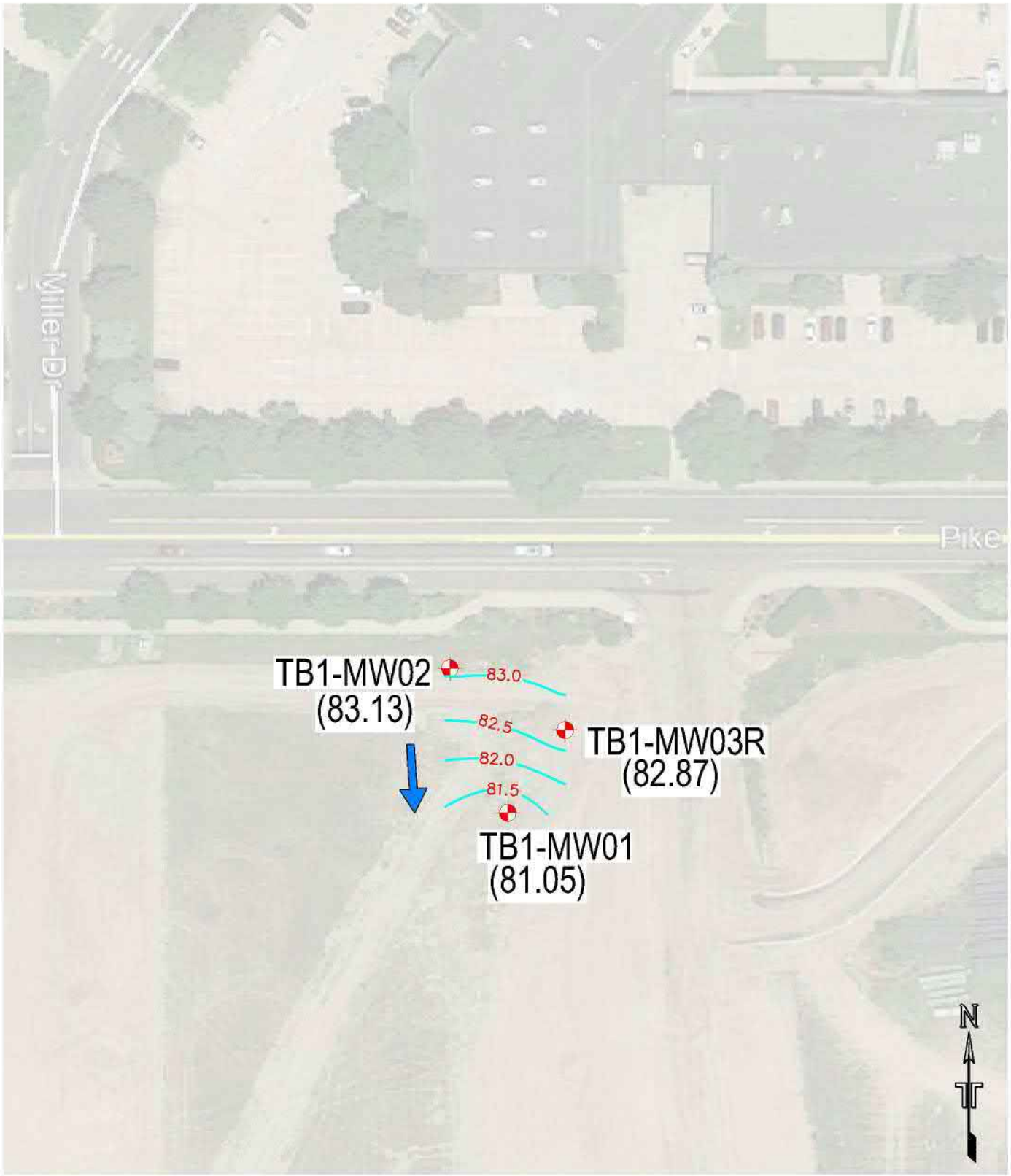
SCALE:	AS SHOWN
DATE:	6/2/22
JOB NO.	222273.13
ACAD NO.	009
SHEET NO.:	9 OF 19



LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (relative elevation) Contours Reported, April 21, 2022

– Approximate Grounwater Flow Direction, April 21, 2022

0' 100'
Approximate Scale

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Site Diagram and Piezometric Surface Diagram - Tabor #1
City of Longmont Oil and Gas Well Sites
Longmont
Colorado

Exhibit 10

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	6/2022
JOB NO.	22227013
ACAD NO.	010
SHEET NO.:	10 OF 19

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (relative elevation) Contours Reported, April 18, 2022

– Approximate Grounwater Flow Direction, April 18, 2022

0' 100'
Approximate Scale

Terracon
Consulting Engineers and Scientists
1901 Sharp Point Drive, Suite C Fort Collins, Colorado 80525
PH. (970) 484-0359 FAX. (970) 484-0454

Site Diagram and Piezometric Surface Diagram - Tabor #7

City of Longmont Oil and Gas Well Sites

Longmont
Colorado

Exhibit 11

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	6/2022
JOB NO.	22227013
ACAD NO.	011
SHEET NO.:	11 OF 19

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, April 21, 2022

– Approximate Grounwater Flow Direction, April 21, 2022

0' 100'
Approximate Scale

Terracon
Consulting Engineers and Scientists
1901 Sharp Point Drive, Suite C Fort Collins, Colorado 80525
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Site and Piezometric Surface Diagram - Longmont 8-10K

City of Longmont Oil and Gas Well Sites

Longmont

Colorado

Exhibit 12

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	6/2022
JOB NO.	22227013
ACAD NO.	012
SHEET NO.:	12 OF 19

LEGEND

– Approximate Location of Groundwater Monitoring Wells

0' 100'

Approximate Scale

Terracon
Consulting Engineers and Scientists
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Site Diagram - Rider #1

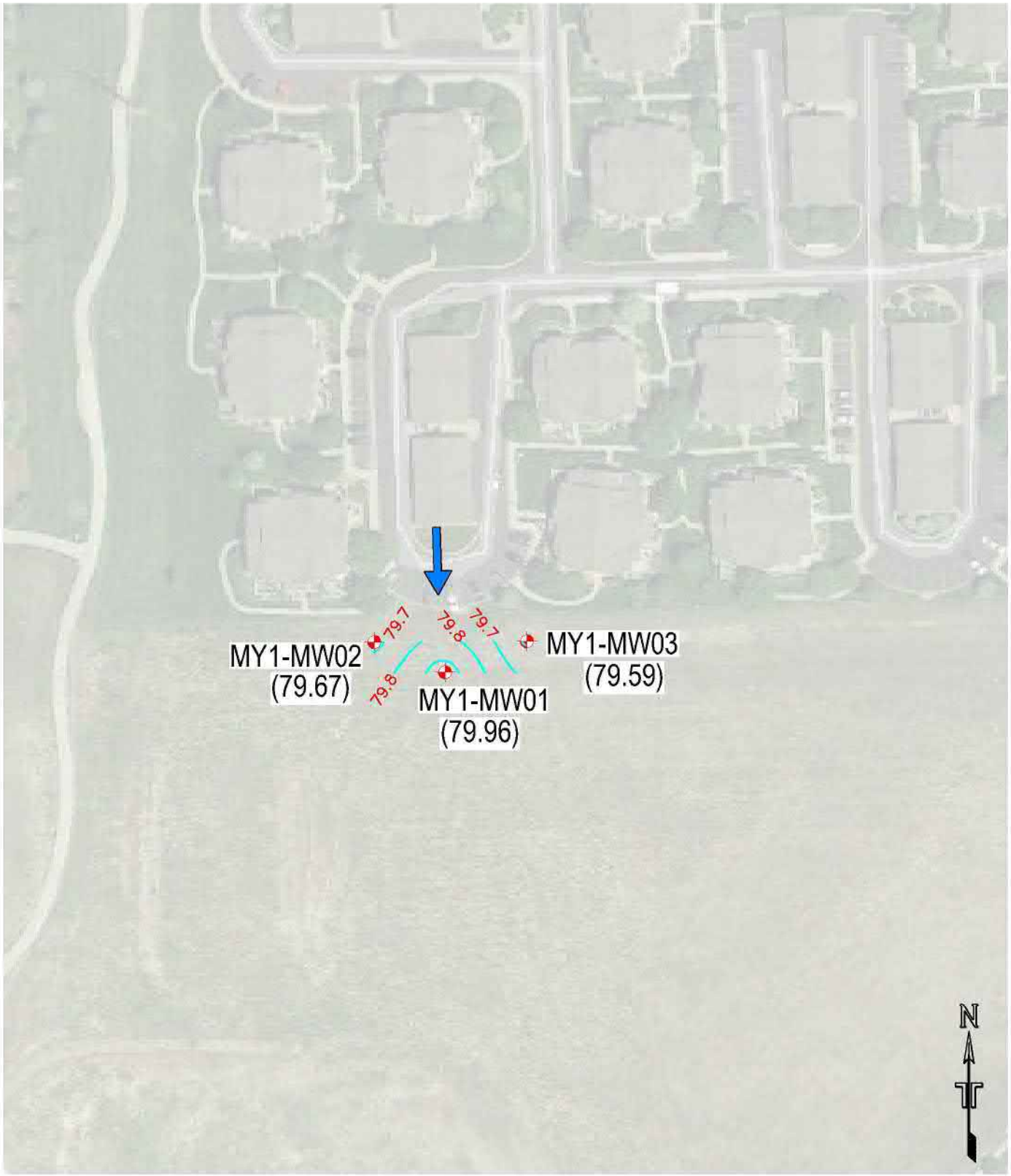
City of Longmont Oil and Gas Well Sites

Longmont

Colorado

Exhibit 13

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	6/2022
JOB NO.	22227013
ACAD NO.	013
SHEET NO.:	13 OF 19



LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (relative elevation) Contours Reported, April 26, 2022

– Approximate Grounwater Flow Direction, April 26, 2022

0' 100'
Approximate Scale

Terracon
Consulting Engineers and Scientists
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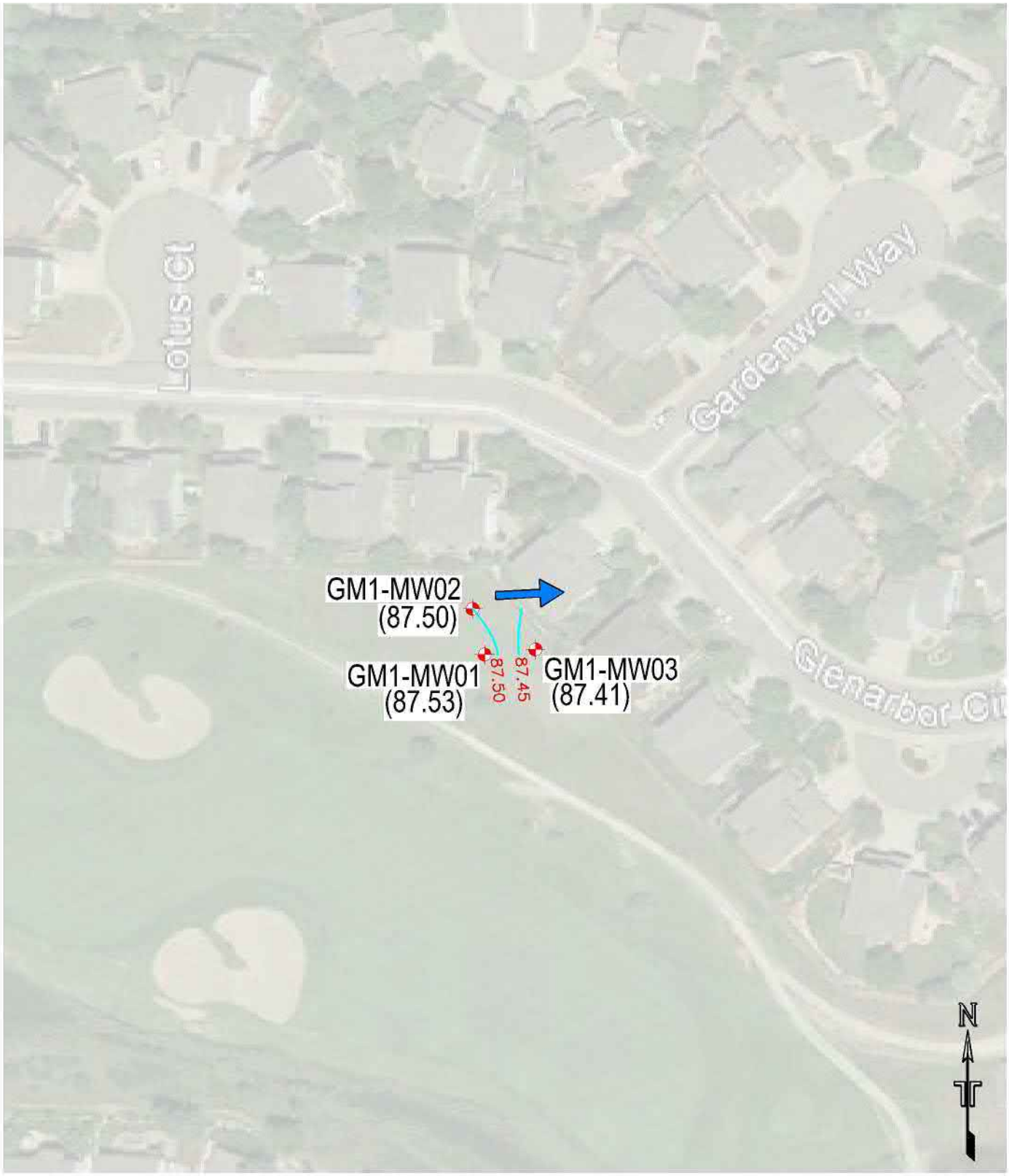
Site Diagram and Piezometric Surface Diagram - Maruyama #1
City of Longmont Oil and Gas Well Sites
Longmont
Colorado

Exhibit 14

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	6/2022
JOB NO.	22227013
ACAD NO.	014
SHEET NO.:	14 OF 19



LEGEND

- Approximate Location of Groundwater Monitoring Wells
- 4851.2 — Approximate Groundwater Elevation (relative elevation) Contours Reported, April 26, 2022
- Approximate Grounwater Flow Direction, April 26, 2022

0' 100'
Approximate Scale

Terracon
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Site Diagram and Piezometric Surface Diagram - George Mayeda #1
City of Longmont Oil and Gas Well Sites
Longmont
Colorado

Exhibit 15

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	6/2022
JOB NO.	22227013
ACAD NO.	015
SHEET NO.:	15 OF 19

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (relative elevation) Contours Reported, April 20, 2022

– Approximate Grounwater Flow Direction, April 20, 2022

0' 100'
Approximate Scale

Terracon
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Site and Piezometric Surface Diagram - Mary #2
City of Longmont Oil and Gas Well Sites
Longmont
Colorado

Exhibit 16

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	6/2022
JOB NO.	22227013
ACAD NO.	016
SHEET NO.:	16 OF 19

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (relative elevation) Contours Reported, April 18, 2022

– Approximate Grounwater Flow Direction, April 18, 2022

0' 100'
Approximate Scale

Terracon
Consulting Engineers and Scientists
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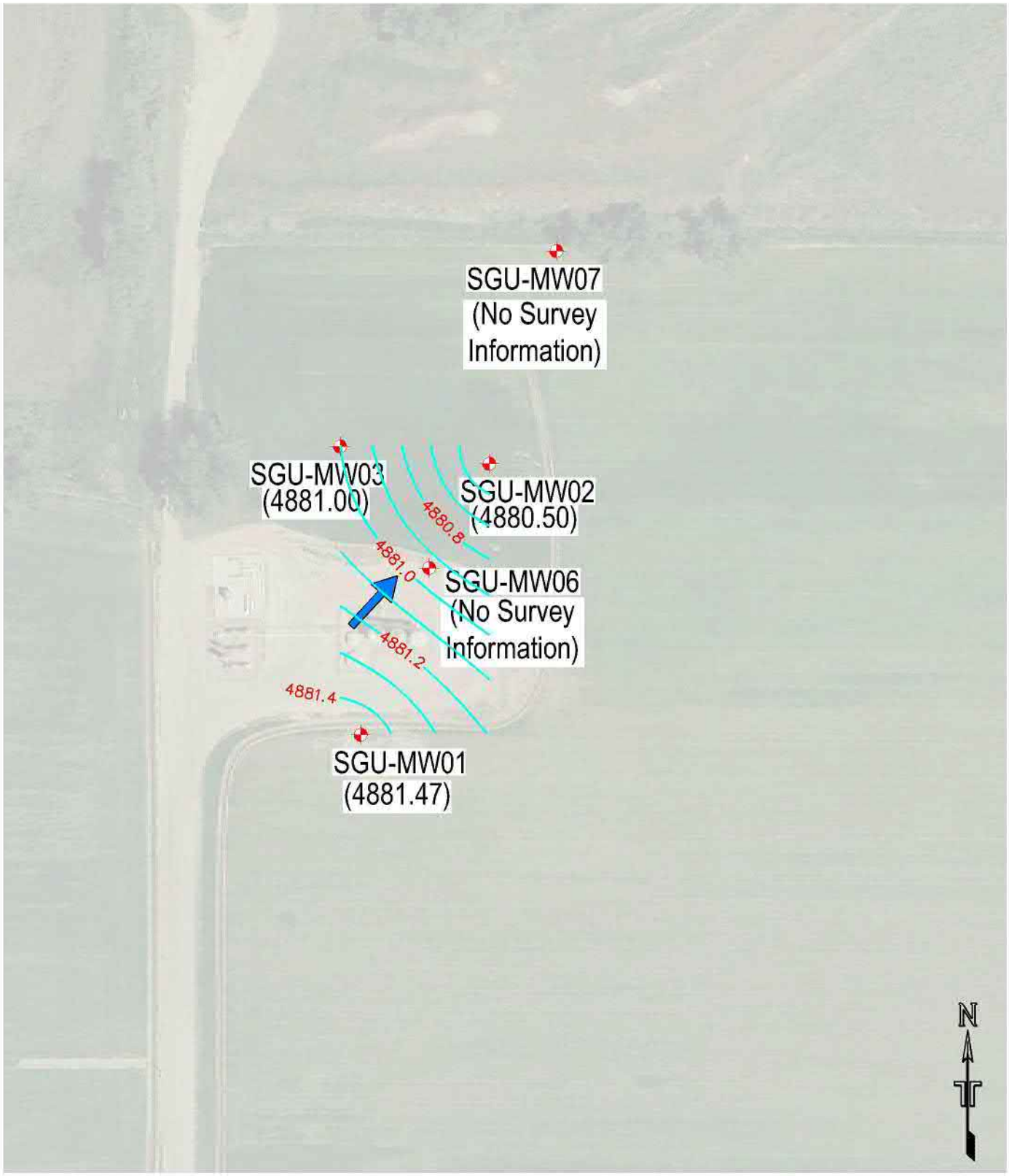
Site Diagram and Piezometric Surface Diagram - Wertman #1

City of Longmont Oil and Gas Well Sites

Longmont
Colorado

Exhibit 17

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	6/2022
JOB NO.	22227013
ACAD NO.	017
SHEET NO.:	17 OF 19



LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, April 6, 2022

– Approximate Grounwater Flow Direction, April 6, 2022

0' 100'
Approximate Scale

Terracon
Consulting Engineers and Scientists
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Site and Piezometric Surface Diagram - Serafini Gas Unit
City of Longmont Oil and Gas Well Sites
Longmont
Colorado

Exhibit 18

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	6/2022
JOB NO.	22227013
ACAD NO.	018
SHEET NO.:	18 OF 19

LEGEND

– Approximate Location of Groundwater Monitoring Wells

0' 100'

Approximate Scale

Terracon
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Site Diagram - Stamp 31-2C

City of Longmont Oil and Gas Well Sites

Longmont

Colorado

Exhibit 19

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	6/2022
JOB NO.	22227013
ACAD NO.	018
SHEET NO.:	19 OF 19

Table 1 - Groundwater Elevation Data
City of Longmont - Groundwater Quality Monitoring
Project Number 22227013

Well ID	Top of Casing Elevation[1]	Date Measured	Total Depth[2]	Depth to Groundwater[2]	Groundwater Elevation[3]
Sherwood #1 Wellhead					
SH1-MW01	4902.75	3/18/2013	13.96	8.49	4894.26
		10/23/2013		6.70	4896.05
		7/28/2014		NR	
		3/30/2015		8.11	4894.64
		6/21/2016		NR	
		5/23/2017		NR	
		6/27/2018		7.42	4895.33
		6/10/2019		9.22	4893.53
		5/29/2020		8.62	4894.13
		12/14/2021		8.75	4894.00
		4/5/2022		9.05	4893.70
SH1-MW02	4900.99	3/18/2013	14.35	7.41	4893.58
		10/23/2013		6.30	4894.69
		7/28/2014		NR	
		3/30/2015		7.23	4893.76
		6/21/2016		6.87	4894.12
		5/23/2017		6.88	4894.11
		6/27/2018		6.80	4894.19
		6/10/2019		7.95	4893.04
		5/29/2020		7.42	4893.57
		12/14/2021		7.60	4893.39
		4/5/2022		7.80	4893.19
SH1-MW03	4901.80	3/18/2013	14.06	7.64	4894.16
		10/23/2013		6.33	4895.47
		7/28/2014		NR	
		3/30/2015		7.35	4894.45
		6/21/2016		NR	
		5/23/2017		NR	
		6/27/2018		7.00	4894.80
		6/10/2019		8.10	4893.70
		5/29/2020		7.66	4894.14
		12/14/2021		7.81	4893.99
		4/5/2022		8.00	4893.80
Sherwood #2 Wellhead					
SH2-MW01	4896.76	3/18/2013	10.80	5.20	4891.56
		7/28/2014		NR	
		3/30/2015		4.59	4892.17
		6/21/2016		5.04	4891.72
		5/23/2017		4.33	4892.43
		6/27/2018		4.53	4892.23
		6/17/2019		5.32	4891.44
		6/5/2020		5.12	4891.64
		12/14/2021		5.45	4891.31
		4/5/2022		5.26	4891.50
SH2-MW02	4896.15	3/18/2013	12.37	5.71	4890.44
		7/28/2014		NR	
		3/30/2015		4.96	4891.19
		6/21/2016		4.95	4891.20
		5/23/2017		4.34	4891.81
		6/27/2018		4.45	4891.70
		6/17/2018		5.30	4890.85
		6/5/2020		4.95	4891.20
		12/14/2021		5.35	4890.80
		4/5/2022		5.25	4890.90
SH2-MW03	4896.32	3/18/2013	9.71	5.11	4891.21
		7/28/2014		NR	
		3/30/2015		4.59	4891.73
		6/21/2016		4.61	4891.71
		5/23/2017		3.80	4892.52
		6/27/2018		3.50	4892.82
		6/17/2019		5.00	4891.32
		6/5/2020		4.60	4891.72
		12/14/2021		Sediment[6]	
		4/5/2022		Sediment[6]	
City of Longmont #1 Wellhead					
CL1-MW01	4896.99	3/20/2013	13.34	6.42	4890.57
		7/28/2014		NR	
		3/30/2015		6.41	4890.58
		6/21/2016		3.87	4893.12
		5/23/2017		NR	
		6/27/2018		4.60	4892.39
		6/17/2019		7.75	4889.24
		6/2/2020		4.69	4892.30
		6/15/2021		5.60	4891.39
		4/5/2022		7.60	4889.39
CL1-MW02	4896.04	3/20/2013	12.86	5.75	4890.29
		7/28/2014		NR	
		3/30/2015		5.79	4890.25
		6/22/2016		1.80	4894.24
		5/23/2017		5.35	4890.69
		6/27/2018		3.49	4892.55
		6/17/2018		7.15	4888.89
		6/2/2020		3.22	4892.82
		6/15/2021		4.45	4891.59
		4/5/2022		6.95	4889.09
CL1-MW03	4896.33	3/20/2013	13.10	5.86	4890.47
		7/28/2014		NR	
		3/30/2015		5.86	4890.47
		6/21/2016		3.22	4893.11
		5/23/2017		5.34	4890.99
		6/27/2018		4.06	4892.27
		6/17/2019		7.18	4889.15
		6/2/2020		3.55	4892.78
		6/15/2021		3.50	4892.83
		4/5/2022		6.95	4889.38

Table 1 - Groundwater Elevation Data
City of Longmont - Groundwater Quality Monitoring
Project Number 22227013

Well ID	Top of Casing Elevation[1]	Date Measured	Total Depth[2]	Depth to Groundwater[2]	Groundwater Elevation[3]
Serafini Gas Unit					
SGU-MW01	4892.37	3/20/2013	12.90	5.52	4886.85
		10/22/2013		3.49	4888.88
		3/30/2015		5.86	4886.51
		6/21/2016		3.68	4888.69
		5/23/2017		5.70	4886.67
		6/10/2020		6.84	4885.53
		6/28/2018		3.65	4888.72
		6/21/2021		7.50	4884.87
		4/6/2022		10.90	4881.47
SGU-MW02	4891.42	3/21/2013	8.10	5.17	4886.25
		10/22/2013		3.45	4887.97
		3/30/2015		5.07	4886.35
		6/21/2016		4.24	4887.18
		5/23/2017		5.54	4885.88
		6/28/2018		3.65	4887.77
		6/10/2020		7.50	4883.92
		6/21/2021		7.10	4884.32
		4/6/2022		10.92	4880.50
SGU-MW03	4891.72	3/21/2013	12.06	5.59	4886.13
		10/22/2013		3.59	4888.13
		3/30/2015		5.85	4885.87
		6/21/2016		3.52	4888.20
		5/23/2017		5.68	4886.04
		6/28/2018		3.60	4888.12
		6/10/2020		6.10	4885.62
		6/21/2021		6.60	4885.12
		4/6/2022		10.72	4881.00
SGU-MW04	4889.76	6/28/2018	9.41	3.10	4886.66
SGU-MW05	4891.69	6/28/2018	10.50	3.55	4888.14
SGU-MW06	No Survey Information Available	6/10/2020	14.90	6.45	No Survey Information Available
		6/21/20210		7.00	
		4/6/2022		10.90	
SGU-MW07		6/10/2020	9.60	0.60	
		6/21/2021		2.25	
		4/6/2022		Sediment[6]	
Powell #1 Wellhead					
PL1-MW01	4885.90	3/20/2013	17.79	11.91	4873.99
		7/28/2014		NR	
		3/31/2015		12.16	4873.74
		6/22/2016		10.64	4875.26
		5/23/2017		11.40	4874.50
		6/27/2018		11.68	4874.22
		6/10/2019		12.06	4873.84
		5/28/2020		12.31	4873.59
		6/15/2021		10.82	4875.08
		4/22/2022		12.65	4873.25
PL1-MW02	4885.58	3/19/2013	19.65	12.00	4873.58
		7/28/2014		NR	
		3/31/2015		12.52	4873.06
		6/22/2016		11.64	4873.94
		5/23/2017		11.15	4874.43
		6/27/2018		12.36	4873.22
		6/10/2019		12.42	4873.16
		5/28/2020		12.60	4872.98
		6/15/2021		11.66	4873.92
		4/22/2022		12.97	4872.61
PL1-MW03R	4887.26	3/19/2013	18.06	13.04	4874.22
		7/28/2014		NR	
		3/31/2015		Well Destroyed	
		6/22/2016		Well Destroyed	
		5/23/2017		Well Destroyed	
		6/27/2018		12.97	4874.29
		6/10/2019		12.95	4874.31
		5/28/2020		13.30	4873.96
		6/15/2021		12.15	4875.11
		4/22/2022		13.75	4873.51
Evans #6 Wellhead					
E6W-MW01	4882.37	3/22/2013	9.33	4.50	4877.87
		10/23/2013		4.80	4877.57
		7/28/2014		4.85	4877.52
		3/31/2015		3.92	4878.45
		6/22/2016		4.24	4878.13
		5/25/2017		4.38	4877.99
		6/28/2018		3.83	4878.54
		6/6/2019		3.90	4878.47
		8/6/2020		3.61	4878.76
		6/17/2021		4.40	4877.97
		4/21/2022		4.95	4877.42
E6W-MW02	4882.45	3/22/2013	12.46	5.19	4877.26
		10/23/2013		6.50	4875.95
		7/28/2014		5.80	4876.65
		3/31/2015		5.14	4877.31
		6/22/2016		5.55	4876.90
		5/25/2017		5.60	4876.85
		6/28/2018		5.45	4877.00
		6/6/2019		4.85	4877.60
		8/6/2020		4.66	4877.79
		6/17/2021		5.42	4877.03
		4/21/2022		5.70	4876.75
E6W-MW03	4881.53	3/22/2013	10.89	4.41	4877.12
		10/23/2013		5.15	4876.38
		7/28/2014		4.95	4876.58
		3/31/2015		4.24	4877.29
		6/22/2016		4.74	4876.79
		5/25/2017		4.68	4876.85
		6/6/2019		4.05	4877.48
		8/6/2020		3.78	4877.75
		6/17/2021		4.45	4877.08
		4/21/2022		4.80	4876.73

Table 1 - Groundwater Elevation Data
City of Longmont - Groundwater Quality Monitoring
Project Number 22227013

Well ID	Top of Casing Elevation[1]	Date Measured	Total Depth[2]	Depth to Groundwater[2]	Groundwater Elevation[3]
Evans #6 Tank Battery					
E6T-MW01	4879.08	3/22/2013	16.95	8.01	4871.07
		10/23/2013		8.16	4870.92
		7/28/2014		8.93	4870.15
		3/31/2015		9.75	4869.33
		6/22/2016		9.43	4869.65
		5/25/2017		10.25	4868.83
		6/28/2018		14.67	4864.41
		6/6/2019		10.01	4869.07
		6/4/2020		3.50	4875.58
		6/17/2021		9.65	4869.43
		4/21/2022		11.00	4868.08
E6T-MW02	4877.68	3/22/2013	12.84	6.40	4871.28
		10/23/2013		7.47	4870.21
		7/28/2014		8.54	4869.14
		3/31/2015		8.84	4868.84
		6/22/2016		8.55	4869.13
		5/25/2017		7.92	4869.76
		6/28/2018		12.87	4864.81
		6/6/2019		7.96	4869.72
		6/4/2020		4.66	4873.02
		6/17/2021		8.50	4869.18
		4/21/2022		8.65	4869.03
E6T-MW03	4878.03	3/22/2013	12.30	6.61	4871.42
		10/23/2013		7.62	4870.41
		7/28/2014		8.44	4869.59
		3/31/2015		8.62	4869.41
		6/22/2016		8.75	4869.28
		5/25/2017		7.83	4870.20
		6/28/2018		12.25	4865.78
		6/6/2019		7.95	4870.08
		6/4/2020		3.80	4874.23
		6/17/2021		9.65	4868.38
		4/21/2022		8.32	4869.71
Longmont #8-10K Wellhead					
LM8-MW01	4868.80	3/22/2013	18.60	3.64	4865.16
		7/28/2014		NR	
		3/31/2015		Dry	
		6/22/2016		Dry	
		5/23/2017		NR	
		6/5/2019		11.18	4857.62
		6/4/2020		9.66	4859.14
		6/23/2021		10.92	4857.88
		4/21/2022		12.02	4856.78
LM8-MW02	4869.03	3/22/2013	18.90	4.32	4864.71
		7/28/2014		NR	
		3/31/2015		Dry	
		6/22/2016		Dry	
		5/23/2017		NR	
		6/5/2019		11.30	4857.73
		6/4/2020		10.75	4858.28
		6/23/2021		11.11	4857.92
		4/21/2022		12.22	4856.81
LM8-MW03	4869.11	3/22/2013	18.70	3.21	4865.90
		7/28/2014		NR	
		3/31/2015		Dry	
		6/22/2016		Dry	
		5/23/2017		NR	
		6/5/2019		11.38	4857.73
		6/4/2020		10.90	4858.21
		6/23/2021		11.20	4857.91
		4/21/2022		12.28	4856.83
Domenico #1 Wellsite					
DM1-MW01	4857.64	3/19/2013	11.44	7.41	4850.23
		7/29/2014		6.11	4851.53
		3/31/2015		6.33	4851.31
		6/24/2016		5.48	4852.16
		5/23/2017		5.52	4852.12
		6/29/2018		6.41	4851.23
		6/3/2019		6.82	4850.82
		6/8/2020		6.66	4850.98
		6/17/2021		6.10	4851.54
		4/22/2022		7.10	4850.54
DM1-MW02	4854.17	3/19/2013	12.70	3.97	4850.20
		7/29/2014		3.18	4850.99
		4/1/2015		3.45	4850.72
		6/24/2016		2.34	4851.83
		5/23/2017		2.35	4851.82
		6/29/2018		3.33	4850.84
		6/3/2019		3.50	4850.67
		6/8/2020		3.40	4850.77
		6/17/2021		3.00	4851.17
		4/22/2022		4.00	4850.17
DM1-MW03	4855.27	3/19/2013	12.82	5.15	4850.12
		7/29/2014		9.05	4846.22
		4/1/2015		3.99	4851.28
		6/24/2016		3.34	4851.93
		5/23/2017		3.50	4851.77
		6/29/2018		4.06	4851.21
		6/3/2019		3.61	4851.66
		6/8/2020		4.27	4851.00
		6/17/2021		3.78	4851.49
		4/22/2022		4.70	4850.57

Table 1 - Groundwater Elevation Data
City of Longmont - Groundwater Quality Monitoring
Project Number 22227013

Well ID	Top of Casing Elevation[1]	Date Measured	Total Depth[2]	Depth to Groundwater[2]	Groundwater Elevation[3]
Stamp 31-2C Wellsite					
S31-MW01	No Survey Information Available	3/7/2022	17.00	9.78	No Survey Information Available
S31-MW02		3/7/2022	17.00	10.45	
S31-MW03		3/7/2022	17.00	10.23	
S31-MW04		3/7/2022	16.00	11.50	
S31-MW05		3/7/2022	16.50	15.68	
S31-MW06		3/7/2022	16.00	9.48	
Stamp #1 Wellsite					
ST1-MW02	No Survey Information Available	7/7/2021	15.00	4.12	No Survey Information Available
		4/25/2022		7.90	
ST1-MW03		7/7/2021	15.40	3.40	
		4/25/2022		7.48	
ST1-MW05		7/7/2021	15.40	4.55	
		4/25/2022		7.95	
Rider #1 Wellsite					
RD1-MW01	No Survey Information Available	4/27/2022	19.88	12.93	No Survey Information Available
RD1-MW02		4/27/2022	20.25	12.32	
RD1-MW03R		4/27/2022	20.60	13.65	
Tabor #1 Wellsite					
TB1-MW01	No Survey Information Available	5/16/2019	27.85	18.02	No Survey Information Available
		6/3/2020	Not Located / Destroyed		
		6/16/2021			
		4/19/2022	23.40	13.78	
TB1-MW02		5/16/2019	27.22	17.93	
		6/3/2020	Not Located / Destroyed		
		6/16/2021	23.00	15.40	
		4/19/2022		15.85	
TB1-MW03R		5/16/2019	Not Located / Destroyed		
		6/3/2020			
		6/16/2021	23.60	15.68	
		4/19/2022		16.18	
Tabor #7 Wellsite					
TB7-MW01	No Survey Information Available	5/16/2019	17.90	17.00	No Survey Information Available
		6/3/2020		15.90	
		6/16/2021		14.90	
		4/18/2022		16.02	
TB7-MW02		5/16/2019	19.70	16.64	
		6/3/2020		15.80	
		6/16/2021		15.35	
		4/18/2022		16.47	
TB7-MW03		5/16/2019	19.40	16.00	
		6/3/2020		15.22	
		6/16/2021		15.48	
		4/18/2022		15.93	

Table 1 - Groundwater Elevation Data
City of Longmont - Groundwater Quality Monitoring
Project Number 22227013

Well ID	Top of Casing Elevation[1]	Date Measured	Total Depth[2]	Depth to Groundwater[2]	Groundwater Elevation[3]
Maruyama #1 Wellsite					
MY1-MW01	No Survey Information Available	5/16/2019	24.85	20.82	No Survey Information Available
		5/27/2020		20.50	
		6/15/2021		21.60	
		4/26/2022		21.92	
MY1-MW02		5/16/2019	24.72	21.20	
		5/27/2020		20.18	
		6/15/2021		21.25	
		4/26/2022		21.65	
MY1-MW03		5/16/2019	24.55	21.41	
		5/27/2020		20.90	
		6/15/2021		21.80	
		4/26/2022		22.35	
Wertman #1 Wellsite					
WT1-MW01	No Survey Information Available	5/16/2019	16.38	13.65	No Survey Information Available
		5/28/2020		12.92	
		6/28/2021		12.72	
		4/18/2022		13.57	
WT1-MW02		5/16/2019	17.18	14.37	
		5/28/2020		13.64	
		6/28/2021		13.45	
		4/18/2022		14.30	
WT1-MW03		5/16/2019	17.16	13.48	
		5/28/2020		12.78	
		6/28/2021		12.62	
		4/18/2022		13.42	
WT1-MW04		5/16/2019	Not Located / Destroyed		
		5/28/2020			
George Mayeda #1 Wellsite					
GM1-MW01	No Survey Information Available	6/3/2019	14.50	11.45	No Survey Information Available
		5/26/2020		9.85	
		6/21/2021		10.62	
		4/26/2022		12.10	
GM1-MW02		6/3/2019	13.55	10.82	
		5/28/2020		8.90	
		6/21/2021		9.98	
		4/26/2022		11.48	
GM1-MW03		6/3/2019	14.40	11.20	
		5/28/2020		9.58	
		6/21/2021		10.50	
		4/26/2022		11.64	
Mary #2 Wellsite					
MR2-MW01	No Survey Information Available	5/15/2019	24.64	14.45	No Survey Information Available
		5/27/2020		12.92	
		6/15/2021		11.80	
		4/20/2022		13.95	
MR2-MW02		5/15/2019	24.39	16.75	
		5/27/2020		14.85	
		6/15/2021		12.78	
		4/18/2022		15.40	
MR2-MW03		5/15/2019	24.54	17.55	
		5/27/2020		15.64	
		6/15/2021		13.62	
		4/18/2022		15.83	

[1] All survey information is in Datum: NAD 83, Colorado North Zone NAVD 88

[2] Depth to groundwater is mesured in feet below top of casing

[3] Elevation in feet above mean sea level

[4/5] Wells were observed to be destroyed. Unable to measure depths to water.

[6] Filled with sediment. No water present.

NR - No Reading. Wells were not part of sampling program.

Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 22227013

			Volatile Organic Compounds					Other Organic Compounds				Inorganic Parameters															General Parameters		
Parameter			Benzene	Ethylbenzene	Naphthalene	Toluene	Xylenes (Total)	Methane	Ethane	Carbon Dioxide	Ethene	Calcium, Dissolved	Iron, Dissolved	Magnesium, Dissolved	Potassium, Dissolved	Sodium, Dissolved	Strontium	Alkalinity, Carbonate (CaCO3)	Alkalinity, Bicarbonate (CaCO3)	Alkalinity, Total as CaCO3	Bromide	Chloride	Nitrogen as Nitrate	Nitrogen as Nitrite	Nitrogen as Nitrate and Nitrite	Sulfate	Sulfide, Total	Specific Conductance	Total Dissolved Solids (TDS)	pH
CAS #			71-43-2	100-41-4	91-20-3	108-88-3	1330-20-7	74-82-8	74-84-0		74-85-1	7440-70-2	7439-89-6	7439-95-4	7440-09-7	7440-23-5	7440-24-6				24959-67-9	16887-00-6				14808-79-8	18496-25-8			
COGCC Table 910-1[3]			0.005	0.7	—	0.56	1.4	—	---	—	—	---	---	—	—	---	—	—	---	—	—	49.38	—	---	---	430.63	–	—	—	–
			---	---	—	1[M]	10[M]	—	---	—	—	---	---	—	—	---	—	—	---	—	—	---	—	—	---	—	---	—	—	---
CDPHE Basic Standards for Groundwater			0.005	0.7	0.14	0.56	1.4	—	---	—	—	–	0.3	—	—	---	—	—	---	—	—	250	10	1	10	250	---	—	400-No Limit	6.5 - 8.5
Detection Level			0.001	0.001	0.005	0.001	0.003	0.0066	0.0062	20	0.0062		0.05					20	20	20	1		0.1	0.5	0.1		0.05	200		
Units			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	umhos/cm	mg/L	Std. Units
Wellsite	Sample ID	Date	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylenes (Total)	Methane	Ethane	Carbon Dioxide	Ethene	Calcium, Dissolved	Iron, Dissolved	Magnesium, Dissolved	Potassium, Dissolved	Sodium, Dissolved	Strontium	Alkalinity, Carbonate (CaCO3)	Alkalinity, Bicarbonate (CaCO3)	Alkalinity, Total as CaCO3	Bromide	Chloride	Nitrogen as Nitrate	Nitrogen as Nitrite	Nitrogen as Nitrate and Nitrite	Sulfate	Sulfide, Total	Specific Conductance	Total Dissolved Solids (TDS)	pH
Sherwood #1 Wellhead	SH1-MW01	3/18/2013	ND	ND	--	ND	ND	ND	ND	–	ND	92	ND	110	2.57	118	5.91	ND	345	345	ND	37.5	8.30	ND	8.40	486	ND	1590	–	7.60
		10/23/2013	ND	ND	--	ND	ND	ND	ND	–	ND	83	ND	107	1.63	110	4.56	ND	388	388	1.20	35.7	8.60	ND	8.60	415	ND	1450	–	7.00
		3/30/2015	ND	ND	--	ND	ND	ND	ND	–	ND	98	ND	137	1.43	152	2.92	ND	422	422	1.80	50.6	11.2	ND	11.2	621	–	1923	–	7.52
		6/27/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	121	ND*	160	2.11	183	2.83	ND	450	450	1.13	63.9	15.4	ND	15.4	679	–	–	–	–
		6/10/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	116	ND*	147	2.00	152	3.46	ND	408	408	ND	59.9	8.4	ND	15.4	625	–	1738	–	7.71
		5/28/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	65.1	--	–	–	723	–	2053	1310	6.92
		12/14/2021	ND	ND	--	ND	ND	ND	ND	31.7	ND	–	–	–	–	–	–	–	–	--	–	69.5	--	–	–	894	–	2581	1890	7.10
		4/5/2022	ND	ND	--	ND	ND	ND	ND	26.1	ND	–	–	–	–	–	–	–	–	--	–	74.5	--	–	–	862	–	2464	1710	8.03
	SH1-MW02	3/18/2013	ND	ND	--	ND	ND	0.0091	ND	–	ND	101	ND	99.7	3.06	117	3.47	ND	365	365	ND	37.5	7.90	ND	8.00	431	ND	1570	–	7.50
		10/23/2013	ND	ND	--	ND	ND	ND	ND	–	ND	91	ND	96.4	1.85	111	2.74	ND	388	388	1.20	45.2	10.6	ND*	10.6	428	ND	1500	–	7.00
		3/30/2015	ND	ND	--	ND	ND	ND	ND	–	ND	93	ND	122	1.37	139	2.38	ND	393	393	1.50	44.4	10.5	ND	10.5	545	–	1730	–	7.58
		6/21/2016	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	125	ND*	126	2.16	143	3.43	ND	401	401	ND	55.3	9.76	ND*	9.76	592	–	1878	–	7.30
		5/23/2017	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	168	ND*	195	2.57	194	3.80	ND	418	418	ND	72.8	15.00	ND	15.00	930	–	2472	–	7.37
		6/27/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	133	ND*	145	2.17	169	2.79	ND	436	436	ND	67.1	16.60	ND	16.60	646	–	–	–	–
		6/10/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	136	ND*	151	2.10	158	2.75	ND	413	413	ND	62.5	11.70	ND	11.70	678	–	1791	–	7.40
		5/28/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	66.9	--	–	–	840	–	2145	1510	6.78
		12/14/2021	ND	ND	--	ND	ND	ND	ND	27.9	ND	–	–	–	–	–	–	–	–	--	–	71.9	--	–	–	835	–	2345	1720	7.00
		4/5/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	74.6	--	–	–	859	–	2845	1840	8.03
	SH1-MW03	3/18/2013	ND	ND	--	ND*	ND	ND	ND	–	ND	93	ND	107	2.26	115	2.83	ND	349	349	ND	36.6	5.70	ND	5.80	452	ND	1600	–	7.60
		10/23/2013	ND	ND	--	ND	ND	ND	ND	–	ND	84	ND	106	1.68	107	2.51	ND	370	370	1.10	35.8	7.80	ND	7.80	425	ND	1440	–	7.00
		3/30/2015	ND	ND	--	ND	ND	ND	ND	–	ND	92	ND	126	1.42	136	2.54	ND	376	376	1.40	43.9	9.80	ND	9.80	568	–	1788	–	7.56
		6/27/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	131	ND*	161	2.20	179	3.01	ND	436	436	ND	68.5	14.60	ND	14.60	725	–	–	–	–
		6/10/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	128	ND*	162	2.02	154	2.88	ND	383	383	ND	62.3	6.32	ND	6.32	712	–	1754	–	7.73
		5/28/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	66.3	--	–	–	893	–	2209	1450	6.54
		12/14/2021	ND	ND	--	ND	ND	ND	ND	25.5	ND	–	–	–	–	–	–	–	–	--	–	71.0	--	–	–	836	–	2333	1710	6.90
		4/5/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	74.5	--	–	–	839	–	2469	1820	7.96
Sherwood #2 Wellhead	SH2-MW01	3/18/2013	ND	ND	--	ND	ND	ND	ND	–	ND	189	ND	121	3.86	102	3.44	ND	345	345	ND	40.2	11.4	0.63	12.0	799	–	1940	–	7.50
		3/30/2015	ND	ND	--	ND	ND	ND	ND	–	ND	169	ND	107	1.21	108	3.72	ND	386	386	ND	33.6	11.0	ND	11.0	712	–	1935	–	7.47
		6/21/2016	ND	ND	--	ND	ND	ND*	ND*	–	ND*	186	ND	107	1.91	108	3.26	ND	371	371	ND	41.5	16.3	ND*	16.3	613	–	1853	–	7.30
		5/23/2017	ND	ND	--	ND	ND	ND*	ND*	–	ND*	250	ND	135	2.56	116	3.65	ND	291	291	ND	52.7	11.3	ND*	11.3	836	–	2195	–	7.40
		6/27/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	234	ND*	131	2.07	122	3.89	ND	349	349	ND	52.6	6.0	ND*	6.0	899	–	–	–	–
		6/17/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	240	0.10	140	2.04	110	4.42	ND	390	390	1.52	26.4	8.2	ND*	8.2	640	–	2170	–	7.49
		6/5/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	55.9	--	–	–	977	–	2385	1930	--
		12/14/2021	ND	ND	--	ND	ND	ND	ND	22.5	ND	–	–	–	–	–	–	–	–	--	–	50.2	--	–	–	865	–	2200	1690	6.80
		4/5/2022	ND	ND	--	ND	ND	ND	ND	23.5	ND	–	–	–	–	–	–	–	–	--	–	54.4	--	–	–	870	–	2230	1620	8.20
	SH2-MW02	3/18/2013	ND	ND	--	ND	ND	ND	ND	–	ND	225	ND	121	5.72	111	3.87	ND	315	315	ND	43.8	13.6	ND	13.8	824	ND	2060	–	7.40
		3/30/2015	ND	ND	--	ND	ND	ND	ND	–	ND	183	ND	105	3.61	110	4.18	ND	367	367	ND	37.8	11.8	ND	11.8	749	–	2029	–	7.43
		6/21/2016	ND	ND	--	ND	ND	ND*	ND*	–	ND*	208	ND*	108	4.36	107	3.71	ND	377	377	ND	41.8	15.5	ND*	15.5	654	–	1918	–	7.40
		5/23/2017	ND	ND	--	ND	ND	ND*	ND*	–	ND*	233	ND*	129	3.87	115	3.64	ND	210	210	ND	47.1	8.13	ND*	8.13	824	–	2056	–	7.41
		6/27/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	236	ND*	129	3.76	121	4.02	ND	351	351	ND	51.8	5.98	ND*	5.98	904	–	–	–	–
		6/17/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	247	ND*	129	4.27	113	4.72	ND	410	410	1.48	26.4	8.84	ND*	5.98	682	–	2170	–	7.54
		6/5/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	58.1	--	–	–	983	–	2420	1900	--
		12/14/2021	ND	ND	--	ND	ND	ND	ND	33.0	ND	–	–	–	–	–	–	–	–	--	–	58.8	--	–	–	1,060	–	2447	1900	6.90
		4/5/2022	ND	ND	--	ND	ND	ND	ND	25.2	ND	–	–	–	–	–	–	–	–	--	–	56.1	--	–	–	978	–	2381	1800	7.53
	SH2-MW03	3/18/2013	ND	ND	--	ND	ND	ND	ND	–	ND	220	ND	115	4.69	104	4.52	ND	324	324	ND	44.8	13	ND	13.1	847	ND	2080	–	7.40
		3/30/2015	ND	ND	--	ND	ND	ND	ND	–	ND	192	ND	93.9	5.74	109	4.46	ND	367	367	ND	37.6	11.4	ND	11.4	802	–	2007	–	7.36
		6/21/2016	ND	ND	--	ND	ND	ND*	ND*	–	ND*	212	ND*	97.2	7.09	105	3.85	ND	371	371	ND	41.5	16.9	ND	16.9	624	–	1905	–	7.30
		5/23/2017	ND	ND	--	ND	ND	ND*	ND*	–	ND*	282	ND*	116	11.7	119	4.3	ND	295	295	ND	56.3	11.5	ND	11.5	833	–	2198	–	7.23
		6/27/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	258	ND*	123	7.91	128	4.51	ND	349	349	ND	54.8	7.32	ND*	7.32	944	–	–	–	–
		6/17/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	246	0.022	115	7.1	115	4.91	ND	410	410	71.8	0.5	9.88	ND*	7.32	944	–	2165	–	7.45
		6/5/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	62.7	--	–	–	995	–	2400	2000	--
City of Longmont #1 Wellhead	CL1-MW01	3/20/2013	ND	ND	--	ND	ND	ND	ND	–	ND	81	ND	72.2	2.83	61.7	2.38	ND	377	377	ND	34.1	13.9	ND	13.9	182	ND	1160	–	7.90
		3/30/2015	ND	ND	--	ND	ND	ND	ND	–	ND	92	ND	85.5	1.45	91.8	2.53	ND	427	427	1.4	43.5	16.7	ND*	16.7	254	–	1390	–	7.51
		6/21/2016	ND	ND	--	ND	ND	ND*	ND*	–	ND*	104	ND	83	1.94	91	2.77	ND	393	393	ND	42.7	12.2	ND	12.2	247	–	1410	–	7.60
		6/27/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	83	ND	66	1.71	69.1	1.86	ND	355	355	ND	34.9	8.14	ND	8.14	140	–	–	–	–
		6/17/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	83	ND	71.1	1.6	65.7	2.53	ND	450	450	1.52	16.2	10.5	ND	10.5	217	–	1147	–	7.61
		6/2/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	49.3	--	–	–	302	–	1481	983	4.37
		6/15/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	44.2	--	–	–	316	–	1476	976	7.50
		4/5/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	43.0	--	–	–	248	–	1336	917	8.40
	CL1-MW02	3/20/2013	ND	ND	--	ND	ND	ND	ND	–	ND	77	ND	67.4	2.1	60.4	4.26	ND	354	354	ND	32.7	2.6	ND	2.6	171	ND	1090	–	7.90
		3/30/2015	ND	ND	--	ND	ND	ND	ND	–	ND	77	ND	67.4	2.1	60.4	4.26	ND	354	354	ND	32.7	2.6	ND	2.6	171	ND	1090	–	7.90
		6/22/2016	ND	ND	--	ND	ND	ND*	ND*	–	ND*	102	ND	85.5	1.98	93.3	3.22	ND	372	372	ND	46.7	13	ND	13	246	–	1402	–	7.30
		5/23/2017	ND	ND	--	ND	ND	ND*	ND*	–	ND*	97	ND	77.2	1.91	89.5	2.24	ND	416	416	ND	44.7	9.75	ND	9.75	209	–	1261	–	7.19
		6/27/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	80	ND*	62.9	1.76	76.9	1.81	ND	352	352	ND	36.4	9.1	ND	9.1	144	–	–	–	–
		6/17/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	89	0.014	73	1.81	70.1	2.46	ND	450	450	1.51	18.2	10.6	ND	10.6	216	–	1132	–	7.66
		6/2/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	47.4	--	–	–	266	–	1388	935	--
		6/15/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	46.8	--	–	–	345	–	1534	1020	7.60
		4/5/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	44.9	--	–	–	249	–	1341	911	8.38
	CL1-MW03	3/21/2013	ND	ND	--	ND	ND	ND	ND	–	ND	86	ND	75.1	2.83	63.6	3.45	ND	389	389	ND	35.3	14.8	ND	14.9	189	ND	1130	–	7.70
		3/30/2015	ND	ND	--	ND	ND	ND	ND	–	ND	86	ND	75.1	2.83	63.6	3.45	ND	389	389	ND	35.3	14.8	ND	14.9	189	ND	1130	–	7.70
		6/21/2016	ND	ND	--	ND	ND	ND*	ND*	–	ND*	105	ND	82.9	1.91	94.7	2.41	ND	380	380	ND	45.7	13.3	ND	13.3	254	–	1394	–	7.40
		5/23/2017	ND	ND	--	ND	ND	ND*	ND*	–	ND*	90	ND	70.2	1.89	86.4	2.01	ND	381	381	ND	44.4	13.1	ND	13.1	163	–	1175	–	7.43
		6/27/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	80	ND*	67.6	1.73	73.6	1.94	ND	353	353	ND	35.2	7.57	ND	7.57	149	–	–	–	–
		6/17/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	84	0.129	73.4	1.85	74.9	2.32	ND	440	440	1.51	14.4	10.5	ND	10.5	210	–	1125	–	7.65
		6/2/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	46.4	--	–	–	260	–	1672	948	--
		6/28/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	45.9	--	–	–	337	–	1672	986	7.60
		4/5/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	43.7	--	–	–	284	–	1432	785	8.46

Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 22227013

			Volatile Organic Compounds					Other Organic Compounds				Inorganic Parameters																General Parameters		
Parameter			Benzene	Ethylbenzene	Naphthalene	Toluene	Xylenes (Total)	Methane	Ethane	Carbon Dioxide	Ethene	Calcium, Dissolved	Iron, Dissolved	Magnesium, Dissolved	Potassium, Dissolved	Sodium, Dissolved	Strontium	Alkalinity, Carbonate (CaCO3)	Alkalinity, Bicarbonate (CaCO3)	Alkalinity, Total as CaCO3	Bromide	Chloride	Nitrogen as Nitrate	Nitrogen as Nitrite	Nitrogen as Nitrate and Nitrite	Sulfate	Sulfide, Total	Specific Conductance	Total Dissolved Solids (TDS)	pH
CAS #			71-43-2	100-41-4	91-20-3	108-88-3	1330-20-7	74-82-8	74-84-0		74-85-1	7440-70-2	7439-89-6	7439-95-4	7440-09-7	7440-23-5	7440-24-6				24959-67-9	16887-00-6				14808-79-8	18496-25-8			
COGCC Table 910-1[3]			0.005	0.7	—	0.56	1.4	—	---	—	—	---	---	—	—	---	—	—	---	—	—	49.38	—	---	---	430.63	–	—	—	–
			---	---	—	1[M]	10[M]	—	---	—	—	---	---	—	—	---	—	—	---	—	—	---	—	—	---	—	---	—	—	–
CDPHE Basic Standards for Groundwater			0.005	0.7	0.14	0.56	1.4	—	---	—	—	–	0.3	—	—	---	—	—	---	—	—	250	10	1	10	250	---	—	400-No Limit	6.5 - 8.5
Detection Level			0.001	0.001	0.005	0.001	0.003	0.0066	0.0062	20	0.0062		0.05					20	20	20	1		0.1	0.5	0.1		0.05	200		
Units			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	umhos/cm	mg/L	Std. Units
Serafin Gas Unit	SGU-MW01	3/21/2013	ND	ND	--	ND	ND	ND	ND	–	ND	81	ND	53.7	3.59	67.2	2.96	ND	328	328	ND	29.8	5.9	ND	5.9	191	ND	1060	–	7.80
		10/22/2013	ND	ND	--	ND	ND	ND	ND	–	ND	77	0.208	54.7	2.88	62.5	2.32	ND	345	345	ND	30.3	7.4	ND	7.4	292	ND	1190	–	7.30
		3/30/2015	ND	ND	--	ND	ND	ND	ND	–	ND	98	ND	63.8	2.46	76.8	2.77	ND	392	392	ND	32.8	8.4	ND	8.4	263	–	1322	–	7.51
		6/21/2016	ND	ND	--	ND	ND	ND*	ND*	–	ND*	109	ND	61.9	2.67	69.9	2.02	ND	364	364	ND	37.8	7.37	ND	7.37	205	–	1170	–	7.50
		5/23/2017	ND	ND	--	ND	ND	ND*	ND*	–	ND*	118	ND	65.2	3.03	72	1.86	ND	400	400	ND	39.3	7.39	ND	7.39	192	–	1201	–	7.33
		6/28/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	108	ND	57.9	2.59	73.8	1.65	ND	348	348	ND	35.3	10	ND	10	186	–	–	–	–
		6/10/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	39.1	--	–	–	176	–	1093	496	7.50
		6/21/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	39.3	--	–	–	182	–	1213	768	7.50
		4/6/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	42.5	--	–	–	208	–	1192	749	7.95
	SGU-MW02	3/21/2013	ND	ND	--	ND	ND	0.0087	ND	–	ND	93	ND	57.8	3.39	78.6	1.72	ND	359	359	ND	34.2	7.2	ND	7.3	228	ND	1100	–	7.90
		10/22/2013	ND	ND	--	ND	ND	ND	ND	–	ND	89	0.381	54.5	2.63	53.3	3.12	ND	364	364	ND	33.2	8.4	ND	8.4	243	ND	1150	–	7.30
		3/30/2015	ND	ND	--	ND	ND	ND	ND	–	ND	98	ND	63.7	2.23	59.3	2.31	ND	420	420	ND	31.9	8	ND	8	258	–	1135	–	7.59
		6/21/2016	0.0589	ND	--	ND	ND	0.238	0.0159	–	ND*	110	ND	63.5	2.98	158	2.82	ND	401	401	ND	119	6.42	ND	6.42	201	–	1654	–	7.30
		5/23/2017	0.0353	ND	--	ND	ND	0.0884	ND*	–	ND*	142	ND	79.7	10.8	271	4.16	ND	482	482	3.29	438	1.37	ND	1.37	223	–	NS	–	NS
		6/28/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	132	ND	70.1	3.39	105	2.1	ND	369	369	ND	58	12.4	ND	12.4	295	–	–	–	–
		6/10/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	37.5	--	–	–	156	–	1070	649	7.30
		6/21/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	60.2	--	–	–	211	–	1299	835	7.60
		4/6/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	45.1	--	–	–	188	–	1160	784	8.16
	SGU-MW03	3/21/2013	ND	ND	--		ND	ND	ND	–	ND	88	ND	49	3.94	47.7	4.07	ND	632	632	ND	28.3	4.4	ND	4.4	152	ND	917	–	7.60
		10/22/2013	ND	ND	--	ND	ND	ND	ND	–	ND	96	0.076	50.5	1.91	50.3	2.47	ND	365	365	ND	34.5	10.1	ND*	10.1	252	ND	1160	–	7.30
		3/30/2015	ND	ND	--	ND	ND	ND	ND	–	ND	112	ND	59.1	1.74	64	2.83	ND	416	416	ND	33.9	8.6	ND*	8.6	259	ND	1139	–	7.57
		6/21/2016	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	142	ND	67.4	2.22	69.2	2.33	ND	375	375	ND	43.7	9.91	ND	9.91	261	–	1346	–	7.40
		5/23/2017	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	137	ND	67	2.54	64.5	2.1	ND	434	434	ND	41.8	9.15	ND	9.15	220	–	1238	–	7.13
		6/28/2018	ND	ND	--	ND	ND	0.0261	ND*	–	ND*	133	ND	82.6	4.22	115	2.32	ND	422	422	ND	60.2	12.80	ND	12.80	298	–	–	–	–
		6/10/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	46.1	--	–	–	222	–	1214	785	7.40
		6/21/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	56.9	--	–	–	272	–	1390	917	7.60
		4/6/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	44.7	--	–	–	222	–	1231	767	7.92
	SGU-MW04	6/28/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	127	ND	58	1.95	67.9	1.84	ND	351	351	ND	36.1	11.10	ND	11.10	234	–	–	–	–
	SGU-MW05	6/28/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	148	ND	60.7	3.87	72.4	2.11	ND	392	392	ND	39.9	7.63	ND	7.63	273	–	–	–	–
	SGU-MW06	6/10/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	41.5	--	–	–	208	–	1232	725	7.30
		6/21/2021	ND	ND	--	ND	ND	ND	ND	29.7	ND	–	–	–	–	–	–	–	–	--	–	50.1	--	–	–	265	–	1466	928	7.40
		4/6/2022	ND	ND	--	ND	ND	ND	ND	29.7	ND	–	–	–	–	–	–	–	–	--	–	48.6	--	–	–	229	–	1223	776	8.02
	SGU-MW07	6/10/2020	ND	ND	--	ND	ND	0.0224	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	41.9	--	–	–	61	–	870	327	7.30
		6/21/2021	ND	ND	--	ND	ND	0.0247	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	37.9	--	–	–	80	–	1027	474	7.40
Powell #1 Wellhead	PL1-MW01	3/20/2013	ND	ND	--	ND	ND	ND	ND	–	ND	95	ND	73.2	2.28	65.3	1.82	ND	295	295	ND	31.8	5.9	ND	5.9	369	ND	1280	–	7.90
		3/31/2015	ND	ND	--	ND	ND	ND	ND	–	ND	92	ND	71.8	1.25	63.5	1.78	ND	259	259	ND	38.9	10	ND	10	427	–	1315	–	7.10
		6/22/2016	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	284	ND	195	2.25	114	4.88	ND	198	198	ND	86.0	11.2	ND	11.2	1,270	–	2583	–	6.98
		5/23/2017	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	104	ND	75.1	1.64	89.9	1.64	ND	235	235	ND	33.8	9.36	ND	9.36	370	–	1261	–	7.28
		6/27/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	101	ND*	74.9	1.66	97.2	1.74	ND	215	215	ND	35.4	5.94	ND	5.94	457	–	–	–	–
		6/10/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	107	ND	75.6	1.53	68.6	1.79	ND	273	273	ND	34.4	5.88	ND	5.88	337	–	1123	–	7.61
		5/28/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	36.6	--	–	–	375	–	1272	866	6.95
		6/15/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	38.6	--	–	–	491	–	1550	1090	6.90
		4/21/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	40.6	--	–	–	655	–	1755	1180	8.13
	PL1-MW02	3/20/2013	ND	ND	--	ND	ND	ND	ND	–	ND	106	ND	75.9	2.33	115	1.83	ND	311	311	ND	32.8	ND	ND	ND	484	ND	1480	–	7.40
		3/31/2015	ND	ND	--	ND	ND	ND	ND	–	ND	129	0.393	95.9	2.25	119	2.12	ND	318	318	1.1	39.6	ND	ND	ND	633	–	1707	–	7.19
		6/22/2016	ND	ND	--	ND*	ND	0.012	ND*	–	ND*	131	ND	91.1	2.53	134	2.12	ND	304	304	ND	36.7	ND	ND	ND	616	–	1638	–	7.20
		5/23/2017	ND	ND	--	ND*	ND	0.0231	ND*	–	ND*	143	ND	97.9	2.63	165	1.92	ND	321	321	ND	39.7	ND	ND	ND	688	–	2021	–	7.19
		6/27/2018	ND	ND	--	ND	ND	0.036	ND*	–	ND*	128	ND*	88.9	2.54	170	1.89	ND	321	321	ND	36.7	ND	ND	ND	670	–	–	–	–
		6/10/2019	ND	ND	--	ND	ND	0.036	ND*	–	ND*	119	ND*	82.1	2.23	149	1.8	ND	302	302	ND	36.1	ND	ND	ND	555	–	1511	–	7.46
		5/28/2020	ND	ND	--	ND	ND	0.0204	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	38.2	--	–	–	563	–	1659	1110	6.74
		6/15/2021	ND	ND	--	ND	ND	0.0441	ND	21.8	ND	–	–	–	–	–	–	–	–	--	–	36.8	--	–	–	584	–	1579	1110	6.80
		4/21/2022	ND	ND	--	ND	ND	ND	ND	24.2	ND	–	–	–	–	–	–	–	–	--	–	38.9	--	–	–	541	–	1798	1090	7.42
	PL1-MW03	3/19/2013	ND	ND	--	ND	ND	ND	ND	–	ND	86	ND	63	3.02	58.6	1.9	ND	296	296	ND	32.3	0.58	ND	0.57	265	ND	1090	–	7.40
		6/27/2018	ND	ND	--	ND	ND	0.1	ND*	–	ND*	66	ND	47.9	3.4	77	1.07	ND	256	256	ND	35.0	0.503	ND	0.503	212	–	–	–	–
		6/10/2019	ND	ND	--	ND	ND	0.404	ND	–	ND	93	ND	60.4	2.63	71.9	1.56	ND	250	250	ND	39.6	ND	ND	ND	295	–	1022	–	7.56
		5/28/2020	ND	ND	--	ND	ND	0.0169	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	34.3	--	–	–	292	–	1158	670	6.99
		6/15/2021	ND	ND	--	ND	ND	0.0489	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	66.8	--	–	–	383	–	1322	889	7.00
		4/21/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	36.3	--	–	–	181	–	984	582	8.67

Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 22227013

			Volatile Organic Compounds					Other Organic Compounds				Inorganic Parameters															General Parameters		
Parameter			Benzene	Ethylbenzene	Naphthalene	Toluene	Xylenes (Total)	Methane	Ethane	Carbon Dioxide	Ethene	Calcium, Dissolved	Iron, Dissolved	Magnesium, Dissolved	Potassium, Dissolved	Sodium, Dissolved	Strontium	Alkalinity, Carbonate (CaCO3)	Alkalinity, Bicarbonate (CaCO3)	Alkalinity, Total as CaCO3	Bromide	Chloride	Nitrogen as Nitrate	Nitrogen as Nitrite	Nitrogen as Nitrate and Nitrite	Sulfate	Sulfide, Total	Specific Conductance	Total Dissolved Solids (TDS)	pH
CAS #			71-43-2	100-41-4	91-20-3	108-88-3	1330-20-7	74-82-8	74-84-0		74-85-1	7440-70-2	7439-89-6	7439-95-4	7440-09-7	7440-23-5	7440-24-6				24959-67-9	16887-00-6				14808-79-8	18496-25-8			
COGCC Table 910-1[3]			0.005	0.7	---	0.56	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	49.38	---	---	---	430.63	---	---	---	---
			---	---	---	1[M]	10[M]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
CDPHE Basic Standards for Groundwater			0.005	0.7	0.14	0.56	1.4	---	---	---	---	---	0.3	---	---	---	---	---	---	---	---	250	10	1	10	250	---	---	400-No Limit	6.5 - 8.5
Detection Level			0.001	0.001	0.005	0.001	0.003	0.0066	0.0062	20	0.0062		0.05					20	20	20	1		0.1	0.5	0.1		0.05		200	
Units			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	umhos/cm	mg/L	Std. Units
Evans #6 Wellhead	E6W-MW01	3/22/2013	ND	ND	--	ND	ND	ND	ND	–	ND	183	ND	126	6.52	157	4.04	ND	307	307	ND	32.7	0.44	ND	0.44	987	ND	2070	–	7.60
		10/23/2013	ND	ND	--	ND	ND	ND	ND	–	ND	281	ND	182	7.58	236	5.52	ND	381	381	ND	72.2	5.0	ND	5.0	1,710	ND	4960	–	6.00
		7/28/2014	ND	ND	--	ND	ND	ND	ND	–	ND	206	ND	133	6.41	181	4.19	ND	326	326	ND	50.0	0.84	ND	0.84	1,130	–	2074	–	7.20
		03/31/2015	ND	ND	--	ND	ND	ND	ND	–	ND	207	ND	136	4.36	172	4.29	ND	351	351	ND	42.9	0.83	ND	0.83	1,090	–	2397	–	7.27
		6/22/2016	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	187	ND	115	4.59	164	4.06	ND	268	268	ND	42.6	0.351	ND	0.351	915	–	2090	–	7.20
		5/25/2017	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	332	ND	187	5.64	222	5.25	ND	305	305	ND	39.9	3.55	ND	3.55	1,580	–	2944	–	6.74
		6/28/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	188	ND	108	4.25	171	3.39	ND	269	269	ND	35.9	ND	ND	ND	875	–	–	–	–
		6/6/2019	ND	ND	--	ND	ND	ND	ND	ND	ND	207	ND	119	4.25	172	3.5	ND	312	312	ND	31.8	1.65	ND	1.65	955	–	2026	2570	7.53
		6/3/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	38.6	--	–	–	735	–	3404	1290	7.50
		4/21/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	34.3	--	–	–	785	–	2020	1380	7.54
	E6W-MW02	3/22/2013	ND	ND	--	ND	ND	0.0278	ND	–	ND	207	ND	175	10.6	212	5.94	ND	312	321	1.5	34.4	ND	ND	ND	1,380	ND	2200	–	7.80
		10/23/2013	ND	ND	--	ND	ND	ND	ND	–	ND	329	ND	279	42.4	419	7.28	ND	426	426	1	110	14.5	ND*	14.5	2,630	ND	7000	–	6.00
		7/28/2014	ND	ND	--	ND	ND	ND	ND	–	ND	187	ND	139	22.7	189	4.48	ND	309	309	ND	38.4	2.6	ND	2.6	1,350	–	2358	–	7.27
		3/31/2015	ND	ND	--	ND	ND	ND	ND	–	ND	181	ND	150	15.3	188	4.02	ND	307	307	ND	35.4	0.58	ND	0.58	1,160	–	2472	–	7.47
		6/22/2016	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	226	ND	182	19.8	235	7.6	ND	304	304	ND	50.3	2.94	ND	2.94	1,430	–	2821	–	7.30
		5/25/2017	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	167	ND	130	7.94	179	4.03	ND	280	280	ND	38.7	0.685	ND	0.685	863	–	2076	–	7.27
		6/28/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	188	ND	142	9.41	192	3.61	ND	294	294	ND	35.0	0.312	ND	0.312	996	–	–	–	–
		6/6/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	194	ND	150	10.4	188	3.44	ND	277	277	ND	30.8	1.12	ND	1.12	1,120	–	2133	–	7.57
		6/3/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	93.0	--	–	–	2,820	–	4660	4500	–
		6/17/2021	ND	ND	--	ND	ND	ND	ND	20.9	ND	–	–	–	–	–	–	–	–	--	–	51.9	--	–	–	3,610	–	2729	2070	7.50
		4/21/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	34.4	--	–	–	888	–	2142	1590	7.72
	E6W-MW03	3/22/2013	ND	ND	--	ND	ND	0.0141	ND	–	ND	192	ND	150	9.22	184	5.73	ND	312	312	ND	31.1	0.11	ND	0.12	1,130	ND	2280	–	7.60
		10/23/2013	ND	ND	--	ND	ND	ND	ND	–	ND	363	ND	255	31.1	333	7.09	ND	367	367	ND	96.2	6.2	ND	6.2	2,420	ND	6320	–	6.00
		07/28/2014	ND	ND	--	ND	ND	ND	ND	–	ND	264	ND	167	13.1	217	5.34	ND	315	315	ND	52.4	1.9	ND	1.9	1,550	–	2635	–	7.15
		3/31/2015	ND	ND	--	ND	ND	ND	ND	–	ND	200	ND	133	8.49	178	4.02	ND	327	327	ND	40.8	1.4	ND	1.4	1,180	–	2481	–	7.34
		6/22/2016	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	262	ND	156	9.13	196	6.61	ND	325	325	ND	49.0	3.38	ND	3.38	1,280	–	2678	–	7.20
		5/25/2017	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	273	ND	166	9.72	210	4.37	ND	299	299	ND	36.9	1.98	ND	1.98	1,430	–	2696	–	7.09
		6/28/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	302	ND	165	6.94	217	4.98	ND	319	319	ND	37.8	0.725	ND	0.725	1,390	–	–	–	–
		6/6/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	250	ND	146	7.26	192	3.89	ND	298	298	ND	30.1	1.16	ND	1.16	1,200	–	2331	–	7.61
		6/3/2020	ND	ND	--	ND	ND	ND	ND	117	ND	–	–	–	–	–	–	–	–	--	–	188.0	--	–	–	7,080	–	9455	10400	–
		6/17/2021	ND	ND	--	ND	ND	ND	ND	21.3	ND	–	–	–	–	–	–	–	–	--	–	36.8	--	–	–	1,020	–	2427	1900	7.40
		4/21/2022	ND	ND	--	ND	ND	ND	ND	20.8	ND	–	–	–	–	–	–	–	–	--	–	35.7	--	–	–	990	–	2246	1620	7.64
Evans #6 Tank Battery	E6T-MW01	3/22/2013	ND	ND	--	ND	ND	ND	ND	–	ND	326	ND	285	12.1	593	6.14	ND	334	334	1.2	112	0.93	ND	0.93	3,060	ND	5030	–	7.80
		10/23/2013	ND	ND	--	ND	ND	ND	ND	–	ND	306	ND	256	6.61	666	4.03	ND	401	401	ND	111	ND	ND	ND	3,190	ND	8280	–	7.00
		7/28/2014	ND	ND	--	ND	ND	ND	ND	–	ND	280	ND	215	5.8	446	4.54	ND	340	340	ND	104	ND	ND	ND	2,810	–	4100	–	7.47
		3/31/2015	ND	ND	--	ND	ND	ND	ND	–	ND	258	ND	205	4.81	608	4.05	ND	324	324	ND	96.5	ND	ND	ND	2,590	–	4706	–	7.42
		6/22/2016	ND	ND	--	ND*	ND	0.0122	ND*	–	ND*	251	ND	168	5.15	587	4.85	ND	291	291	ND	86.1	ND	ND	ND	2,190	–	4225	–	7.46
		5/25/2017	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	217	ND	140	4.4	616	2.93	ND	277	277	ND	90.6	ND	ND	ND	1,930	–	3850	–	7.38
		6/28/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	193	ND*	121	3.91	595	2.65	ND	257	257	ND	84.9	ND	ND	ND	1,970	–	–	–	–
		6/6/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	174	ND	110	3.64	560	2.38	ND	309	309	ND	76.3	ND	ND	ND	1,550	–	3140	–	7.21
		6/4/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	38.1	--	–	–	826	–	1956	1580	–
		6/17/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	82.6	--	–	–	1,480	–	3462	2460	7.70
		4/21/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	84.0	--	–	–	1,430	–	3466	2010	–
	E6T-MW02	3/22/2013	ND	ND	--	ND	ND	0.0076	ND	–	ND	238	ND	181	7.41	247	4.52	ND	346	346	1.2	63.9	ND	ND	ND	1,560	ND	2960	–	7.60
		10/23/2013	ND	ND	--	ND	ND	ND	ND	–	ND	271	ND	210	6.58	334	4.45	ND	391	391	ND	68.6	16.6	ND*	17	1,770	ND	5640	–	6.00
		7/28/2014	ND	ND	--	ND	ND	ND	ND	–	ND	393	ND	297	7.56	356	7.04	ND	346	346	ND	113	ND	ND	ND	3,080	–	3968	–	7.44
		3/31/2015	ND	ND	--	ND	ND	ND	ND	–	ND	430	ND	392.00	7.24	563.00	8.27	ND	277.00	277.00	ND	129.0	ND	ND	ND	3,610	–	5745	–	7.28
		6/22/2016	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	551	ND	810	8.74	1,060	29.3	ND	141	141	ND	218	ND	ND	ND	7,560	–	9390	–	7.04
		5/25/2017	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	399	ND	331	7.58	462	7.78	ND	250	250	ND	83.9	0.575	ND	0.575	2,960	–	–	–	–
		6/28/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	400	ND*	318	7.4	436	5.86	ND	166	166	ND	88.2	ND	ND	ND	2,600	–	–	–	–
		6/6/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	462	ND	371	7.82	490	6.01	ND	184	184	ND	92.7	1.39	ND	1.39	3,170	–	4610	–	6.93
		6/4/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	40.5	--	–	–	1,210	–	2520	2070	–
		6/17/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	83.3	--	–	–	2,540	–	4502	3830	7.20
		4/21/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	95.0	--	–	–	3,080	–	4907	3530	–
	E6T-MW03	3/22/2013	ND	ND	--	ND	ND	0.0068	ND	–	ND	354	ND	350	11	500	7.86	ND	524	524	1.3	103	ND	ND	ND	2,650	ND	4830	–	7.40
		10/23/2013	ND	ND	--	ND	ND	ND	ND	–	ND	516	0.212	644	8.43	992	10.1	ND	732	732	1.2	249	ND	ND	ND	5,200	ND	13200	–	6.00
		7/28/2014	ND	ND	--	ND	ND	ND	ND	–	ND	530	ND	680	7.48	1,010	2.51	ND	468	468	1.1	254	ND	ND	ND	6,240	--	7162	–	7.35
		3/31/2015	ND	ND	--	ND	ND	ND	ND	–	ND	432	9.73	543	6.25	840	9.29	ND	301	301	ND	165.0	ND	ND	ND	4,970	–	7557	–	7.16
		6/22/2016	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	392	ND	295	6.65	490	7.44	ND	245	245	ND	88.1	4.41	ND	4.41	2,930	--	4748	–	7.38
		5/25/2017	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	432	0.282	616	6.34	824	7.73	ND	ND	ND	ND	166.0	ND	ND	ND	5,610	--	7601	–	5.08
		6/28/2018	ND	ND	--	ND	ND	0.013	ND*	–	ND*	436	ND*	646	7.02	894	7.82	ND	ND	ND	ND	179.0	ND	ND	ND	5,850	--	–	–	–
		6/6/2019	ND	ND	--	ND	ND	ND	ND	–	ND	392	ND	764	7.61	1180	9.71	ND	ND	ND	ND	162.0	3	ND	3	6,290	--	8180	–	5.77
		6/4/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	32.3	--	–	–	968	--	2270	1790	–
		6/17/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	126.0	--	–	–	4,890	--	7239	7100	5.90
		4/21/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	140.0	--	–	–	4,720	--	6338	4270	–

Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 22227013

			Volatile Organic Compounds					Other Organic Compounds				Inorganic Parameters																General Parameters		
Parameter			Benzene	Ethylbenzene	Naphthalene	Toluene	Xylenes (Total)	Methane	Ethane	Carbon Dioxide	Ethene	Calcium, Dissolved	Iron, Dissolved	Magnesium, Dissolved	Potassium, Dissolved	Sodium, Dissolved	Strontium	Alkalinity, Carbonate (CaCO3)	Alkalinity, Bicarbonate (CaCO3)	Alkalinity, Total as CaCO3	Bromide	Chloride	Nitrogen as Nitrate	Nitrogen as Nitrite	Nitrogen as Nitrate and Nitrite	Sulfate	Sulfide, Total	Specific Conductance	Total Dissolved Solids (TDS)	pH
CAS #			71-43-2	100-41-4	91-20-3	108-88-3	1330-20-7	74-82-8	74-84-0		74-85-1	7440-70-2	7439-89-6	7439-95-4	7440-09-7	7440-23-5	7440-24-6				24959-67-9	16887-00-6				14808-79-8	18496-25-8			
COGCC Table 910-1[3]			0.005	0.7	—	0.56	1.4	—	---	—	—	---	---	—	—	---	—	—	---	—	—	49.38	—	---	---	430.63	–	—	—	–
			---	---	—	1[M]	10[M]	—	---	—	—	---	---	—	—	---	—	—	---	—	—	---	—	—	---	—	---	—	—	–
CDPHE Basic Standards for Groundwater			0.005	0.7	0.14	0.56	1.4	—	---	—	—	–	0.3	—	—	---	—	—	---	—	—	250	10	1	10	250	---	—	400-No Limit	6.5 - 8.5
Detection Level			0.001	0.001	0.005	0.001	0.003	0.0066	0.0062	20	0.0062		0.05					20	20	20	1		0.1	0.5	0.1		0.05	200		
Units			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	umhos/cm	mg/L	Std. Units
Longmont 8-10K Wellhead	LM8-MW01	3/22/2013	ND	ND	--	ND	ND	ND	ND	–	ND	75	ND	79.1	5.87	106	3.03	ND	204	204	ND	40.1	0.23	ND	0.24	496	ND	1350	–	7.50
		12/20/2017	–	–	--	–	–	ND	–	–	–	339	–	120	22.7	203	2.68	--	–	244	–	90.2	0.875	–	0.875	1410	–	2742	–	7.66
		6/5/2019	ND	ND	ND	ND	ND	ND	ND	–	ND	492	ND	326	12.1	223	6.26	ND	129	129	ND	35.9	ND	ND	ND	2820	–	3478	–	6.74
		6/4/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	--	–	–	–	–	--	38.6	–	–	–	2600	–	4011	4040	–
		6/23/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	--	–	–	–	–	--	42.5	–	–	–	2960	–	4402	4140	–
		4/21/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	--	–	–	–	–	--	46.1	–	–	–	2940	–	4279	3200	–
	LM8-MW02	3/22/2013	ND	ND	--	ND	ND	ND	ND	–	ND	85	ND	88.6	5.39	131	1.97	ND	234	234	ND	42.9	0.28	ND	0.29	548	ND	1540	–	7.60
		12/20/2017	–	–	--	–	–	ND	–	–	–	182	–	152	9.38	244	2.32	--	–	246	–	79.9	0.423	–	0.423	1190	–	2546	–	7.37
		6/5/2019	ND	ND	ND	ND	ND	ND	ND	–	ND	522	ND	432	16.5	200	7.32	ND	ND	ND	ND	45.5	ND	ND	ND	4600	–	4366	–	5.91
		6/4/2020	ND	ND	--	ND	ND	ND	ND	79.6	ND	–	–	–	–	--	–	–	–	–	--	41	–	–	–	2950	–	4012	4090	–
		6/23/2021	ND	ND	--	ND	ND	ND	ND	141	ND	–	–	–	–	--	–	–	–	–	--	36.2	–	–	–	2730	–	3703	3580	–
		4/21/2022	ND	ND	--	ND	ND	ND	ND	39.8	ND	–	–	–	–	--	–	–	–	–	--	37.6	–	–	–	2370	–	3400	3030	–
	LM8-MW03	3/22/2013	ND	ND	--	ND	ND	ND	ND	–	ND	87	ND	94.1	5.65	122	2.87	ND	244	244	ND	42.1	ND	ND	ND	530	ND	1530	–	7.40
		12/20/2017	–	–	--	–	–	0.0263	–	–	–	209	–	173	11.5	255	2.76	--	–	211	–	95.9	5.12	–	5.12	1370	–	2685	–	7.43
		6/5/2019	ND	ND	ND	ND	ND	ND	ND	–	ND	437	ND	326	13.4	177	5.88	ND	ND	ND	ND	35.1	ND	ND	ND	3570	–	3486	–	5.34
		6/4/2020	ND	ND	--	ND	ND	ND	ND	65.6	ND	–	–	–	–	--	–	–	–	–	--	43.8	–	–	–	2840	–	4064	4040	–
		6/23/2021	ND	ND	--	ND	ND	ND	ND	56.9	ND	–	–	–	–	--	–	–	–	–	--	38.6	–	–	–	2740	–	3966	3510	–
		4/21/2022	ND	ND	--	ND	ND	ND	ND	53.4	ND	–	–	–	–	--	–	–	–	–	--	42.8	–	–	–	2680	–	3603	3410	–
Domenico #1 Wellsite	DM1-MW01	3/19/2013	ND	ND	--	ND	ND	0.0253	ND	–	ND	86	ND	93.1	3.4	254	1.83	ND	484	484	4.8	136	ND	ND	ND	494	ND	1970	–	7.50
		7/29/2014	ND	ND	--	ND	ND	ND	ND	–	ND	53	ND	56.9	1.64	175	0.853	ND	305	305	3	92.0	ND	ND	ND	373	–	1023	–	7.36
		3/31/2015	ND	ND	--	ND	ND	0.0625	ND	–	ND	34	ND	53	1.72	145	0.71	ND	351	351	2.1	72.2	ND	ND	ND	183	–	1189	–	7.52
		6/24/2016	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	33	ND	41.1	1.9	78.7	0.713	ND	209	209	ND	48.1	ND	ND	ND	122	–	801	–	7.27
		5/23/2017	ND	ND	--	ND*	ND	0.213	ND*	–	ND*	55	ND	69.3	2.54	143	1.07	ND	410	410	1.66	76.9	ND	ND	ND	180	–	1271	–	7.53
		6/29/2018	ND	ND	--	ND	ND	0.0505	ND*	–	ND*	40	ND	52.6	2.47	115	0.719	ND	241	241	ND	74.3	ND	ND	ND	193	–	–	–	–
		6/3/2019	ND	ND	--	ND	ND	0.0529	ND	–	ND	52	ND	74.2	3.04	144	1.12	ND	407	407	ND	78.4	ND	ND	ND	181	–	1163	–	7.46
		6/8/2020	ND	ND	--	ND	ND	0.0438	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	96.3	--	–	–	219	–	1445	793	7.30
		6/17/2021	ND	ND	--	ND	ND	0.0149	ND	21.6	ND	–	–	–	–	–	–	–	–	--	–	100.0	--	–	–	221	–	1723	958	7.50
		4/21/2022	ND	ND	--	ND	ND	ND	ND	23.1	ND	–	–	–	–	–	–	–	–	--	–	120.0	--	–	–	230	–	1641	939	9.70
	DM1-MW02	3/19/2013	ND	ND	--	ND	ND	0.0071	ND	–	ND	58	ND	84.8	6.21	214	0.965	ND	307	307	3.4	123	ND	ND	ND	492	ND	1720	–	7.50
		7/29/2014	ND	ND	--	ND	ND	0.0291	ND	–	ND	114	ND	93.2	6.46	276	1.59	ND	525	525	4.6	157	1.4	0.13	1.6	685	–	2215	–	7.13
		3/31/2015	ND	ND	--	ND	ND	ND	ND	–	ND	83	ND	68.6	4.67	215	0.986	ND	529	529	4.1	112	ND	ND	–	339	–	1750	–	7.32
		6/24/2016	ND	ND	--	ND*	ND	0.0433	ND*	–	ND*	68	ND	58	5.67	119	1.12	ND	330	330	1.25	61.1	ND	ND	ND	185	–	1176	–	7.01
		5/23/2017	ND	ND	--	ND*	ND	0.0152	ND*	–	ND*	66	ND	55.8	5.55	127	0.729	ND	330	330	1.15	80.4	0.44	ND	0.44	185	–	1217	–	7.32
		6/29/2018	ND	ND	--	ND	ND	0.0675	ND*	–	ND*	71	ND	52.9	4.93	159	0.837	ND	386	386	1.33	76.9	ND	ND	ND	196	–	–	–	–
		6/3/2019	ND	ND	--	ND	ND	0.173	ND	–	ND	85	ND	65.6	3.2	164	0.945	ND	367	367	ND	89.5	ND	ND	ND	286	–	1278	–	7.50
		6/8/2020	ND	ND	--	ND	ND	ND	ND	29.9	ND	–	–	–	–	–	–	–	–	--	–	106.0	--	–	–	271	–	1565	858	7.20
		6/17/2021	ND	ND	--	ND	ND	ND	ND	28.2	ND	–	–	–	–	–	–	–	–	--	–	137.0	--	–	–	333	–	1800	1080	7.30
		4/21/2022	ND	ND	--	ND	ND	0.0629	ND	28.2	ND	–	–	–	–	–	–	–	–	--	–	121.0	--	–	–	416	–	1763	1050	9.46
	DM1-MW03	3/19/2013	ND	ND	--	ND	ND	ND	ND	–	ND	99	ND	55.1	3.18	161	2.14	ND	284	284	2.2	91.5	0.27	ND	0.3	448	ND	1640	–	7.40
		7/29/2014	ND	ND	--	ND	ND	0.0119	ND	–	ND	89	ND	51.5	1.76	145	1.11	ND	275	275	2.7	91.1	2.8	ND	2.8	423	–	1293	–	7.09
		4/1/2015	ND	ND	--	ND	ND	ND	ND	–	ND	116	ND	70.3	1.96	167	1.12	ND	287	287	2.8	108.0	3.5	ND	3.5	577	–	1722	–	7.11
		6/24/2016	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	160	ND	86	2.4	203	1.8	ND	288	288	2.06	110	4.38	ND	4.38	604	–	2031	–	7.21
		5/23/2017	ND	ND	--	ND*	ND	ND*	ND*	–	ND*	145	ND	77.5	2.25	193	1.28	ND	258	258	1.31	121	5.83	ND	5.83	589	–	1862	–	7.02
		6/29/2018	ND	ND	--	ND	ND	ND*	ND*	–	ND*	70	ND	37.5	1.61	129	0.628	ND	195	195	ND	72	1.1	ND	1.1	255	–	–	–	–
		6/3/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND*	84	ND	46.4	2.08	122	0.79	ND	216	216	ND	90	0.432	ND	0.432	282	–	1092	–	7.52
		6/8/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	--	–	–	–	–	--	–	98.7	--	–	–	248	–	1212	637	7.30
		6/17/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	--	–	121.0	--	–	–	367	–	1577	996	7.20
		4/21/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	–	–	–	–	–	–	–	--	–	109.0	--	–	–	297	–	1577	789	7.20
Siemp 31-2C Wellsite	S31-MW01	3/7/2022	ND	ND	--	ND	ND	–	–	–	–	–	–	–	–	–	–	–	–	--	–	–	--	–	–	--	–	15147	–	7.87
	S31-MW02	3/7/2022	ND	ND	--	ND	ND	–	–	–	–	–	–	–	–	–	–	–	–	--	–	–	--	–	–	--	–	9367	–	7.90
	S31-MW03	3/7/2022	ND	ND	--	ND	ND	–	–	–	–	–	–	–	–	–	–	–	–	--	–	–	--	–	–	--	–	16198	–	8.29
	S31-MW04	3/7/2022	ND	ND	--	ND	ND	–	–	–	–	–	–	–	–	–	–	–	–	--	–	–	--	–	–	--	–	11832	–	8.08
	S31-MW05	3/7/2022	ND	ND	--	ND	ND	–	–	–	–	–	–	–	–	–	–	–	–	--	–	–	--	–	–	--	–	11994	–	8.00
	S31-MW06	3/7/2022	ND	ND	--	ND	ND	–	–	–	–	–	–	–	–	–	–	–	–	--	–	–	--	–	–	--	–	13551	–	7.97

Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 22227013

			Volatile Organic Compounds					Other Organic Compounds				Inorganic Parameters															General Parameters		
Parameter			Benzene	Ethylbenzene	Naphthalene	Toluene	Xylenes (Total)	Methane	Ethane	Carbon Dioxide	Ethene	Calcium, Dissolved	Iron, Dissolved	Magnesium, Dissolved	Potassium, Dissolved	Sodium, Dissolved	Strontium	Alkalinity, Carbonate (CaCO3)	Alkalinity, Bicarbonate (CaCO3)	Alkalinity, Total as CaCO3	Bromide	Chloride	Nitrogen as Nitrate	Nitrogen as Nitrite	Nitrogen as Nitrate and Nitrite	Sulfate	Sulfide, Total	Specific Conductance	Total Dissolved Solids (TDS)	pH
CAS #			71-43-2	100-41-4	91-20-3	108-88-3	1330-20-7	74-82-8	74-84-0		74-85-1	7440-70-2	7439-89-6	7439-95-4	7440-09-7	7440-23-5	7440-24-6				24959-67-9	16887-00-6				14808-79-8	18496-25-8			
COGCC Table 910-1[3]			0.005	0.7	—	0.56	1.4	—	---	—	—	---	---	—	—	---	—	—	---	—	—	49.38	—	---	---	430.63	—	—	—	—
			---	---	—	1[M]	10[M]	—	---	—	—	---	---	—	—	---	—	—	---	—	—	---	—	—	---	---	—	---	—	---
CDPHE Basic Standards for Groundwater			0.005	0.7	0.14	0.56	1.4	—	---	—	—	—	0.3	—	—	---	—	—	---	—	—	250	10	1	10	250	---	—	400-No Limit	6.5 - 8.5
Detection Level			0.001	0.001	0.005	0.001	0.003	0.0066	0.0062	20	0.0062		0.05					20	20	20	1		0.1	0.5	0.1		0.05	200		
Units			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	umhos/cm	mg/L	Std. Units
Stamp #1	ST1-MW02	7/7/2021	ND	ND	--	ND	ND	ND	ND	**26.2**	ND	–	--	–	–	–	–	–	--	–	–	**662.0**	–	–	--	**12,500**	–	18667	20300	**7.70**
		4/25/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**749.0**	–	–	--	**15,400**	–	19076	14900	**7.86**
	ST1-MW03	7/7/2021	ND	ND	--	ND	ND	ND	ND	**26.4**	ND	–	--	–	–	–	–	–	--	–	–	**131.0**	–	–	--	**6,490**	–	10236	9760	**7.60**
		4/25/2022	ND	ND	--	ND	ND	ND	ND	**22**	ND	–	--	--	–	–	–	–	--	–	–	**122.0**	–	–	--	**6,270**	–	10091	7400	**7.91**
	ST1-MW05	7/7/2021	ND	ND	--	ND	ND	ND	ND	**29.8**	ND	–	--	–	–	–	–	–	--	–	–	**917.0**	–	–	--	**15,600**	–	21596	24400	**7.70**
		4/25/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**1150.0**	–	–	--	**18,200**	–	21596	18700	**7.70**
George Mayeda #1	GM1-MW01	6/4/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND	**96**	ND	**80.9**	**3.84**	**146**	**2.08**	ND	**376**	**376**	ND	**24.8**	**7.26**	ND	**7.26**	**410**	--	1560	–	**7.65**
		5/26/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	–	–	–	–	–	--	–	–	**32,1**	–	–	--	**411**	--	816	941	**7.04**
		6/21/2021	ND	ND	--	ND	ND	ND	ND	**23.5**	ND	–	--	–	–	--	–	–	--	–	–	**19**	–	–	--	**307**	–	1212	796	**7.70**
		4/26/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	–	–	–	–	–	--	–	–	**19**	–	–	--	**307**	–	1492	1130	**7.77**
	GM1-MW02	6/4/2019	ND	ND	--	ND	ND	ND*	ND*	–	ND	**88.9**	ND	**82.8**	**3.54**	**141**	**3.08**	ND	**401**	**401**	ND	**32.3**	**8.15**	ND	**8.15**	**550**	--	1325	–	**7.88**
		5/26/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	–	–	–	–	–	--	–	–	**27,8**	–	–	--	**429**	--	1722	875	**7.22**
		6/21/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	–	–	–	–	–	--	–	–	**29,5**	–	–	--	**427**	–	1347	924	**7.90**
		4/26/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**27,5**	–	–	--	**416**	–	1399	918	**8,01**
	GM1-MW03	6/3/2019	ND	ND	ND	ND	ND	ND	ND	–	ND	**191**	ND	**178**	**4,47**	**306**	**6,08**	ND	**311**	**311**	ND	**34,5**	**9,23**	ND	**9,23**	**989**	--	1330	–	**7,92**
		5/26/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**29,6**	–	–	--	**493**	--	1479	1040	**7.39**
		6/21/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**22,9**	–	–	--	**499**	--	1250	1010	**7.80**
		4/26/2022	ND	ND	--	ND	ND	ND	ND	**47,2**	ND	–	--	--	–	–	–	–	--	–	–	**33,9**	–	–	--	**816**	--	1866	1180	**8,21**
Maruyama #1	MY1-MW01	5/16/2019	ND	ND	ND	ND	ND	ND	ND	–	ND	**119**	ND	**80.1**	**3.33**	**98.4**	**4.8**	ND	**371**	**371**	ND	**31.1**	**4.28**	ND	**4.28**	**344**	**344**	1260	–	**7.50**
		5/27/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	--	--	–	–	–	–	–	--	–	–	**31.4**	–	–	--	**321**	–	1298	904	**7.19**
		6/15/2021	ND	ND	--	ND	ND	ND	ND	**22.7**	ND	–	--	–	–	--	–	–	--	–	–	**41,3**	–	–	--	**398**	–	1478	1000	**7.20**
		4/26/2022	ND	ND	--	ND	ND	ND	ND	**23.4**	ND	–	--	–	–	--	–	–	--	–	–	**42,2**	–	–	--	**346**	–	1811	899	**7.56**
	MY1-MW02	5/16/2019	ND	ND	ND	ND	ND	ND	ND		ND	**115**	ND	**77.7**	**3.28**	**95.1**	**4.74**	ND	**371**	**371**	ND	**31.2**	**4.3**	ND	**4.3**	**350**	**350**	1310	–	**7.49**
		5/27/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**31.4**	–	–	--	**324**	–	1398	893	**7.12**
		6/15/2021	ND	ND	--	ND	ND	ND	ND	**21.3**	ND	–	--	--	–	–	–	–	--	–	–	**41,7**	–	–	--	**389**	–	1514	1040	**7.10**
		4/26/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**42.3**	–	–	--	**343**	–	1466	896	**7.55**
	MY1-MW03	5/16/2019	ND	ND	ND	ND	ND	ND	ND	–	ND	**115**	ND	**76,9**	**3.21**	**97,2**	**5,57**	ND	**389**	**389**	ND	**31**	**4,53**	ND	**4,53**	**355**	**355**	1270	–	**7.43**
		5/27/2020	ND	ND	--	ND	ND	ND	ND	**20.1**	ND	–	--	--	–	–	–	–	--	–	–	**33.3**	–	–	--	**336**	–	1346	934	**7.12**
		6/15/2021	ND	ND	--	ND	ND	ND	ND	**23.5**	ND	–	--	--	–	–	–	–	--	–	–	**42,1**	–	–	--	**389**	–	1492	978	**7.10**
		4/26/2022	ND	ND	--	ND	ND	ND	ND	**46,4**	ND	–	--	--	–	–	–	–	--	–	–	**43.9**	–	–	--	**370**	–	1507	936	**7.65**
Tabor #1	TB1-MW01	5/16/2019	ND	ND	ND	ND	ND	ND	ND	–	ND	**477**	ND	**482**	**15.3**	**734**	**6.54**	ND	**441**	**441**	ND	**124**	ND	ND	ND	**4030**	**4030**	5586	–	**7.25**
		4/19/2022	ND	ND	ND	ND	ND	ND	ND	**66**	ND	–	--	--	–	–	–	–	--	–	–	**118**	–	–	--	**4150**	–	6311	4950	**7.79**
	TB1-MW02	5/16/2019	ND	ND	ND	ND	ND	ND	ND	–	ND	**349**	ND	**318**	**2.79**	**657**	**6.51**	ND	**385**	**385**	ND	**298**	**7.43**	ND	**7.43**	**2560**	**2560**	4692	–	**7.17**
		6/16/2021	ND	ND	–	ND	ND	ND	ND	**39.7**	ND	–	--	--	–	–	–	–	--	–	–	**400**	–	–	--	**2620**	–	5476	4900	**7.10**
		4/19/2022	ND	ND	–	ND	ND	ND	ND	**39**	ND	–	--	--	–	–	–	–	--	–	–	**375**	–	–	--	**2240**	–	4903	3150	**8,63**
	TB1-MW03R	6/16/2021	ND	ND	–	ND	ND	ND	ND	**33.3**	ND	–	--	--	–	–	–	–	--	–	–	**181**	–	–	--	**5480**	–	8417	8830	**7.40**
		4/19/2022	ND	ND	–	ND	ND	ND	ND	**26.4**	ND	–	--	--	–	–	–	–	--	–	–	**199**	–	–	--	**5400**	–	8410	5010	**8.30**
Tabor #7	TB7-MW01	5/17/2019	ND	ND	ND	ND	ND	ND	ND	–	ND	**127**	ND	**91.5**	**2.98**	**96.3**	**2.78**	ND	**313**	**313**	ND	**41.5**	**6.47**	ND	**6.47**	**448**	**448**	1334	–	**7.48**
		6/3/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**38,3**	–	–	--	**445**	–	1566	1140	–
		6/16/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	–	–	–	–	–	--	–	–	**44**	–	–	--	**431**	–	1562	1050	**7.60**
		4/18/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	--	--	–	–	–	–	–	--	–	–	**43**	–	–	--	**461**	–	1562	1050	**7.60**
	TB7-MW02	5/17/2019	ND	ND	ND	ND	ND	ND	ND		ND	**132**	ND	**97,6**	**2,5**	**96,1**	**3,39**	ND	**348**	**348**	ND	**44,9**	**5,61**	ND	**5,61**	**460**	**460**	1442	–	**7.50**
		6/3/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**40.5**	–	–	--	**422**	–	1550	1080	–
		6/16/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**47.2**	–	–	--	**442**	–	1529	1060	**7.50**
		4/18/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**46,8**	–	–	--	**441**	–	1535	1020	**7,75**
	TB7-MW03	5/17/2019	ND	ND	ND	ND	ND	ND	ND	–	ND	**134**	ND	**99.3**	**2.3**	**96.3**	**2.5**	ND	**348**	**348**	ND	**46,1**	**5.5**	ND	**5.5**	**466**	**466**	1387	–	**7.53**
		6/3/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**42.3**	–	–	--	**426**	–	1770	1140	–
		6/16/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**49.5**	–	–	--	**437**	–	1551	1050	**7.50**
		4/18/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**49.5**	–	–	--	**437**	–	1551	1050	**7.50**
Werman #1	WT1-MW01	5/16/2019	ND	ND	ND	ND	ND	ND	ND	–	ND	**58,3**	ND	**36,6**	**4,21**	**63**	**1,8**	ND	**256**	**256**	ND	**19,5**	**0,678**	ND	**0,678**	**139**	**139**	633	–	**7,63**
		5/28/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	--	--	–	–	–	–	–	--	–	–	**59.2**	–	–	--	**291**	–	1509	824	**6,97**
		6/28/2021	ND	ND	--	ND	ND	ND	ND	**28,2**	ND	–	--	--	–	–	–	–	--	–	–	**41,8**	–	–	--	**272**	–	1326	676	**7.30**
		4/18/2022	ND	ND	--	ND	ND	ND	ND	**24,9**	ND	–	--	--	–	–	–	–	--	–	–	**24,5**	–	–	--	**175**	–	854	479	**7,85**
	WT1-MW02	5/16/2019	ND	ND	ND	ND	ND	ND	ND	–	ND	**60.8**	ND	**44.9**	**3.04**	**65,2**	**1.44**	ND	**281**	**281**	ND	**28.1**	**0.385**	ND	**0.385**	**185**	**185**	633	–	**7.39**
		5/28/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**37.8**	–	–	--	**335**	–	1263	798	**6,81**
		6/28/2021	ND	ND	–	ND	ND	ND	ND	**40**	ND	–	--	--	–	–	–	–	--	–	–	**40,3**	–	–	--	**377**	–	1523	888	**7,30**
		4/18/2022	ND	ND	–	ND	ND	ND	ND	**24,3**	ND	–	--	--	–	–	–	–	--	–	–	**31.9**	–	–	--	**222**	–	1093	586	**7,75**
	WT1-MW03	5/16/2019	ND	ND	ND	ND	ND	ND	ND	–	ND	**53**	ND	**42,5**	**1.14**	**68,2**	**1.34**	ND	**231**	**231**	ND	**23,8**	**0,885**	ND	**0,885**	**158**	**158**	1082	–	**7,44**
		5/28/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	–	–	–	–	–	--	–	–	**27,2**	–	–	--	**171**	–	818	496	**7,20**
		6/28/2021	ND	ND	--	ND	ND	ND	ND	**21,5**	ND	–	--	--	–	–	–	–	--	–	–	**31.1**	–	–	--	**256**	–	1150	628	**7.40**
		4/18/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**25,3**	–	–	--	**174**	–	822	495	**7,86**
Mary #2	MR2-MW01	5/15/2019	ND	ND	ND	ND	ND	ND	ND	–	ND	**362**	ND	**273**	**8.35**	**500**	**8.06**	ND	**481**	**481**	ND	**130**	**65**	ND	**65**	**1950**	**1950**	1983	–	**7.02**
		5/27/2020	ND	ND	--	ND	ND	ND	ND	**20,3**	ND	–	–	–	–	–	–	–	–	--	–	**129**	–	–	--	**1990**	–	4492	3900	**6,86**
		6/15/2021	ND	ND	--	ND	ND	ND	ND	**37.7**	ND	–	–	–	–	–	–	–	–	--	–	**138**	–	–	--	**1970**	–	4350	3710	**7.30**
		4/18/2022	ND	ND	--	ND	ND	ND	ND	**63.5**	ND	–	–	–	–	–	–	–	–	--	–	**128**	–	–	--	**2170**	–	–	3180	–
	MR2-MW02	5/15/2019	ND	ND	ND	ND	ND	**0,0559**	ND	–	ND	**35,1**	ND	**26,1**	**4,73**	**162**	**2,67**	ND	**419**	**419**	ND	**5,78**	**1,11**	ND	**1,11**	**90,7**	**90.7**	3290	–	**6.91**
		5/27/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**5.63**	–	–	--	**100**	–	1002	600	**7.30**
		6/15/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**5,35**	–	–	--	**94,6**	–	987	569	**7.80**
		4/18/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**5,49**	–	–	--	**92,6**	–	958	550	**8,17**
	MR2-MW03	5/15/2019	ND	ND	ND	ND	ND	**0,0292**	ND	–	ND	**107**	ND	**82.3**	**10.1**	**243**	**4.48**	ND	**468**	**468**	ND	**33.1**	**4**	ND	**4**	**522**	**522**	1184	–	**7.49**
		5/27/2020	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**36,3**	–	–	--	**602**	–	1766	1340	**7.24**
		6/15/2021	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**32,8**	–	–	--	**527**	–	1764	1130	**7.70**
		4/18/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**32.6**	–	–	--	**509**	–	1736	1140	**8.61**
Rider #1	RD1-MW01	4/25/2022	ND	ND	--	ND	ND	ND	ND	ND	ND	–	--	--	–	–	–	–	--	–	–	**45.7**	–	–	--	**339**	–	1402	932	**7.73**
	RD1-MW02	4/25/2022	ND	ND	--	ND	ND	ND	ND	**47,2**	ND	–	--	--	–	–	–	–	--	–	–	**52.0**	–	–	--	**325**	–	1404	890	**7.82**
	RD1-MW03	4/25/2022	ND	ND	--	ND	ND	ND	ND	**47,8**	ND	–	--	--	–	–	–	–	--	–	–	**47,7**	–	–	--	**342**	–	1435	938	**7,93**

**Elevated detection level due to sample dilution above regulatory limits

[1] Wells were observed to be destroyed. Unable to measure depths to water.
[2] The aluminum collar around the well casing was bent and the concrete surface completion was found separated, the well was not sampled.
The bentonite seal may be compromised; however, the analytical data does not indicate that the well is compromised.
[3] 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.
RD1 samples collected on 6/23/2016 had to be recollected for nitrite and nitrate analysis due to a shipping delay resulting in the original samples being past the hold time of 48 hours.
COGCC - Colorado Oil and Gas Conservation Commission
CDPHE - Colorado Department of Public Health and Environment
mg/L - milligrams per liter
ND - Parameter not detected above the laboratory detection limit (Detection Limit)
Bold indicates detected constituents
Yellow shading indicates constituents above COGCC Table 910-1 standards.
Red shading indicates constituents detected above CDPHE standards
Grey shading indicates analytical results from the past calendar year
umhos/cm - microsiemens per centimeter
M - Drinking water maximum contaminant level
– Not Sampled
Bkg - Background
--- indicates no regulatory standard

APPENDIX B – ANALYTICAL REPORTS & CHAIN OF CUSTODY DOCUMENTS

ANALYTICAL REPORT

April 13, 2022

Terracon - Longmont, CO

Sample Delivery Group:	L1479870
Samples Received:	04/07/2022
Project Number:	22227013
Description:	COL Annual GW Sampling

Report To:

Charles Covington
1831 Lefthand Circle
Suite C
Longmont, CO 80501

Entire Report Reviewed By:

Chris Ward
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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SH1-MW01 L1479870-01 GW

Collected by: Charles A. Covington | Collected date/time: 04/05/22 11:30 | Received date/time: 04/07/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1846171	1	04/10/22 15:44	04/10/22 16:48	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	1	04/08/22 11:14	04/08/22 11:14	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	50	04/08/22 11:31	04/08/22 11:31	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1846044	1	04/10/22 09:33	04/10/22 09:33	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1846205	1	04/12/22 16:25	04/12/22 16:25	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1845662	1	04/09/22 04:06	04/09/22 04:06	JCP	Mt. Juliet, TN

SH1-MW02 L1479870-02 GW

Collected by: Charles A. Covington | Collected date/time: 04/05/22 10:15 | Received date/time: 04/07/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1845363	1	04/08/22 11:07	04/08/22 14:42	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	1	04/08/22 11:49	04/08/22 11:49	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	50	04/08/22 12:07	04/08/22 12:07	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1846044	1	04/10/22 09:37	04/10/22 09:37	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1846205	1	04/12/22 16:31	04/12/22 16:31	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1845662	1	04/09/22 04:27	04/09/22 04:27	JCP	Mt. Juliet, TN

SH1-MW03 L1479870-03 GW

Collected by: Charles A. Covington | Collected date/time: 04/05/22 10:55 | Received date/time: 04/07/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1845363	1	04/08/22 11:07	04/08/22 14:42	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	1	04/08/22 12:25	04/08/22 12:25	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	50	04/08/22 12:43	04/08/22 12:43	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1846044	1	04/10/22 09:01	04/10/22 09:01	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1846205	1	04/12/22 16:34	04/12/22 16:34	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1845662	1	04/09/22 04:48	04/09/22 04:48	JCP	Mt. Juliet, TN

SH2-MW01 L1479870-04 GW

Collected by: Charles A. Covington | Collected date/time: 04/05/22 12:55 | Received date/time: 04/07/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1846171	1	04/10/22 15:44	04/10/22 16:48	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	1	04/08/22 13:01	04/08/22 13:01	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	50	04/08/22 13:19	04/08/22 13:19	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1846044	1	04/10/22 09:04	04/10/22 09:04	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1846205	1	04/12/22 16:38	04/12/22 16:38	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1845662	1	04/09/22 05:09	04/09/22 05:09	JCP	Mt. Juliet, TN

SH2-MW02 L1479870-05 GW

Collected by: Charles A. Covington | Collected date/time: 04/05/22 12:15 | Received date/time: 04/07/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1846171	1	04/10/22 15:44	04/10/22 16:48	SJF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	1	04/08/22 14:12	04/08/22 14:12	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	50	04/08/22 14:30	04/08/22 14:30	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1846044	1	04/10/22 09:08	04/10/22 09:08	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1846205	1	04/12/22 16:41	04/12/22 16:41	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1845662	1	04/09/22 05:30	04/09/22 05:30	JCP	Mt. Juliet, TN

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

CASE NARRATIVE

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

Chris Ward
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1710		25.0	1	04/10/2022 16:48	WG1846171

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	74.5		1.00	1	04/08/2022 11:14	WG1845258
Sulfate	862		250	50	04/08/2022 11:31	WG1845258

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	26.1	T8	20.0	1	04/10/2022 09:33	WG1846044

Sample Narrative:

L1479870-01 WG1846044: Endpoint pH 4.5 Headspace

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	04/12/2022 16:25	WG1846205
Ethane	ND		0.0130	1	04/12/2022 16:25	WG1846205
Ethene	ND		0.0130	1	04/12/2022 16:25	WG1846205
Acetylene	ND		0.0208	1	04/12/2022 16:25	WG1846205

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/09/2022 04:06	WG1845662
Toluene	ND		0.00100	1	04/09/2022 04:06	WG1845662
Ethylbenzene	ND		0.00100	1	04/09/2022 04:06	WG1845662
Total Xylenes	ND		0.00300	1	04/09/2022 04:06	WG1845662
(S) Toluene-d8	*107*		*80.0-120*		*04/09/2022 04:06*	WG1845662
(S) 4-Bromofluorobenzene	*94.6*		*77.0-126*		*04/09/2022 04:06*	WG1845662
(S) 1,2-Dichloroethane-d4	*118*		*70.0-130*		*04/09/2022 04:06*	WG1845662

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1840		10.0	1	04/08/2022 14:42	WG1845363

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	74.6		1.00	1	04/08/2022 11:49	WG1845258
Sulfate	859		250	50	04/08/2022 12:07	WG1845258

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	04/10/2022 09:37	WG1846044

Sample Narrative:

L1479870-02 WG1846044: Endpoint pH 4.5 Headspace

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	04/12/2022 16:31	WG1846205
Ethane	ND		0.0130	1	04/12/2022 16:31	WG1846205
Ethene	ND		0.0130	1	04/12/2022 16:31	WG1846205
Acetylene	ND		0.0208	1	04/12/2022 16:31	WG1846205

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/09/2022 04:27	WG1845662
Toluene	ND		0.00100	1	04/09/2022 04:27	WG1845662
Ethylbenzene	ND		0.00100	1	04/09/2022 04:27	WG1845662
Total Xylenes	ND		0.00300	1	04/09/2022 04:27	WG1845662
(S) Toluene-d8	*108*		*80.0-120*		*04/09/2022 04:27*	WG1845662
(S) 4-Bromofluorobenzene	*94.6*		*77.0-126*		*04/09/2022 04:27*	WG1845662
(S) 1,2-Dichloroethane-d4	*120*		*70.0-130*		*04/09/2022 04:27*	WG1845662

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1820		10.0	1	04/08/2022 14:42	WG1845363

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	74.5		1.00	1	04/08/2022 12:25	WG1845258
Sulfate	839		250	50	04/08/2022 12:43	WG1845258

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	04/10/2022 09:01	WG1846044

Sample Narrative:

L1479870-03 WG1846044: Endpoint pH 4.5 Headspace

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	04/12/2022 16:34	WG1846205
Ethane	ND		0.0130	1	04/12/2022 16:34	WG1846205
Ethene	ND		0.0130	1	04/12/2022 16:34	WG1846205
Acetylene	ND		0.0208	1	04/12/2022 16:34	WG1846205

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/09/2022 04:48	WG1845662
Toluene	ND		0.00100	1	04/09/2022 04:48	WG1845662
Ethylbenzene	ND		0.00100	1	04/09/2022 04:48	WG1845662
Total Xylenes	ND		0.00300	1	04/09/2022 04:48	WG1845662
(S) Toluene-d8	*110*		*80.0-120*		*04/09/2022 04:48*	WG1845662
(S) 4-Bromofluorobenzene	*95.3*		*77.0-126*		*04/09/2022 04:48*	WG1845662
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*04/09/2022 04:48*	WG1845662

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1620		25.0	1	04/10/2022 16:48	WG1846171

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	54.4		1.00	1	04/08/2022 13:01	WG1845258
Sulfate	870		250	50	04/08/2022 13:19	WG1845258

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	23.5	T8	20.0	1	04/10/2022 09:04	WG1846044

Sample Narrative:

L1479870-04 WG1846044: Endpoint pH 4.5 Headspace

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	04/12/2022 16:38	WG1846205
Ethane	ND		0.0130	1	04/12/2022 16:38	WG1846205
Ethene	ND		0.0130	1	04/12/2022 16:38	WG1846205
Acetylene	ND		0.0208	1	04/12/2022 16:38	WG1846205

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/09/2022 05:09	WG1845662
Toluene	ND		0.00100	1	04/09/2022 05:09	WG1845662
Ethylbenzene	ND		0.00100	1	04/09/2022 05:09	WG1845662
Total Xylenes	ND		0.00300	1	04/09/2022 05:09	WG1845662
(S) Toluene-d8	*110*		*80.0-120*		*04/09/2022 05:09*	WG1845662
(S) 4-Bromofluorobenzene	*95.8*		*77.0-126*		*04/09/2022 05:09*	WG1845662
(S) 1,2-Dichloroethane-d4	*120*		*70.0-130*		*04/09/2022 05:09*	WG1845662

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1800		10.0	1	04/10/2022 16:48	WG1846171

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	56.1		1.00	1	04/08/2022 14:12	WG1845258
Sulfate	978		250	50	04/08/2022 14:30	WG1845258

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	25.2	T8	20.0	1	04/10/2022 09:08	WG1846044

Sample Narrative:

L1479870-05 WG1846044: Endpoint pH 4.5 Headspace

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	04/12/2022 16:41	WG1846205
Ethane	ND		0.0130	1	04/12/2022 16:41	WG1846205
Ethene	ND		0.0130	1	04/12/2022 16:41	WG1846205
Acetylene	ND		0.0208	1	04/12/2022 16:41	WG1846205

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/09/2022 05:30	WG1845662
Toluene	ND		0.00100	1	04/09/2022 05:30	WG1845662
Ethylbenzene	ND		0.00100	1	04/09/2022 05:30	WG1845662
Total Xylenes	ND		0.00300	1	04/09/2022 05:30	WG1845662
(S) Toluene-d8	*108*		*80.0-120*		*04/09/2022 05:30*	WG1845662
(S) 4-Bromofluorobenzene	*94.2*		*77.0-126*		*04/09/2022 05:30*	WG1845662
(S) 1,2-Dichloroethane-d4	*122*		*70.0-130*		*04/09/2022 05:30*	WG1845662

Method Blank (MB)

(MB) R3779767-1 04/08/22 14:42

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1479303-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1479303-01 04/08/22 14:42 • (DUP) R3779767-3 04/08/22 14:42

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1040	1050	1	0.574		5

L1479373-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1479373-01 04/08/22 14:42 • (DUP) R3779767-4 04/08/22 14:42

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1040	1060	1	1.52		5

Laboratory Control Sample (LCS)

(LCS) R3779767-2 04/08/22 14:42

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8740	99.3	77.4-123	

Method Blank (MB)

(MB) R3780062-1 04/10/22 16:48

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1479870-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1479870-04 04/10/22 16:48 • (DUP) R3780062-3 04/10/22 16:48

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1620	1660	1	2.74		5

L1480590-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1480590-05 04/10/22 16:48 • (DUP) R3780062-4 04/10/22 16:48

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	976	940	1	3.76		5

Laboratory Control Sample (LCS)

(LCS) R3780062-2 04/10/22 16:48

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8330	94.7	77.4-123	

Method Blank (MB)

(MB) R3779293-1 04/08/22 09:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Sulfate	U		0.594	5.00

L1479903-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1479903-01 04/08/22 14:48 • (DUP) R3779293-3 04/08/22 15:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	43.0	42.6	1	0.881		20

L1479903-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1479903-01 04/08/22 15:24 • (DUP) R3779293-4 04/08/22 15:42

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	248	246	10	0.556		20

L1479902-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1479902-01 04/08/22 21:41 • (DUP) R3779293-7 04/08/22 21:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	12.8	12.8	1	0.559		20
Sulfate	33.0	32.9	1	0.225		20

Laboratory Control Sample (LCS)

(LCS) R3779293-2 04/08/22 10:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.7	99.3	90.0-110	
Sulfate	40.0	39.5	98.8	90.0-110	

L1479903-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1479903-01 04/08/22 14:48 • (MS) R3779293-5 04/08/22 16:00 • (MSD) R3779293-6 04/08/22 16:18

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 %
Chloride	50.0	43.0	93.2	93.7	100	101	1	80.0-120			0.558	20
Sulfate	50.0	273	288	276	30.4	5.86	1	80.0-120	E V	E V	4.34	20

L1479902-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1479902-01 04/08/22 21:41 • (MS) R3779293-8 04/08/22 22:17

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	12.8	65.3	105	1	80.0-120	
Sulfate	50.0	33.0	82.0	98.1	1	80.0-120	

Method Blank (MB)

(MB) R3779491-3 04/10/22 07:51

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Free Carbon Dioxide	U		6.67	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1479493-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1479493-10 04/10/22 08:15 • (DUP) R3779491-5 04/10/22 08:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	118	112	1	5.63		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1479526-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1479526-06 04/10/22 08:51 • (DUP) R3779491-7 04/10/22 08:56

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3780284-2 04/12/22 14:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Methane	U		0.00291	0.0100
Ethane	U		0.00407	0.0130
Ethene	U		0.00426	0.0130
Acetylene	U		0.00558	0.0208

L1479568-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1479568-08 04/12/22 16:20 • (DUP) R3780284-3 04/12/22 16:22

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	0.211	0.219	1	3.72		20
Ethane	ND	ND	1	0.000		20
Ethene	ND	ND	1	0.000		20
Acetylene	ND	ND	1	0.000		20

L1479883-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1479883-02 04/12/22 16:46 • (DUP) R3780284-4 04/12/22 16:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	0.0704	0.0857	1	19.6		20
Ethane	ND	ND	1	18.9		20
Ethene	0.0210	0.0255	1	19.4		20
Acetylene	ND	ND	1	0.000		20

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

(LCS) R3780284-1 04/12/22 14:50 • (LCSD) R3780284-7 04/12/22 17:02

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 %
Methane	0.0678	0.0710	0.0707	105	104	85.0-115			0.423	20
Ethane	0.129	0.118	0.123	91.5	95.3	85.0-115			4.15	20
Ethene	0.127	0.119	0.125	93.7	98.4	85.0-115			4.92	20
Acetylene	0.208	0.191	0.203	91.8	97.6	85.0-115			6.09	20

L1479535-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1479535-05 04/12/22 15:24 • (MS) R3780284-5 04/12/22 16:55 • (MSD) R3780284-6 04/12/22 16:58

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 %
Methane	0.0678	4.20	6.25	6.53	3020	3440	1	50.0-150	V	V	4.38	20
Ethane	0.129	ND	0.128	0.130	99.2	101	1	50.0-150			1.55	20
Ethene	0.127	ND	0.129	0.131	102	103	1	50.0-150			1.54	20
Acetylene	0.208	ND	0.203	0.205	97.6	98.6	1	50.0-150			0.980	20

Method Blank (MB)

(MB) R3779444-3 04/08/22 21:49

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*106*			*80.0-120*
(S) 4-Bromofluorobenzene	*94.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*119*			*70.0-130*

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

(LCS) R3779444-1 04/08/22 20:25 • (LCSD) R3779444-2 04/08/22 20:46

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 %
Benzene	0.00500	0.00571	0.00546	114	109	70.0-123			4.48	20
Toluene	0.00500	0.00571	0.00524	114	105	79.0-120			8.58	20
Ethylbenzene	0.00500	0.00508	0.00484	102	96.8	79.0-123			4.84	20
Xylenes, Total	0.0150	0.0154	0.0146	103	97.3	79.0-123			5.33	20
(S) Toluene-d8				*106*	*103*	*80.0-120*				
(S) 4-Bromofluorobenzene				*97.2*	*98.0*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*119*	*117*	*70.0-130*				

GLOSSARY OF TERMS

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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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).
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Terracon - Longmont, CO

1831 Lefthand Circle
Suite ~~C~~ B
Longmont, CO 80501

Billing Information:
Mike Skridulis
1831 Lefthand Circle
Suite ~~C~~ B
Longmont, CO 80501

Pres Chk

Report to: **Charles Covington**

Email To: **Charles.Covington@terracon.com**

Project Description: **COL Annual GW Sampling**

City/State Collected: Longmont, CO

Please Circle: PT MT CT ET

Phone: **303-454-5249**

Client Project # **22227013**

Lab Project # **TERRALCO-22227013**

Collected by (print): Charles A. Covington

Site/Facility ID #

P.O. #

Collected by (signature): Charles A. Covington

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

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE,CO2,SULFATE 250ml HDPE-NoPres	RSK175 40ml Amb HCl	TDS 1L-HDPE NoPres	V8260BTEX 40ml Amb-HCl	Remarks	Sample # (lab only)
SH1-MW01	Grab	GW	-	4/5/22	1130	7	X	X	X	X		-01
SH1-MW02	Grab	GW	-	4/5/22	1015	7	X	X	X	X		-02
SH1-MW03	Grab	GW	-	4/5/22	1055	7	X	X	X	X		-03
		GW				7	X	X	X	X		
SH2-MW01	Grab	GW	-	4/5/22	1255	7	X	X	X	X		-04
SH2-MW02	Grab	GW	-	4/5/22	1215	7	X	X	X	X		-05
		~~GW~~				~~7~~	X	X	X	X		
		~~GW~~				~~7~~	X	X	X	X		
		~~GW~~				~~7~~	X	X	X	X		
		~~GW~~				~~7~~	X	X	X	X		

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 1479870
G228
Acctnum: TERRALCO
Template: T206700
Prelogin: P915945
PM: 824 - Chris Ward
PB: CP 3-31-22
Shipped Via: FedEx Ground

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS X FedEx __ Courier _____

Tracking # 5671 5380 3994

Sample Receipt Checklist
COC Seal Present/Intact: __NP X Y __N
COC Signed/Accurate: X Y __N
Bottles arrive intact: X Y __N
Correct bottles used: X Y __N
Sufficient volume sent: X Y __N
If Applicable
VOA Zero Headspace: Y __N
Preservation Correct/Checked: X Y __N
RAD Screen <0.5 mR/hr: X Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes (No) HCL / MeoH TBR
Charles A. Covington	4/6/22	1500	FEDEX	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.2 °C Bottles Received: 35
				If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/7/22 Time: 0930
			Patricia Smith	Hold: Condition: NCF / OK

ANALYTICAL REPORT

April 18, 2022

Terracon - Longmont, CO

Sample Delivery Group:	L1479903
Samples Received:	04/07/2022
Project Number:	22227013
Description:	COL Annual GW Sampling

Report To:

Charles Covington
1831 Lefthand Circle
Suite C
Longmont, CO 80501

Entire Report Reviewed By:

Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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CLI-MW01 L1479903-01 GW

Collected by: Travis Whalen | Collected date/time: 04/05/22 14:25 | Received date/time: 04/07/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1845806	1	04/09/22 09:57	04/09/22 15:23	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	1	04/08/22 14:48	04/08/22 14:48	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	10	04/08/22 15:24	04/08/22 15:24	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1846046	1	04/11/22 05:42	04/11/22 05:42	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1847390	1	04/13/22 11:31	04/13/22 11:31	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1845996	1	04/10/22 08:24	04/10/22 08:24	JCP	Mt. Juliet, TN

CLI-MW02 L1479903-02 GW

Collected by: Travis Whalen | Collected date/time: 04/05/22 15:00 | Received date/time: 04/07/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1845806	1	04/09/22 09:57	04/09/22 15:23	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	1	04/08/22 16:36	04/08/22 16:36	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	10	04/08/22 16:54	04/08/22 16:54	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1846046	1	04/11/22 05:45	04/11/22 05:45	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1847390	1	04/13/22 11:39	04/13/22 11:39	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1845996	1	04/10/22 08:44	04/10/22 08:44	JCP	Mt. Juliet, TN

CLI-MW03 L1479903-03 GW

Collected by: Travis Whalen | Collected date/time: 04/05/22 13:55 | Received date/time: 04/07/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1845806	1	04/09/22 09:57	04/09/22 15:23	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	1	04/08/22 17:49	04/08/22 17:49	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	10	04/08/22 18:06	04/08/22 18:06	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1846046	1	04/11/22 05:49	04/11/22 05:49	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1847390	1	04/13/22 11:46	04/13/22 11:46	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1845996	1	04/10/22 09:03	04/10/22 09:03	JCP	Mt. Juliet, TN

SGU-MW01 L1479903-04 GW

Collected by: Travis Whalen | Collected date/time: 04/06/22 09:35 | Received date/time: 04/07/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1845806	1	04/09/22 09:57	04/09/22 15:23	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	1	04/08/22 18:24	04/08/22 18:24	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	10	04/08/22 18:42	04/08/22 18:42	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1846046	1	04/11/22 05:53	04/11/22 05:53	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1847390	1	04/13/22 11:48	04/13/22 11:48	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1845996	1	04/10/22 09:24	04/10/22 09:24	JCP	Mt. Juliet, TN

SGU-MW02 L1479903-05 GW

Collected by: Travis Whalen | Collected date/time: 04/06/22 11:20 | Received date/time: 04/07/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1845806	1	04/09/22 09:57	04/09/22 15:23	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	1	04/08/22 19:00	04/08/22 19:00	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	10	04/08/22 19:18	04/08/22 19:18	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1846046	1	04/11/22 05:57	04/11/22 05:57	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1847390	1	04/13/22 12:06	04/13/22 12:06	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1845996	1	04/10/22 09:44	04/10/22 09:44	JCP	Mt. Juliet, TN

SGU-MW03 L1479903-06 GW

Collected by: Travis Whalen
Collected date/time: 04/06/22 10:00
Received date/time: 04/07/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1847688	1	04/13/22 09:33	04/13/22 14:12	BRG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	1	04/08/22 19:36	04/08/22 19:36	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	10	04/08/22 19:54	04/08/22 19:54	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1846046	1	04/11/22 06:03	04/11/22 06:03	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1847390	1	04/13/22 12:13	04/13/22 12:13	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1845996	1	04/10/22 10:05	04/10/22 10:05	JCP	Mt. Juliet, TN

SGU-MW06 L1479903-07 GW

Collected by: Travis Whalen
Collected date/time: 04/06/22 10:25
Received date/time: 04/07/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1847688	1	04/13/22 09:33	04/13/22 14:12	BRG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	1	04/08/22 20:11	04/08/22 20:11	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1845258	10	04/08/22 20:29	04/08/22 20:29	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1846046	5	04/11/22 07:45	04/11/22 07:45	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1847390	1	04/13/22 12:15	04/13/22 12:15	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1845996	1	04/10/22 10:25	04/10/22 10:25	JCP	Mt. Juliet, TN

CASE NARRATIVE

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

Chris Ward
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	917		13.3	1	04/09/2022 15:23	WG1845806

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	43.0		1.00	1	04/08/2022 14:48	WG1845258
Sulfate	248		50.0	10	04/08/2022 15:24	WG1845258

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	04/11/2022 05:42	WG1846046

Sample Narrative:

L1479903-01 WG1846046: Endpoint pH 4.5 Headspace

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	04/13/2022 11:31	WG1847390
Ethane	ND		0.0130	1	04/13/2022 11:31	WG1847390
Ethene	ND		0.0130	1	04/13/2022 11:31	WG1847390
Acetylene	ND		0.0208	1	04/13/2022 11:31	WG1847390

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/10/2022 08:24	WG1845996
Toluene	ND		0.00100	1	04/10/2022 08:24	WG1845996
Ethylbenzene	ND		0.00100	1	04/10/2022 08:24	WG1845996
Total Xylenes	ND		0.00300	1	04/10/2022 08:24	WG1845996
(S) Toluene-d8	*111*		*80.0-120*		*04/10/2022 08:24*	WG1845996
(S) 4-Bromofluorobenzene	*104*		*77.0-126*		*04/10/2022 08:24*	WG1845996
(S) 1,2-Dichloroethane-d4	*84.2*		*70.0-130*		*04/10/2022 08:24*	WG1845996

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	911		13.3	1	04/09/2022 15:23	WG1845806

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	44.9		1.00	1	04/08/2022 16:36	WG1845258
Sulfate	249		50.0	10	04/08/2022 16:54	WG1845258

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	04/11/2022 05:45	WG1846046

Sample Narrative:

L1479903-02 WG1846046: Endpoint pH 4.5 Headspace

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	04/13/2022 11:39	WG1847390
Ethane	ND		0.0130	1	04/13/2022 11:39	WG1847390
Ethene	ND		0.0130	1	04/13/2022 11:39	WG1847390
Acetylene	ND		0.0208	1	04/13/2022 11:39	WG1847390

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/10/2022 08:44	WG1845996
Toluene	ND		0.00100	1	04/10/2022 08:44	WG1845996
Ethylbenzene	ND		0.00100	1	04/10/2022 08:44	WG1845996
Total Xylenes	ND		0.00300	1	04/10/2022 08:44	WG1845996
(S) Toluene-d8	*109*		*80.0-120*		*04/10/2022 08:44*	WG1845996
(S) 4-Bromofluorobenzene	*100*		*77.0-126*		*04/10/2022 08:44*	WG1845996
(S) 1,2-Dichloroethane-d4	*84.4*		*70.0-130*		*04/10/2022 08:44*	WG1845996

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	785		13.3	1	04/09/2022 15:23	WG1845806

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	43.7		1.00	1	04/08/2022 17:49	WG1845258
Sulfate	284		50.0	10	04/08/2022 18:06	WG1845258

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	04/11/2022 05:49	WG1846046

Sample Narrative:

L1479903-03 WG1846046: Endpoint pH 4.5 Headspace

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	04/13/2022 11:46	WG1847390
Ethane	ND		0.0130	1	04/13/2022 11:46	WG1847390
Ethene	ND		0.0130	1	04/13/2022 11:46	WG1847390
Acetylene	ND		0.0208	1	04/13/2022 11:46	WG1847390

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/10/2022 09:03	WG1845996
Toluene	ND		0.00100	1	04/10/2022 09:03	WG1845996
Ethylbenzene	ND		0.00100	1	04/10/2022 09:03	WG1845996
Total Xylenes	ND		0.00300	1	04/10/2022 09:03	WG1845996
(S) Toluene-d8	*111*		*80.0-120*		*04/10/2022 09:03*	WG1845996
(S) 4-Bromofluorobenzene	*103*		*77.0-126*		*04/10/2022 09:03*	WG1845996
(S) 1,2-Dichloroethane-d4	*85.8*		*70.0-130*		*04/10/2022 09:03*	WG1845996

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	749		13.3	1	04/09/2022 15:23	WG1845806

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	42.5		1.00	1	04/08/2022 18:24	WG1845258
Sulfate	208		50.0	10	04/08/2022 18:42	WG1845258

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	04/11/2022 05:53	WG1846046

Sample Narrative:

L1479903-04 WG1846046: Endpoint pH 4.5 Headspace

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	04/13/2022 11:48	WG1847390
Ethane	ND		0.0130	1	04/13/2022 11:48	WG1847390
Ethene	ND		0.0130	1	04/13/2022 11:48	WG1847390
Acetylene	ND		0.0208	1	04/13/2022 11:48	WG1847390

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/10/2022 09:24	WG1845996
Toluene	ND		0.00100	1	04/10/2022 09:24	WG1845996
Ethylbenzene	ND		0.00100	1	04/10/2022 09:24	WG1845996
Total Xylenes	ND		0.00300	1	04/10/2022 09:24	WG1845996
(S) Toluene-d8	*113*		*80.0-120*		*04/10/2022 09:24*	WG1845996
(S) 4-Bromofluorobenzene	*103*		*77.0-126*		*04/10/2022 09:24*	WG1845996
(S) 1,2-Dichloroethane-d4	*86.0*		*70.0-130*		*04/10/2022 09:24*	WG1845996

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	784		13.3	1	04/09/2022 15:23	WG1845806

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	45.1		1.00	1	04/08/2022 19:00	WG1845258
Sulfate	188		50.0	10	04/08/2022 19:18	WG1845258

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	04/11/2022 05:57	WG1846046

Sample Narrative:

L1479903-05 WG1846046: Endpoint pH 4.5 Headspace

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	04/13/2022 12:06	WG1847390
Ethane	ND		0.0130	1	04/13/2022 12:06	WG1847390
Ethene	ND		0.0130	1	04/13/2022 12:06	WG1847390
Acetylene	ND		0.0208	1	04/13/2022 12:06	WG1847390

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/10/2022 09:44	WG1845996
Toluene	ND		0.00100	1	04/10/2022 09:44	WG1845996
Ethylbenzene	ND		0.00100	1	04/10/2022 09:44	WG1845996
Total Xylenes	ND		0.00300	1	04/10/2022 09:44	WG1845996
(S) Toluene-d8	*111*		*80.0-120*		*04/10/2022 09:44*	WG1845996
(S) 4-Bromofluorobenzene	*104*		*77.0-126*		*04/10/2022 09:44*	WG1845996
(S) 1,2-Dichloroethane-d4	*88.4*		*70.0-130*		*04/10/2022 09:44*	WG1845996

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	767		13.3	1	04/13/2022 14:12	WG1847688

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	44.7		1.00	1	04/08/2022 19:36	WG1845258
Sulfate	222		50.0	10	04/08/2022 19:54	WG1845258

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	04/11/2022 06:03	WG1846046

Sample Narrative:

L1479903-06 WG1846046: Endpoint pH 4.5 Headspace

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	04/13/2022 12:13	WG1847390
Ethane	ND		0.0130	1	04/13/2022 12:13	WG1847390
Ethene	ND		0.0130	1	04/13/2022 12:13	WG1847390
Acetylene	ND		0.0208	1	04/13/2022 12:13	WG1847390

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/10/2022 10:05	WG1845996
Toluene	ND		0.00100	1	04/10/2022 10:05	WG1845996
Ethylbenzene	ND		0.00100	1	04/10/2022 10:05	WG1845996
Total Xylenes	ND		0.00300	1	04/10/2022 10:05	WG1845996
(S) Toluene-d8	*111*		*80.0-120*		*04/10/2022 10:05*	WG1845996
(S) 4-Bromofluorobenzene	*104*		*77.0-126*		*04/10/2022 10:05*	WG1845996
(S) 1,2-Dichloroethane-d4	*85.8*		*70.0-130*		*04/10/2022 10:05*	WG1845996

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	776		13.3	1	04/13/2022 14:12	WG1847688

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	48.6		1.00	1	04/08/2022 20:11	WG1845258
Sulfate	229		50.0	10	04/08/2022 20:29	WG1845258

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	100	5	04/11/2022 07:45	WG1846046

Sample Narrative:

L1479903-07 WG1846046: Endpoint pH 4.5 Headspace

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	04/13/2022 12:15	WG1847390
Ethane	ND		0.0130	1	04/13/2022 12:15	WG1847390
Ethene	ND		0.0130	1	04/13/2022 12:15	WG1847390
Acetylene	ND		0.0208	1	04/13/2022 12:15	WG1847390

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/10/2022 10:25	WG1845996
Toluene	ND		0.00100	1	04/10/2022 10:25	WG1845996
Ethylbenzene	ND		0.00100	1	04/10/2022 10:25	WG1845996
Total Xylenes	ND		0.00300	1	04/10/2022 10:25	WG1845996
(S) Toluene-d8	*111*		*80.0-120*		*04/10/2022 10:25*	WG1845996
(S) 4-Bromofluorobenzene	*103*		*77.0-126*		*04/10/2022 10:25*	WG1845996
(S) 1,2-Dichloroethane-d4	*87.9*		*70.0-130*		*04/10/2022 10:25*	WG1845996

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

Method Blank (MB)

(MB) R3780102-1 04/09/22 15:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1478930-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1478930-02 04/09/22 15:23 • (DUP) R3780102-3 04/09/22 15:23

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	380	388	1	2.08		5

L1479493-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1479493-04 04/09/22 15:23 • (DUP) R3780102-4 04/09/22 15:23

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	2460	2460	1	0.203		5

Laboratory Control Sample (LCS)

(LCS) R3780102-2 04/09/22 15:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8650	98.3	77.4-123	

Method Blank (MB)

(MB) R3781728-1 04/13/22 14:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1479903-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1479903-06 04/13/22 14:12 • (DUP) R3781728-3 04/13/22 14:12

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	767	756	1	1.40		5

L1479903-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1479903-07 04/13/22 14:12 • (DUP) R3781728-4 04/13/22 14:12

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	776	776	1	0.000		5

L1480045-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1480045-01 04/13/22 14:12 • (DUP) R3781728-5 04/13/22 14:12

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	90.0	94.0	1	4.35		5

Laboratory Control Sample (LCS)

(LCS) R3781728-2 04/13/22 14:12

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8450	96.0	77.4-123	

Method Blank (MB)

(MB) R3779293-1 04/08/22 09:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Sulfate	U		0.594	5.00

L1479903-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1479903-01 04/08/22 14:48 • (DUP) R3779293-3 04/08/22 15:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	43.0	42.6	1	0.881		20

L1479903-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1479903-01 04/08/22 15:24 • (DUP) R3779293-4 04/08/22 15:42

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	248	246	10	0.556		20

L1479902-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1479902-01 04/08/22 21:41 • (DUP) R3779293-7 04/08/22 21:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	12.8	12.8	1	0.559		20
Sulfate	33.0	32.9	1	0.225		20

Laboratory Control Sample (LCS)

(LCS) R3779293-2 04/08/22 10:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.7	99.3	90.0-110	
Sulfate	40.0	39.5	98.8	90.0-110	

L1479903-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1479903-01 04/08/22 14:48 • (MS) R3779293-5 04/08/22 16:00 • (MSD) R3779293-6 04/08/22 16:18

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 %
Chloride	50.0	43.0	93.2	93.7	100	101	1	80.0-120			0.558	20
Sulfate	50.0	273	288	276	30.4	5.86	1	80.0-120	E V	E V	4.34	20

L1479902-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1479902-01 04/08/22 21:41 • (MS) R3779293-8 04/08/22 22:17

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	12.8	65.3	105	1	80.0-120	
Sulfate	50.0	33.0	82.0	98.1	1	80.0-120	

Method Blank (MB)

(MB) R3779563-3 04/11/22 05:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Free Carbon Dioxide	U		6.67	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1480033-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1480033-06 04/11/22 06:19 • (DUP) R3779563-5 04/11/22 06:22

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	206	200	1	2.94		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1480042-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1480042-07 04/11/22 06:57 • (DUP) R3779563-7 04/11/22 07:02

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3780533-2 04/13/22 11:03

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
Acetylene	U		0.00558	0.0208

L1479903-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1479903-05 04/13/22 12:06 • (DUP) R3780533-3 04/13/22 12:11

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

L1480115-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1480115-02 04/13/22 12:41 • (DUP) R3780533-4 04/13/22 12:44

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Methane	0.363	0.385	1	5.88		20
Ethane	ND	ND	1	0.000		20
Ethene	ND	ND	1	0.000		20
Acetylene	ND	ND	1	0.000		20

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

(LCS) R3780533-1 04/13/22 11:00 • (LCSD) R3780533-5 04/13/22 12:47

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	0.0664	0.0657	97.9	96.9	85.0-115			1.06	20
Ethane	0.129	0.122	0.121	94.6	93.8	85.0-115			0.823	20
Ethene	0.127	0.124	0.122	97.6	96.1	85.0-115			1.63	20
Acetylene	0.208	0.189	0.209	90.9	100	85.0-115			10.1	20

Method Blank (MB)

(MB) R3779778-2 04/10/22 06:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*110*			*80.0-120*
(S) 4-Bromofluorobenzene	*104*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*85.4*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3779778-1 04/10/22 04:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00451	90.2	70.0-123	
Toluene	0.00500	0.00485	97.0	79.0-120	
Ethylbenzene	0.00500	0.00518	104	79.0-123	
Xylenes, Total	0.0150	0.0154	103	79.0-123	
(S) Toluene-d8			*110*	*80.0-120*	
(S) 4-Bromofluorobenzene			*106*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*86.6*	*70.0-130*	

GLOSSARY OF TERMS

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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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).
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Terracon - Longmont, CO

1831 Lefthand Circle
Suite ~~&~~ B
Longmont, CO 80501

Report to:
Charles Covington

Billing Information:
Mike Skridulis
1831 Lefthand Circle
Suite ~~&~~ B
Longmont, CO 80501

Email To: **Charles.Covington@terracon.com**

Pres Chk

Project Description:
COL Annual GW Sampling

City/State Collected: Longmont, CO

Please Circle: PT (MT) CT ET

Phone: **303-454-5249**

Client Project #
22227013

Lab Project #
TERRALCO-22227013

Collected by (print):
Travis Whalen

Site/Facility ID #

P.O. #

Collected by (signature):
Travis Whalen

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

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE,CO2,SULFATE 250mlHDPE-NoPres	RSK175 40mlAmb HCl	TDS 1L-HDPE NoPres	V8260BTEX 40mlAmb-HCl	Remarks	Sample # (lab only)
CL1-MW01	Grab	GW	-	4/5/22	1425	7	X	X	X	X		-01
CL1-MW02	Grab	GW	-	4/5/22	1500	7	X	X	X	X		-02
CL1-MW03	Grab	GW	-	4/5/22	1355	7	X	X	X	X		-03
SGU-MW01	Grab	GW	-	4/6/22	0935	7	X	X	X	X		-04
SGU-MW02	Grab	GW	-	4/6/22	1120	7	X	X	X	X		-05
SGU-MW03	Grab	GW	-	4/6/22	1000	7	X	X	X	X		-06
SGU-MW06	Grab	GW	-	4/6/22	1025	7	X	X	X	X		-07
		~~GW~~				~~7~~	~~X~~	~~X~~	~~X~~	~~X~~		
		~~GW~~				~~7~~	~~X~~	~~X~~	~~X~~	~~X~~		
		~~GW~~				~~7~~	~~X~~	~~X~~	~~X~~	~~X~~		

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1479903

C204

Acctnum: **TERRALCO**
Template: **T206700**
Prelogin: **P915945**
PM: **824 - Chris Ward**
PB: **DP 3.31.22**
Shipped Via: **FedEx Ground**

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking # 5671 5380 4008

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
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: (Yes) / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Travis Whalen	4/6/22	1500	Fedex		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.9 °C 4.9 Bottles Received: 49	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Adrianna Thomas	Date: 4.7.22 Time: 0900	Hold: Condition: NCF / (OK)

ANALYTICAL REPORT

May 02, 2022

Terracon - Longmont, CO

Sample Delivery Group:	L1485846
Samples Received:	04/22/2022
Project Number:	22227013
Description:	COL Annual GW Sampling

Report To: Charles Covington
1831 Lefthand Circle
Suite C
Longmont, CO 80501

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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TB1-MW01 L1485846-01 GW

Collected by: Charles A. Covington | Collected date/time: 04/19/22 14:40 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1853567	1	04/24/22 16:05	04/24/22 19:14	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	5	04/26/22 16:47	04/26/22 16:47	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	50	04/26/22 17:03	04/26/22 17:03	KEG	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855010	1	04/28/22 13:01	04/28/22 13:01	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1854597	1	04/27/22 15:08	04/27/22 15:08	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/25/22 01:44	04/25/22 01:44	ADM	Mt. Juliet, TN

TB1-MW02 L1485846-02 GW

Collected by: Charles A. Covington | Collected date/time: 04/19/22 15:00 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854023	1	04/25/22 14:53	04/25/22 17:35	VRP	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	5	04/26/22 17:18	04/26/22 17:18	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	50	04/26/22 17:33	04/26/22 17:33	KEG	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855010	1	04/28/22 13:08	04/28/22 13:08	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1854597	1	04/27/22 15:11	04/27/22 15:11	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/25/22 02:03	04/25/22 02:03	ADM	Mt. Juliet, TN

TB1-MW03R L1485846-03 GW

Collected by: Charles A. Covington | Collected date/time: 04/19/22 15:20 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854023	1	04/25/22 14:53	04/25/22 17:35	VRP	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	5	04/26/22 18:20	04/26/22 18:20	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854993	100	04/27/22 12:25	04/27/22 12:25	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855010	1	04/28/22 13:12	04/28/22 13:12	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1854597	1	04/27/22 15:15	04/27/22 15:15	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/25/22 02:22	04/25/22 02:22	ADM	Mt. Juliet, TN

E6W-MW01 L1485846-04 GW

Collected by: Charles A. Covington | Collected date/time: 04/21/22 11:25 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854641	1	04/26/22 17:09	04/26/22 17:46	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854722	1	04/27/22 05:10	04/27/22 05:10	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854722	10	04/27/22 05:23	04/27/22 05:23	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 14:06	04/28/22 14:06	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1854597	1	04/27/22 15:20	04/27/22 15:20	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/25/22 02:41	04/25/22 02:41	ADM	Mt. Juliet, TN

E6W-MW02 L1485846-05 GW

Collected by: Charles A. Covington | Collected date/time: 04/21/22 10:25 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1855320	1	04/27/22 15:02	04/27/22 18:40	SJF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854722	1	04/27/22 05:35	04/27/22 05:35	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854722	20	04/27/22 05:48	04/27/22 05:48	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 14:09	04/28/22 14:09	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1854597	1	04/27/22 15:25	04/27/22 15:25	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/25/22 03:00	04/25/22 03:00	ADM	Mt. Juliet, TN

E6W-MW03 L1485846-06 GW

Collected by: Charles A. Covington | Collected date/time: 04/21/22 10:55 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854411	1	04/26/22 11:28	04/26/22 13:44	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854722	1	04/27/22 06:00	04/27/22 06:00	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854722	20	04/27/22 06:13	04/27/22 06:13	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 14:12	04/28/22 14:12	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1854597	1	04/27/22 15:48	04/27/22 15:48	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/25/22 03:19	04/25/22 03:19	ADM	Mt. Juliet, TN

E6T-MW01 L1485846-07 GW

Collected by: Charles A. Covington | Collected date/time: 04/21/22 12:35 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854411	1	04/26/22 11:28	04/26/22 13:44	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854722	50	04/27/22 06:50	04/27/22 06:50	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 14:16	04/28/22 14:16	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1854597	1	04/27/22 15:50	04/27/22 15:50	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/25/22 03:38	04/25/22 03:38	ADM	Mt. Juliet, TN

E6T-MW02 L1485846-08 GW

Collected by: Charles A. Covington | Collected date/time: 04/21/22 12:10 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854411	1	04/26/22 11:28	04/26/22 13:44	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854722	100	04/27/22 07:02	04/27/22 07:02	LBR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1856089	20	04/29/22 03:34	04/29/22 03:34	KEG	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 14:20	04/28/22 14:20	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1854597	1	04/27/22 15:53	04/27/22 15:53	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/25/22 03:57	04/25/22 03:57	ADM	Mt. Juliet, TN

E6T-MW03 L1485846-09 GW

Collected by: Charles A. Covington | Collected date/time: 04/21/22 13:00 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854411	1	04/26/22 11:28	04/26/22 13:44	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854722	100	04/27/22 07:15	04/27/22 07:15	LBR	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 14:23	04/28/22 14:23	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1854597	1	04/27/22 15:55	04/27/22 15:55	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/25/22 04:16	04/25/22 04:16	ADM	Mt. Juliet, TN

CASE NARRATIVE

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

Chris Ward
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	4950		50.0	1	04/24/2022 19:14	WG1853567

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	118		5.00	5	04/26/2022 16:47	WG1854280
Sulfate	4150		250	50	04/26/2022 17:03	WG1854280

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	66.0	T8	20.0	1	04/28/2022 13:01	WG1855010

Sample Narrative:

L1485846-01 WG1855010: Endpoint pH 4.5 Headspace

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	04/27/2022 15:08	WG1854597
Ethane	ND		0.0130	1	04/27/2022 15:08	WG1854597
Ethene	ND		0.0130	1	04/27/2022 15:08	WG1854597
Acetylene	ND		0.0208	1	04/27/2022 15:08	WG1854597

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 01:44	WG1853674
Toluene	ND		0.00100	1	04/25/2022 01:44	WG1853674
Ethylbenzene	ND		0.00100	1	04/25/2022 01:44	WG1853674
Total Xylenes	ND		0.00300	1	04/25/2022 01:44	WG1853674
(S) Toluene-d8	*99.2*		*80.0-120*		*04/25/2022 01:44*	WG1853674
(S) 4-Bromofluorobenzene	*90.6*		*77.0-126*		*04/25/2022 01:44*	WG1853674
(S) 1,2-Dichloroethane-d4	*124*		*70.0-130*		*04/25/2022 01:44*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	3150		50.0	1	04/25/2022 17:35	WG1854023

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	375		5.00	5	04/26/2022 17:18	WG1854280
Sulfate	2240		250	50	04/26/2022 17:33	WG1854280

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	39.0	T8	20.0	1	04/28/2022 13:08	WG1855010

Sample Narrative:

L1485846-02 WG1855010: Endpoint pH 4.5 Headspace

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	04/27/2022 15:11	WG1854597
Ethane	ND		0.0130	1	04/27/2022 15:11	WG1854597
Ethene	ND		0.0130	1	04/27/2022 15:11	WG1854597
Acetylene	ND		0.0208	1	04/27/2022 15:11	WG1854597

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 02:03	WG1853674
Toluene	ND		0.00100	1	04/25/2022 02:03	WG1853674
Ethylbenzene	ND		0.00100	1	04/25/2022 02:03	WG1853674
Total Xylenes	ND		0.00300	1	04/25/2022 02:03	WG1853674
(S) Toluene-d8	*99.1*		*80.0-120*		*04/25/2022 02:03*	WG1853674
(S) 4-Bromofluorobenzene	*89.3*		*77.0-126*		*04/25/2022 02:03*	WG1853674
(S) 1,2-Dichloroethane-d4	*124*		*70.0-130*		*04/25/2022 02:03*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	5010		100	1	04/25/2022 17:35	WG1854023

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	199		5.00	5	04/26/2022 18:20	WG1854280
Sulfate	5400		500	100	04/27/2022 12:25	WG1854993

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	26.4	T8	20.0	1	04/28/2022 13:12	WG1855010

Sample Narrative:

L1485846-03 WG1855010: Endpoint pH 4.5 Headspace

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	04/27/2022 15:15	WG1854597
Ethane	ND		0.0130	1	04/27/2022 15:15	WG1854597
Ethene	ND		0.0130	1	04/27/2022 15:15	WG1854597
Acetylene	ND		0.0208	1	04/27/2022 15:15	WG1854597

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 02:22	WG1853674
Toluene	ND		0.00100	1	04/25/2022 02:22	WG1853674
Ethylbenzene	ND		0.00100	1	04/25/2022 02:22	WG1853674
Total Xylenes	ND		0.00300	1	04/25/2022 02:22	WG1853674
(S) Toluene-d8	*99.9*		*80.0-120*		*04/25/2022 02:22*	WG1853674
(S) 4-Bromofluorobenzene	*89.7*		*77.0-126*		*04/25/2022 02:22*	WG1853674
(S) 1,2-Dichloroethane-d4	*124*		*70.0-130*		*04/25/2022 02:22*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1380		20.0	1	04/26/2022 17:46	WG1854641

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	34.3		1.00	1	04/27/2022 05:10	WG1854722
Sulfate	785		50.0	10	04/27/2022 05:23	WG1854722

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	23.8	T8	20.0	1	04/28/2022 14:06	WG1855652

Sample Narrative:

L1485846-04 WG1855652: Endpoint pH 4.5 Headspace

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	04/27/2022 15:20	WG1854597
Ethane	ND		0.0130	1	04/27/2022 15:20	WG1854597
Ethene	ND		0.0130	1	04/27/2022 15:20	WG1854597
Acetylene	ND		0.0208	1	04/27/2022 15:20	WG1854597

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 02:41	WG1853674
Toluene	ND		0.00100	1	04/25/2022 02:41	WG1853674
Ethylbenzene	ND		0.00100	1	04/25/2022 02:41	WG1853674
Total Xylenes	ND		0.00300	1	04/25/2022 02:41	WG1853674
(S) Toluene-d8	*101*		*80.0-120*		*04/25/2022 02:41*	WG1853674
(S) 4-Bromofluorobenzene	*88.9*		*77.0-126*		*04/25/2022 02:41*	WG1853674
(S) 1,2-Dichloroethane-d4	*124*		*70.0-130*		*04/25/2022 02:41*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1590		20.0	1	04/27/2022 18:40	WG1855320

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	34.4		1.00	1	04/27/2022 05:35	WG1854722
Sulfate	888		100	20	04/27/2022 05:48	WG1854722

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	04/28/2022 14:09	WG1855652

Sample Narrative:

L1485846-05 WG1855652: Endpoint pH 4.5 Headspace

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	04/27/2022 15:25	WG1854597
Ethane	ND		0.0130	1	04/27/2022 15:25	WG1854597
Ethene	ND		0.0130	1	04/27/2022 15:25	WG1854597
Acetylene	ND		0.0208	1	04/27/2022 15:25	WG1854597

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 03:00	WG1853674
Toluene	ND		0.00100	1	04/25/2022 03:00	WG1853674
Ethylbenzene	ND		0.00100	1	04/25/2022 03:00	WG1853674
Total Xylenes	ND		0.00300	1	04/25/2022 03:00	WG1853674
(S) Toluene-d8	*99.5*		*80.0-120*		*04/25/2022 03:00*	WG1853674
(S) 4-Bromofluorobenzene	*89.4*		*77.0-126*		*04/25/2022 03:00*	WG1853674
(S) 1,2-Dichloroethane-d4	*125*		*70.0-130*		*04/25/2022 03:00*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1620		20.0	1	04/26/2022 13:44	WG1854411

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	35.7		1.00	1	04/27/2022 06:00	WG1854722
Sulfate	990		100	20	04/27/2022 06:13	WG1854722

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	20.8	T8	20.0	1	04/28/2022 14:12	WG1855652

Sample Narrative:

L1485846-06 WG1855652: Endpoint pH 4.5 Headspace

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	04/27/2022 15:48	WG1854597
Ethane	ND		0.0130	1	04/27/2022 15:48	WG1854597
Ethene	ND		0.0130	1	04/27/2022 15:48	WG1854597
Acetylene	ND		0.0208	1	04/27/2022 15:48	WG1854597

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 03:19	WG1853674
Toluene	ND		0.00100	1	04/25/2022 03:19	WG1853674
Ethylbenzene	ND		0.00100	1	04/25/2022 03:19	WG1853674
Total Xylenes	ND		0.00300	1	04/25/2022 03:19	WG1853674
(S) Toluene-d8	*100*		*80.0-120*		*04/25/2022 03:19*	WG1853674
(S) 4-Bromofluorobenzene	*90.9*		*77.0-126*		*04/25/2022 03:19*	WG1853674
(S) 1,2-Dichloroethane-d4	*126*		*70.0-130*		*04/25/2022 03:19*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2010		50.0	1	04/26/2022 13:44	WG1854411

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	84.0		50.0	50	04/27/2022 06:50	WG1854722
Sulfate	1430		250	50	04/27/2022 06:50	WG1854722

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	04/28/2022 14:16	WG1855652

Sample Narrative:

L1485846-07 WG1855652: Endpoint pH 4.5 Headspace

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	04/27/2022 15:50	WG1854597
Ethane	ND		0.0130	1	04/27/2022 15:50	WG1854597
Ethene	ND		0.0130	1	04/27/2022 15:50	WG1854597
Acetylene	ND		0.0208	1	04/27/2022 15:50	WG1854597

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 03:38	WG1853674
Toluene	ND		0.00100	1	04/25/2022 03:38	WG1853674
Ethylbenzene	ND		0.00100	1	04/25/2022 03:38	WG1853674
Total Xylenes	ND		0.00300	1	04/25/2022 03:38	WG1853674
(S) Toluene-d8	*101*		*80.0-120*		*04/25/2022 03:38*	WG1853674
(S) 4-Bromofluorobenzene	*88.6*		*77.0-126*		*04/25/2022 03:38*	WG1853674
(S) 1,2-Dichloroethane-d4	*123*		*70.0-130*		*04/25/2022 03:38*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	3530		50.0	1	04/26/2022 13:44	WG1854411

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	95.0		20.0	20	04/29/2022 03:34	WG1856089
Sulfate	3080		500	100	04/27/2022 07:02	WG1854722

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	04/28/2022 14:20	WG1855652

Sample Narrative:

L1485846-08 WG1855652: Endpoint pH 4.5 Headspace

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	04/27/2022 15:53	WG1854597
Ethane	ND		0.0130	1	04/27/2022 15:53	WG1854597
Ethene	ND		0.0130	1	04/27/2022 15:53	WG1854597
Acetylene	ND		0.0208	1	04/27/2022 15:53	WG1854597

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 03:57	WG1853674
Toluene	ND		0.00100	1	04/25/2022 03:57	WG1853674
Ethylbenzene	ND		0.00100	1	04/25/2022 03:57	WG1853674
Total Xylenes	ND		0.00300	1	04/25/2022 03:57	WG1853674
(S) Toluene-d8	*99.1*		*80.0-120*		*04/25/2022 03:57*	WG1853674
(S) 4-Bromofluorobenzene	*88.7*		*77.0-126*		*04/25/2022 03:57*	WG1853674
(S) 1,2-Dichloroethane-d4	*125*		*70.0-130*		*04/25/2022 03:57*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	4270		100	1	04/26/2022 13:44	WG1854411

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	140		100	100	04/27/2022 07:15	WG1854722
Sulfate	4720		500	100	04/27/2022 07:15	WG1854722

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	04/28/2022 14:23	WG1855652

Sample Narrative:

L1485846-09 WG1855652: Endpoint pH 4.5 Headspace

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	04/27/2022 15:55	WG1854597
Ethane	ND		0.0130	1	04/27/2022 15:55	WG1854597
Ethene	ND		0.0130	1	04/27/2022 15:55	WG1854597
Acetylene	ND		0.0208	1	04/27/2022 15:55	WG1854597

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 04:16	WG1853674
Toluene	ND		0.00100	1	04/25/2022 04:16	WG1853674
Ethylbenzene	ND		0.00100	1	04/25/2022 04:16	WG1853674
Total Xylenes	ND		0.00300	1	04/25/2022 04:16	WG1853674
(S) Toluene-d8	*99.8*		*80.0-120*		*04/25/2022 04:16*	WG1853674
(S) 4-Bromofluorobenzene	*88.8*		*77.0-126*		*04/25/2022 04:16*	WG1853674
(S) 1,2-Dichloroethane-d4	*127*		*70.0-130*		*04/25/2022 04:16*	WG1853674

Method Blank (MB)

(MB) R3785540-1 04/24/22 19:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1485849-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485849-01 04/24/22 19:14 • (DUP) R3785540-3 04/24/22 19:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1050	1060	1	1.01		5

L1485849-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1485849-05 04/24/22 19:14 • (DUP) R3785540-4 04/24/22 19:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	586	606	1	3.36		5

Laboratory Control Sample (LCS)

(LCS) R3785540-2 04/24/22 19:14

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	2460	2570	104	81.7-118	

Method Blank (MB)

(MB) R3785312-1 04/25/22 17:35

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1484948-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1484948-08 04/25/22 17:35 • (DUP) R3785312-4 04/25/22 17:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	761	793	1	4.12		5

L1484948-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1484948-10 04/25/22 17:35 • (DUP) R3785312-5 04/25/22 17:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	721	772	1	6.79	J3	5

Laboratory Control Sample (LCS)

(LCS) R3785312-3 04/25/22 17:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	2460	2640	107	81.7-118	

Method Blank (MB)

(MB) R3785986-1 04/26/22 13:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1484142-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1484142-01 04/26/22 13:44 • (DUP) R3785986-3 04/26/22 13:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	888	919	1	3.40		5

L1484948-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1484948-02 04/26/22 13:44 • (DUP) R3785986-4 04/26/22 13:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	897	936	1	4.22		5

Laboratory Control Sample (LCS)

(LCS) R3785986-2 04/26/22 13:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	2460	2830	115	81.7-118	

Method Blank (MB)

(MB) R3786216-1 04/26/22 17:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1484852-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1484852-02 04/26/22 17:46 • (DUP) R3786216-3 04/26/22 17:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	547	566	1	3.41		5

L1484852-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1484852-03 04/26/22 17:46 • (DUP) R3786216-4 04/26/22 17:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	546	564	1	3.24		5

Laboratory Control Sample (LCS)

(LCS) R3786216-2 04/26/22 17:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	2460	2760	112	81.7-118	

Method Blank (MB)

(MB) R3786702-1 04/27/22 18:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1485030-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485030-01 04/27/22 18:40 • (DUP) R3786702-3 04/27/22 18:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1410	1470	1	3.88		5

L1485171-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485171-01 04/27/22 18:40 • (DUP) R3786702-4 04/27/22 18:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	751	775	1	3.15		5

Laboratory Control Sample (LCS)

(LCS) R3786702-2 04/27/22 18:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	2460	2570	104	81.7-118	

Method Blank (MB)

(MB) R3785451-1 04/26/22 11:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Sulfate	U		0.594	5.00

L1485235-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485235-01 04/26/22 15:15 • (DUP) R3785451-3 04/26/22 15:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	14.1	14.0	1	0.619		20
Sulfate	ND	ND	1	0.000		20

L1485849-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1485849-06 04/26/22 20:08 • (DUP) R3785451-6 04/26/22 20:23

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	25.3	25.2	1	0.227		20

Laboratory Control Sample (LCS)

(LCS) R3785451-2 04/26/22 11:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.2	98.0	90.0-110	
Sulfate	40.0	40.0	99.9	90.0-110	

L1485235-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1485235-01 04/26/22 15:15 • (MS) R3785451-4 04/26/22 15:46 • (MSD) R3785451-5 04/26/22 16:01

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 %
Chloride	50.0	14.1	65.3	65.1	102	102	1	80.0-120			0.251	20
Sulfate	50.0	ND	51.4	51.2	103	102	1	80.0-120			0.267	20

L1485849-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1485849-06 04/26/22 20:08 • (MS) R3785451-7 04/26/22 20:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	25.3	76.2	102	1	80.0-120	

Method Blank (MB)

(MB) R3786271-1 04/26/22 22:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Sulfate	U		0.594	5.00

L1485275-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1485275-07 04/26/22 23:29 • (DUP) R3786271-3 04/26/22 23:42

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	38.7	38.8	1	0.450		20
Sulfate	94.4	94.6	1	0.191		20

L1485558-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1485558-09 04/27/22 04:21 • (DUP) R3786271-6 04/27/22 04:33

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	ND	1	0.000		20
Sulfate	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3786271-2 04/26/22 22:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.0	99.9	90.0-110	
Sulfate	40.0	40.2	101	90.0-110	

L1485275-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1485275-07 04/26/22 23:29 • (MS) R3786271-4 04/26/22 23:54 • (MSD) R3786271-5 04/27/22 00:07

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 %
Chloride	50.0	38.7	88.4	88.4	99.6	99.4	1	80.0-120			0.0718	20
Sulfate	50.0	94.4	140	140	90.9	90.4	1	80.0-120	E	E	0.205	20

L1485558-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L1485558-09 04/27/22 04:21 • (MS) R3786271-7 04/27/22 04:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	ND	51.5	103	1	80.0-120	
Sulfate	50.0	ND	52.2	104	1	80.0-120	

Method Blank (MB)

(MB) R3786430-1 04/27/22 09:48

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	U		0.594	5.00

L1486401-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1486401-01 04/27/22 11:21 • (DUP) R3786430-3 04/27/22 11:33

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	45.1	48.2	1	6.65		20

L1486403-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1486403-01 04/27/22 14:33 • (DUP) R3786430-6 04/27/22 14:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	34.7	34.6	1	0.183		20

Laboratory Control Sample (LCS)

(LCS) R3786430-2 04/27/22 10:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	40.8	102	90.0-110	

L1486401-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1486401-01 04/27/22 11:21 • (MS) R3786430-4 04/27/22 11:46 • (MSD) R3786430-5 04/27/22 11:59

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	45.1	95.5	93.7	101	97.3	1	80.0-120			1.84	20

L1486403-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1486403-01 04/27/22 14:33 • (MS) R3786430-7 04/27/22 14:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	34.7	83.3	97.3	1	80.0-120	

Method Blank (MB)

(MB) R3786386-1 04/28/22 12:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00

L1485643-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1485643-06 04/29/22 02:29 • (DUP) R3786386-3 04/29/22 02:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	38.9	38.5	1	0.899		20

L1486763-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1486763-01 04/29/22 07:24 • (DUP) R3786386-6 04/29/22 07:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	57.6	59.1	1	2.55		20

Laboratory Control Sample (LCS)

(LCS) R3786386-2 04/28/22 13:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.7	99.2	90.0-110	

L1485643-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1485643-06 04/29/22 02:29 • (MS) R3786386-4 04/29/22 03:01 • (MSD) R3786386-5 04/29/22 03:18

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 %
Chloride	50.0	38.9	84.9	85.0	92.1	92.2	1	80.0-120			0.0911	20

L1486763-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1486763-01 04/29/22 07:24 • (MS) R3786386-7 04/29/22 07:57

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	57.6	103	90.7	1	80.0-120	E

Method Blank (MB)

(MB) R3786041-3 04/28/22 11:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Free Carbon Dioxide	U		6.67	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1485235-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485235-01 04/28/22 11:41 • (DUP) R3786041-5 04/28/22 11:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1485846-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485846-01 04/28/22 13:01 • (DUP) R3786041-7 04/28/22 13:05

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	66.0	67.2	1	1.71		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3786206-3 04/28/22 14:01

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Free Carbon Dioxide	U		6.67	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1485849-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485849-01 04/28/22 14:27 • (DUP) R3786206-5 04/28/22 14:31

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1485924-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485924-01 04/28/22 15:16 • (DUP) R3786206-7 04/28/22 15:20

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3785706-2 04/27/22 14:27

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Methane	U		0.00291	0.0100
Ethane	U		0.00407	0.0130
Ethene	U		0.00426	0.0130
Acetylene	U		0.00558	0.0208

L1485846-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1485846-04 04/27/22 15:20 • (DUP) R3785706-3 04/27/22 15:22

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

L1485849-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1485849-05 04/27/22 16:17 • (DUP) R3785706-4 04/27/22 16:24

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

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

(LCS) R3785706-1 04/27/22 14:25 • (LCSD) R3785706-5 04/27/22 16:27

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 %
Methane	0.0678	0.0697	0.0660	103	97.3	85.0-115			5.45	20
Ethane	0.129	0.117	0.115	90.7	89.1	85.0-115			1.72	20
Ethene	0.127	0.118	0.117	92.9	92.1	85.0-115			0.851	20
Acetylene	0.208	0.191	0.199	91.8	95.7	85.0-115			4.10	20

Method Blank (MB)

(MB) R3785610-3 04/24/22 21:27

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*102*			*80.0-120*
(S) 4-Bromofluorobenzene	*94.1*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*

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

(LCS) R3785610-1 04/24/22 20:30 • (LCSD) R3785610-2 04/24/22 20:49

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 %
Benzene	0.00500	0.00491	0.00510	98.2	102	70.0-123			3.80	20
Toluene	0.00500	0.00469	0.00472	93.8	94.4	79.0-120			0.638	20
Ethylbenzene	0.00500	0.00430	0.00437	86.0	87.4	79.0-123			1.61	20
Xylenes, Total	0.0150	0.0136	0.0137	90.7	91.3	79.0-123			0.733	20
(S) Toluene-d8				*101*	*98.7*	*80.0-120*				
(S) 4-Bromofluorobenzene				*99.3*	*97.9*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*115*	*117*	*70.0-130*				

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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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).
J3	The associated batch QC was outside the established quality control range for precision.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Terracon - Longmont, CO

1831 Lefthand Circle
Suite B
Longmont, CO 80501

Billing Information:
Mike Skridulis
1831 Lefthand Circle
Suite B
Longmont, CO 80501

Pres Chk

Report to:
Charles Covington

Email To: **Charles.Covington@terracon.com**

Project Description:
COL Annual GW Sampling

City/State Collected: **Longmont, CO**

Please Circle: PT (MT) CT ET

Phone: **303-454-5249**

Client Project #
22227013

Lab Project #
TERRALCO-22227013

Collected by (print):
Charles A. Covington

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

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE,CO2,SULFATE 250mlHDPE-NoPres	RSK175 40mlAmb HCl	TDS 1L-HDPE NoPres	V8260BTEX 40mlAmb-HCl	Remarks	Sample # (lab only)
TB1-MW01	Grab	GW	-	4/19/22	1440	7	X	X	X	X		-01
TB1-MW02	Grab	GW	-	4/19/22	1500	7	X	X	X	X		-02
TB1-MW03R	Grab	GW	-	4/19/22	1520	7	X	X	X	X		-03
E6W-MW01	Grab	GW	-	4/21/22	1125	7	X	X	X	X		-04
E6W-MW02	Grab	GW	-	4/21/22	1025	7	X	X	X	X		-05
E6W-MW03	Grab	GW	-	4/21/22	1055	7	X	X	X	X		-06
E6T-MW01	Grab	GW	-	4/21/22	1235	7	X	X	X	X		-07
E6T-MW02	Grab	GW	-	4/21/22	1210	7	X	X	X	X		-08
E6T-MW03	Grab	GW	-	4/21/22	1300	7	X	X	X	X		-09
		GW				~~7~~	~~X~~	~~X~~	~~X~~	~~X~~		

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1485846
F135

Acctnum: **TERRALCO**
Template: **T206700**
Prelogin: **P915945**
PM: **824 - Chris Ward**
PB: **DP 3-31-22**
Shipped Via: **FedEX Ground**

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

Remarks:

pH ___ Temp ___
Flow ___ Other ___

Samples returned via:
__ UPS X FedEx __ Courier ___

Tracking # 5671 5380 4041

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
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	4/21/22	1600	FEDEX	0	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: DRAFT Bottles Received: 3.8 to=3.8 79	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/22/22 Time: 900	Hold: / Condition: NCF / OK

4/23-NCF-L1485846 TERRALCO

R5

Time estimate: oh **Time spent:** oh

Members

HM Hailey Melson (responsible) Chris Ward

Due on *27 April 2022 8:00 AM* for target *Done*

- [x] Parameter(s) past holding time
- [ ] Temperature not in range
- [ ] Improper container type
- [ ] pH not in range
- [ ] Insufficient sample volume
- [ ] Sample is biphasic
- [ ] Vials received with headspace
- [ ] Broken container
- [ ] Sufficient sample remains
- [ ] If broken container: Insufficient packing material around container
- [ ] If broken container: Insufficient packing material inside cooler
- [ ] If broken container: Improper handling by carrier:_____
- [ ] If broken container: Sample was frozen
- [ ] If broken container: Container lid not intact
- [ ] Client informed by Call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____

Comments

Hailey Melson *23 April 2022 6:29 PM*

1 vial broken for ID: TB1-MW02. 2 VOC vials remain.

ANALYTICAL REPORT

April 29, 2022

Terracon - Longmont, CO

Sample Delivery Group:	L1485849
Samples Received:	04/22/2022
Project Number:	22227013
Description:	COL Annual GW Sampling

Report To:

Charles Covington
1831 Lefthand Circle
Suite C
Longmont, CO 80501

Entire Report Reviewed By:

Chris Ward
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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TB7-MW01 L1485849-01 GW

Collected by: Charles A. Covington | Collected date/time: 04/18/22 11:25 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1853567	1	04/24/22 16:05	04/24/22 19:14	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	1	04/26/22 18:51	04/26/22 18:51	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854993	10	04/27/22 12:38	04/27/22 12:38	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 14:27	04/28/22 14:27	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1854597	1	04/27/22 15:59	04/27/22 15:59	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/24/22 22:54	04/24/22 22:54	ADM	Mt. Juliet, TN

TB7-MW02 L1485849-02 GW

Collected by: Charles A. Covington | Collected date/time: 04/18/22 11:45 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1853567	1	04/24/22 16:05	04/24/22 19:14	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	1	04/26/22 19:06	04/26/22 19:06	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854993	10	04/27/22 12:50	04/27/22 12:50	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 14:34	04/28/22 14:34	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1854597	1	04/27/22 16:02	04/27/22 16:02	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/24/22 23:13	04/24/22 23:13	ADM	Mt. Juliet, TN

TB7-MW03 L1485849-03 GW

Collected by: Charles A. Covington | Collected date/time: 04/18/22 12:00 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854023	1	04/25/22 14:53	04/25/22 17:35	VRP	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	1	04/26/22 19:21	04/26/22 19:21	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854993	10	04/27/22 13:29	04/27/22 13:29	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 14:46	04/28/22 14:46	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1854597	1	04/27/22 16:06	04/27/22 16:06	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/24/22 23:32	04/24/22 23:32	ADM	Mt. Juliet, TN

WT1-MW01 L1485849-04 GW

Collected by: Charles A. Covington | Collected date/time: 04/18/22 12:40 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1853567	1	04/24/22 16:05	04/24/22 19:14	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	1	04/26/22 19:37	04/26/22 19:37	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854993	5	04/27/22 13:42	04/27/22 13:42	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 14:50	04/28/22 14:50	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1854597	1	04/27/22 16:10	04/27/22 16:10	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/24/22 23:51	04/24/22 23:51	ADM	Mt. Juliet, TN

WT1-MW02 L1485849-05 GW

Collected by: Charles A. Covington | Collected date/time: 04/18/22 13:25 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1853567	1	04/24/22 16:05	04/24/22 19:14	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	1	04/26/22 19:52	04/26/22 19:52	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854993	5	04/27/22 13:54	04/27/22 13:54	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 14:59	04/28/22 14:59	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1854597	1	04/27/22 16:17	04/27/22 16:17	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/25/22 00:10	04/25/22 00:10	ADM	Mt. Juliet, TN

WT1-MW03 L1485849-06 GW

Collected by: Charles A. Covington | Collected date/time: 04/18/22 12:55 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1853567	1	04/24/22 16:05	04/24/22 19:14	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	1	04/26/22 20:08	04/26/22 20:08	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854993	5	04/27/22 14:07	04/27/22 14:07	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 15:02	04/28/22 15:02	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1855281	1	04/29/22 10:41	04/29/22 10:41	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/25/22 00:29	04/25/22 00:29	ADM	Mt. Juliet, TN

MR2-MW01 L1485849-07 GW

Collected by: Charles A. Covington | Collected date/time: 04/18/22 15:40 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1853567	1	04/24/22 16:05	04/24/22 19:14	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	10	04/26/22 21:25	04/26/22 21:25	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	100	04/26/22 21:40	04/26/22 21:40	KEG	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 15:06	04/28/22 15:06	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1855281	1	04/29/22 10:48	04/29/22 10:48	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/25/22 00:47	04/25/22 00:47	ADM	Mt. Juliet, TN

MR2-MW02 L1485849-08 GW

Collected by: Charles A. Covington | Collected date/time: 04/18/22 14:15 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1853567	1	04/24/22 16:05	04/24/22 19:14	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	1	04/26/22 21:55	04/26/22 21:55	KEG	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 15:09	04/28/22 15:09	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1855281	1	04/29/22 10:54	04/29/22 10:54	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/25/22 01:06	04/25/22 01:06	ADM	Mt. Juliet, TN

MR2-MW03 L1485849-09 GW

Collected by: Charles A. Covington | Collected date/time: 04/18/22 14:55 | Received date/time: 04/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1853567	1	04/24/22 16:05	04/24/22 19:14	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854280	1	04/26/22 22:11	04/26/22 22:11	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1854993	10	04/27/22 14:20	04/27/22 14:20	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 15:13	04/28/22 15:13	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1855281	1	04/29/22 11:04	04/29/22 11:04	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853674	1	04/25/22 01:25	04/25/22 01:25	ADM	Mt. Juliet, TN

CASE NARRATIVE

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

Chris Ward
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1050		13.3	1	04/24/2022 19:14	WG1853567

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	43.0		1.00	1	04/26/2022 18:51	WG1854280
Sulfate	461		50.0	10	04/27/2022 12:38	WG1854993

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	04/28/2022 14:27	WG1855652

Sample Narrative:

L1485849-01 WG1855652: Endpoint pH 4.5 Headspace

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	04/27/2022 15:59	WG1854597
Ethane	ND		0.0130	1	04/27/2022 15:59	WG1854597
Ethene	ND		0.0130	1	04/27/2022 15:59	WG1854597
Acetylene	ND		0.0208	1	04/27/2022 15:59	WG1854597

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/24/2022 22:54	WG1853674
Toluene	ND		0.00100	1	04/24/2022 22:54	WG1853674
Ethylbenzene	ND		0.00100	1	04/24/2022 22:54	WG1853674
Total Xylenes	ND		0.00300	1	04/24/2022 22:54	WG1853674
(S) Toluene-d8	*102*		*80.0-120*		*04/24/2022 22:54*	WG1853674
(S) 4-Bromofluorobenzene	*93.8*		*77.0-126*		*04/24/2022 22:54*	WG1853674
(S) 1,2-Dichloroethane-d4	*119*		*70.0-130*		*04/24/2022 22:54*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1020		13.3	1	04/24/2022 19:14	WG1853567

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	46.8		1.00	1	04/26/2022 19:06	WG1854280
Sulfate	441		50.0	10	04/27/2022 12:50	WG1854993

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	04/28/2022 14:34	WG1855652

Sample Narrative:

L1485849-02 WG1855652: Endpoint pH 4.5 Headspace

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	04/27/2022 16:02	WG1854597
Ethane	ND		0.0130	1	04/27/2022 16:02	WG1854597
Ethene	ND		0.0130	1	04/27/2022 16:02	WG1854597
Acetylene	ND		0.0208	1	04/27/2022 16:02	WG1854597

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/24/2022 23:13	WG1853674
Toluene	ND		0.00100	1	04/24/2022 23:13	WG1853674
Ethylbenzene	ND		0.00100	1	04/24/2022 23:13	WG1853674
Total Xylenes	ND		0.00300	1	04/24/2022 23:13	WG1853674
(S) Toluene-d8	*100*		*80.0-120*		*04/24/2022 23:13*	WG1853674
(S) 4-Bromofluorobenzene	*92.9*		*77.0-126*		*04/24/2022 23:13*	WG1853674
(S) 1,2-Dichloroethane-d4	*116*		*70.0-130*		*04/24/2022 23:13*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	998		20.0	1	04/25/2022 17:35	WG1854023

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	48.3		1.00	1	04/26/2022 19:21	WG1854280
Sulfate	447		50.0	10	04/27/2022 13:29	WG1854993

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	04/28/2022 14:46	WG1855652

Sample Narrative:

L1485849-03 WG1855652: Endpoint pH 4.5 Headspace

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	04/27/2022 16:06	WG1854597
Ethane	ND		0.0130	1	04/27/2022 16:06	WG1854597
Ethene	ND		0.0130	1	04/27/2022 16:06	WG1854597
Acetylene	ND		0.0208	1	04/27/2022 16:06	WG1854597

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/24/2022 23:32	WG1853674
Toluene	ND		0.00100	1	04/24/2022 23:32	WG1853674
Ethylbenzene	ND		0.00100	1	04/24/2022 23:32	WG1853674
Total Xylenes	ND		0.00300	1	04/24/2022 23:32	WG1853674
(S) Toluene-d8	*101*		*80.0-120*		*04/24/2022 23:32*	WG1853674
(S) 4-Bromofluorobenzene	*93.8*		*77.0-126*		*04/24/2022 23:32*	WG1853674
(S) 1,2-Dichloroethane-d4	*118*		*70.0-130*		*04/24/2022 23:32*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	479		10.0	1	04/24/2022 19:14	WG1853567

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	24.5		1.00	1	04/26/2022 19:37	WG1854280
Sulfate	175		25.0	5	04/27/2022 13:42	WG1854993

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	24.9	T8	20.0	1	04/28/2022 14:50	WG1855652

Sample Narrative:

L1485849-04 WG1855652: Endpoint pH 4.5 Headspace

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	04/27/2022 16:10	WG1854597
Ethane	ND		0.0130	1	04/27/2022 16:10	WG1854597
Ethene	ND		0.0130	1	04/27/2022 16:10	WG1854597
Acetylene	ND		0.0208	1	04/27/2022 16:10	WG1854597

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/24/2022 23:51	WG1853674
Toluene	ND		0.00100	1	04/24/2022 23:51	WG1853674
Ethylbenzene	ND		0.00100	1	04/24/2022 23:51	WG1853674
Total Xylenes	ND		0.00300	1	04/24/2022 23:51	WG1853674
(S) Toluene-d8	*102*		*80.0-120*		*04/24/2022 23:51*	WG1853674
(S) 4-Bromofluorobenzene	*91.6*		*77.0-126*		*04/24/2022 23:51*	WG1853674
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*04/24/2022 23:51*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	586		10.0	1	04/24/2022 19:14	WG1853567

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	31.9		1.00	1	04/26/2022 19:52	WG1854280
Sulfate	222		25.0	5	04/27/2022 13:54	WG1854993

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	24.3	T8	20.0	1	04/28/2022 14:59	WG1855652

Sample Narrative:

L1485849-05 WG1855652: Endpoint pH 4.5 Headspace

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	04/27/2022 16:17	WG1854597
Ethane	ND		0.0130	1	04/27/2022 16:17	WG1854597
Ethene	ND		0.0130	1	04/27/2022 16:17	WG1854597
Acetylene	ND		0.0208	1	04/27/2022 16:17	WG1854597

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 00:10	WG1853674
Toluene	ND		0.00100	1	04/25/2022 00:10	WG1853674
Ethylbenzene	ND		0.00100	1	04/25/2022 00:10	WG1853674
Total Xylenes	ND		0.00300	1	04/25/2022 00:10	WG1853674
(S) Toluene-d8	*101*		*80.0-120*		*04/25/2022 00:10*	WG1853674
(S) 4-Bromofluorobenzene	*91.0*		*77.0-126*		*04/25/2022 00:10*	WG1853674
(S) 1,2-Dichloroethane-d4	*120*		*70.0-130*		*04/25/2022 00:10*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	495		10.0	1	04/24/2022 19:14	WG1853567

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	25.3		1.00	1	04/26/2022 20:08	WG1854280
Sulfate	174		25.0	5	04/27/2022 14:07	WG1854993

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	04/28/2022 15:02	WG1855652

Sample Narrative:

L1485849-06 WG1855652: Endpoint pH 4.5 Headspace

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	04/29/2022 10:41	WG1855281
Ethane	ND		0.0130	1	04/29/2022 10:41	WG1855281
Ethene	ND		0.0130	1	04/29/2022 10:41	WG1855281
Acetylene	ND		0.0208	1	04/29/2022 10:41	WG1855281

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 00:29	WG1853674
Toluene	ND		0.00100	1	04/25/2022 00:29	WG1853674
Ethylbenzene	ND		0.00100	1	04/25/2022 00:29	WG1853674
Total Xylenes	ND		0.00300	1	04/25/2022 00:29	WG1853674
(S) Toluene-d8	*98.7*		*80.0-120*		*04/25/2022 00:29*	WG1853674
(S) 4-Bromofluorobenzene	*90.3*		*77.0-126*		*04/25/2022 00:29*	WG1853674
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*04/25/2022 00:29*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	3180		50.0	1	04/24/2022 19:14	WG1853567

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	128		10.0	10	04/26/2022 21:25	WG1854280
Sulfate	2170		500	100	04/26/2022 21:40	WG1854280

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	63.5	T8	20.0	1	04/28/2022 15:06	WG1855652

Sample Narrative:

L1485849-07 WG1855652: Endpoint pH 4.5 Headspace

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	04/29/2022 10:48	WG1855281
Ethane	ND		0.0130	1	04/29/2022 10:48	WG1855281
Ethene	ND		0.0130	1	04/29/2022 10:48	WG1855281
Acetylene	ND		0.0208	1	04/29/2022 10:48	WG1855281

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 00:47	WG1853674
Toluene	ND		0.00100	1	04/25/2022 00:47	WG1853674
Ethylbenzene	ND		0.00100	1	04/25/2022 00:47	WG1853674
Total Xylenes	ND		0.00300	1	04/25/2022 00:47	WG1853674
(S) Toluene-d8	*99.3*		*80.0-120*		*04/25/2022 00:47*	WG1853674
(S) 4-Bromofluorobenzene	*91.9*		*77.0-126*		*04/25/2022 00:47*	WG1853674
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*04/25/2022 00:47*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	550		10.0	1	04/24/2022 19:14	WG1853567

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	5.49		1.00	1	04/26/2022 21:55	WG1854280
Sulfate	92.6		5.00	1	04/26/2022 21:55	WG1854280

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	04/28/2022 15:09	WG1855652

Sample Narrative:

L1485849-08 WG1855652: Endpoint pH 4.5 Headspace

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	04/29/2022 10:54	WG1855281
Ethane	ND		0.0130	1	04/29/2022 10:54	WG1855281
Ethene	ND		0.0130	1	04/29/2022 10:54	WG1855281
Acetylene	ND		0.0208	1	04/29/2022 10:54	WG1855281

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 01:06	WG1853674
Toluene	ND		0.00100	1	04/25/2022 01:06	WG1853674
Ethylbenzene	ND		0.00100	1	04/25/2022 01:06	WG1853674
Total Xylenes	ND		0.00300	1	04/25/2022 01:06	WG1853674
(S) Toluene-d8	*99.6*		*80.0-120*		*04/25/2022 01:06*	WG1853674
(S) 4-Bromofluorobenzene	*91.6*		*77.0-126*		*04/25/2022 01:06*	WG1853674
(S) 1,2-Dichloroethane-d4	*124*		*70.0-130*		*04/25/2022 01:06*	WG1853674

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1140		13.3	1	04/24/2022 19:14	WG1853567

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	32.6		1.00	1	04/26/2022 22:11	WG1854280
Sulfate	509		50.0	10	04/27/2022 14:20	WG1854993

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	04/28/2022 15:13	WG1855652

Sample Narrative:

L1485849-09 WG1855652: Endpoint pH 4.5 Headspace

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	04/29/2022 11:04	WG1855281
Ethane	ND		0.0130	1	04/29/2022 11:04	WG1855281
Ethene	ND		0.0130	1	04/29/2022 11:04	WG1855281
Acetylene	ND		0.0208	1	04/29/2022 11:04	WG1855281

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 01:25	WG1853674
Toluene	ND		0.00100	1	04/25/2022 01:25	WG1853674
Ethylbenzene	ND		0.00100	1	04/25/2022 01:25	WG1853674
Total Xylenes	ND		0.00300	1	04/25/2022 01:25	WG1853674
(S) Toluene-d8	*100*		*80.0-120*		*04/25/2022 01:25*	WG1853674
(S) 4-Bromofluorobenzene	*89.7*		*77.0-126*		*04/25/2022 01:25*	WG1853674
(S) 1,2-Dichloroethane-d4	*125*		*70.0-130*		*04/25/2022 01:25*	WG1853674

Method Blank (MB)

(MB) R3785540-1 04/24/22 19:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1485849-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485849-01 04/24/22 19:14 • (DUP) R3785540-3 04/24/22 19:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1050	1060	1	1.01		5

L1485849-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1485849-05 04/24/22 19:14 • (DUP) R3785540-4 04/24/22 19:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	586	606	1	3.36		5

Laboratory Control Sample (LCS)

(LCS) R3785540-2 04/24/22 19:14

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	2460	2570	104	81.7-118	

Method Blank (MB)

(MB) R3785312-1 04/25/22 17:35

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1484948-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1484948-08 04/25/22 17:35 • (DUP) R3785312-4 04/25/22 17:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	761	793	1	4.12		5

L1484948-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1484948-10 04/25/22 17:35 • (DUP) R3785312-5 04/25/22 17:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	721	772	1	6.79	J3	5

Laboratory Control Sample (LCS)

(LCS) R3785312-3 04/25/22 17:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	2460	2640	107	81.7-118	

Method Blank (MB)

(MB) R3785451-1 04/26/22 11:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Sulfate	U		0.594	5.00

L1485235-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485235-01 04/26/22 15:15 • (DUP) R3785451-3 04/26/22 15:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	14.1	14.0	1	0.619		20
Sulfate	ND	ND	1	0.000		20

L1485849-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1485849-06 04/26/22 20:08 • (DUP) R3785451-6 04/26/22 20:23

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	25.3	25.2	1	0.227		20

Laboratory Control Sample (LCS)

(LCS) R3785451-2 04/26/22 11:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.2	98.0	90.0-110	
Sulfate	40.0	40.0	99.9	90.0-110	

L1485235-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1485235-01 04/26/22 15:15 • (MS) R3785451-4 04/26/22 15:46 • (MSD) R3785451-5 04/26/22 16:01

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 %
Chloride	50.0	14.1	65.3	65.1	102	102	1	80.0-120			0.251	20
Sulfate	50.0	ND	51.4	51.2	103	102	1	80.0-120			0.267	20

L1485849-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1485849-06 04/26/22 20:08 • (MS) R3785451-7 04/26/22 20:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	25.3	76.2	102	1	80.0-120	

Method Blank (MB)

(MB) R3786430-1 04/27/22 09:48

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	U		0.594	5.00

L1486401-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1486401-01 04/27/22 11:21 • (DUP) R3786430-3 04/27/22 11:33

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	45.1	48.2	1	6.65		20

L1486403-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1486403-01 04/27/22 14:33 • (DUP) R3786430-6 04/27/22 14:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	34.7	34.6	1	0.183		20

Laboratory Control Sample (LCS)

(LCS) R3786430-2 04/27/22 10:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	40.8	102	90.0-110	

L1486401-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1486401-01 04/27/22 11:21 • (MS) R3786430-4 04/27/22 11:46 • (MSD) R3786430-5 04/27/22 11:59

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	45.1	95.5	93.7	101	97.3	1	80.0-120			1.84	20

L1486403-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1486403-01 04/27/22 14:33 • (MS) R3786430-7 04/27/22 14:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	34.7	83.3	97.3	1	80.0-120	

Method Blank (MB)

(MB) R3786206-3 04/28/22 14:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Free Carbon Dioxide	U		6.67	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1485849-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485849-01 04/28/22 14:27 • (DUP) R3786206-5 04/28/22 14:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1485924-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485924-01 04/28/22 15:16 • (DUP) R3786206-7 04/28/22 15:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3785706-2 04/27/22 14:27

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Methane	U		0.00291	0.0100
Ethane	U		0.00407	0.0130
Ethene	U		0.00426	0.0130
Acetylene	U		0.00558	0.0208

L1485846-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1485846-04 04/27/22 15:20 • (DUP) R3785706-3 04/27/22 15:22

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

L1485849-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1485849-05 04/27/22 16:17 • (DUP) R3785706-4 04/27/22 16:24

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

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

(LCS) R3785706-1 04/27/22 14:25 • (LCSD) R3785706-5 04/27/22 16:27

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 %
Methane	0.0678	0.0697	0.0660	103	97.3	85.0-115			5.45	20
Ethane	0.129	0.117	0.115	90.7	89.1	85.0-115			1.72	20
Ethene	0.127	0.118	0.117	92.9	92.1	85.0-115			0.851	20
Acetylene	0.208	0.191	0.199	91.8	95.7	85.0-115			4.10	20

Method Blank (MB)

(MB) R3786494-2 04/29/22 09:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Methane	U		0.00291	0.0100
Ethane	U		0.00407	0.0130
Ethene	U		0.00426	0.0130
Acetylene	U		0.00558	0.0208

L1485849-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1485849-09 04/29/22 11:04 • (DUP) R3786494-3 04/29/22 11:10

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

L1485928-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485928-01 04/29/22 13:24 • (DUP) R3786494-4 04/29/22 13:27

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	0.0547	0.0592	1	7.90		20
Ethane	ND	ND	1	0.000		20
Ethene	ND	ND	1	0.000		20
Acetylene	ND	ND	1	0.000		20

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

(LCS) R3786494-1 04/29/22 09:50 • (LCSD) R3786494-5 04/29/22 13:31

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 %
Methane	0.0678	0.0685	0.0635	101	93.7	85.0-115			7.58	20
Ethane	0.129	0.117	0.114	90.7	88.4	85.0-115			2.60	20
Ethene	0.127	0.117	0.115	92.1	90.6	85.0-115			1.72	20
Acetylene	0.208	0.183	0.193	88.0	92.8	85.0-115			5.32	20

Method Blank (MB)

(MB) R3785610-3 04/24/22 21:27

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*102*			*80.0-120*
(S) 4-Bromofluorobenzene	*94.1*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*

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

(LCS) R3785610-1 04/24/22 20:30 • (LCSD) R3785610-2 04/24/22 20:49

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 %
Benzene	0.00500	0.00491	0.00510	98.2	102	70.0-123			3.80	20
Toluene	0.00500	0.00469	0.00472	93.8	94.4	79.0-120			0.638	20
Ethylbenzene	0.00500	0.00430	0.00437	86.0	87.4	79.0-123			1.61	20
Xylenes, Total	0.0150	0.0136	0.0137	90.7	91.3	79.0-123			0.733	20
(S) Toluene-d8				*101*	*98.7*	*80.0-120*				
(S) 4-Bromofluorobenzene				*99.3*	*97.9*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*115*	*117*	*70.0-130*				

GLOSSARY OF TERMS

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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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
J3	The associated batch QC was outside the established quality control range for precision.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Terracon - Longmont, CO

1831 Lefthand Circle
Suite B
Longmont, CO 80501

Billing Information:
Mike Skridulis
1831 Lefthand Circle
Suite B
Longmont, CO 80501

Pres Chk

Report to: **Charles Covington**

Email To: **Charles.Covington@terracon.com**

Project Description: **COL Annual GW Sampling**

City/State Collected: **Longmont, CO**

Please Circle: PT MT CT ET

Phone: **303-454-5249**

Client Project # **22227013**

Lab Project # **TERRALCO-22227013**

Collected by (print): **Charles A. Covington**

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**

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE,CO2,SULFATE 250mlHDPE-NoPres	RSK175 40mlAmb HCl	TDS 1L-HDPE NoPres	V8260BTEX 40mlAmb-HCl						Remarks	Sample # (lab only)
TB7 - MW01	Grab	GW	-	4/18/22	1125	7	X	X	X	X							-11
TB7 - MW02	Grab	GW	-	4/18/22	1145	7	X	X	X	X							-12
TB7 - MW03	Grab	GW	-	4/18/22	1200	7	X	X	X	X							-13
WT1 - MW01	Grab	GW	-	4/18/22	1240	7	X	X	X	X							-14
WT1 - MW02	Grab	GW	-	4/18/22	1325	7	X	X	X	X							-15
WT1 - MW03	Grab	GW	-	4/18/22	1255	7	X	X	X	X							-16
MR2 - MW01	Grab	GW	-	4/20/22	1540	7	X	X	X	X							-17
MR2 - MW02	Grab	GW	-	4/18/22	1415	7	X	X	X	X							-18
MR2 - MW03	Grab	GW	-	4/18/22	1455	7	X	X	X	X							-19
		GW				7	X	X	X	X							

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1485849

F134

Acctnum: **TERRALCO**
Template: **T206700**
Prelogin: **P915945**
PM: **824 - Chris Ward**
PB: **LP 3.31.22**

Shipped Via: **FedEx Ground**

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: ___ UPS X FedEx ___ Courier _____

Tracking # 5671 5380 4019

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: N N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	4/21/22	1600	FEDEX		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: DRY ICE 3.9+0=3.9 Bottles Received: 81	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/22/22 Time: 900	Hold: / Condition: NCF / OK

ANALYTICAL REPORT

May 02, 2022

Terracon - Longmont, CO

Sample Delivery Group:	L1485924
Samples Received:	04/23/2022
Project Number:	22227013
Description:	COL Annual GW Sampling

Report To:

Charles Covington
1831 Lefthand Circle
Suite C
Longmont, CO 80501

Entire Report Reviewed By:

Chris Ward
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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SAMPLE SUMMARY

LM8-MW01 L1485924-01 GW

Collected by: Charles A. Covington
Collected date/time: 04/21/22 13:40
Received date/time: 04/23/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854411	1	04/26/22 11:28	04/26/22 13:44	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1855471	1	04/28/22 05:43	04/28/22 05:43	RAF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1855471	100	04/28/22 05:56	04/28/22 05:56	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 15:16	04/28/22 15:16	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1855281	1	04/29/22 11:13	04/29/22 11:13	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853690	1	04/25/22 01:43	04/25/22 01:43	ACG	Mt. Juliet, TN

LM8-MW02 L1485924-02 GW

Collected by: Charles A. Covington
Collected date/time: 04/21/22 14:00
Received date/time: 04/23/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854414	1	04/26/22 11:35	04/26/22 15:00	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1855471	1	04/28/22 06:09	04/28/22 06:09	RAF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1855471	100	04/28/22 06:22	04/28/22 06:22	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 15:35	04/28/22 15:35	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1855281	1	04/29/22 11:22	04/29/22 11:22	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853690	1	04/25/22 02:04	04/25/22 02:04	ACG	Mt. Juliet, TN

LM8-MW03 L1485924-03 GW

Collected by: Charles A. Covington
Collected date/time: 04/21/22 14:25
Received date/time: 04/23/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854414	1	04/26/22 11:35	04/26/22 15:00	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1855471	1	04/28/22 06:35	04/28/22 06:35	RAF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1855471	100	04/28/22 06:48	04/28/22 06:48	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855652	1	04/28/22 15:38	04/28/22 15:38	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1855281	1	04/29/22 11:31	04/29/22 11:31	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853690	1	04/25/22 02:24	04/25/22 02:24	ACG	Mt. Juliet, TN

PLI-MW01 L1485924-04 GW

Collected by: Charles A. Covington
Collected date/time: 04/21/22 10:40
Received date/time: 04/23/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854411	1	04/26/22 11:28	04/26/22 13:44	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1855471	5	04/28/22 07:26	04/28/22 07:26	RAF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1856834	10	04/30/22 21:33	04/30/22 21:33	KEG	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855658	1	04/28/22 15:14	04/28/22 15:14	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1855281	1	04/29/22 11:57	04/29/22 11:57	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853690	1	04/25/22 02:45	04/25/22 02:45	ACG	Mt. Juliet, TN

PLI-MW02 L1485924-05 GW

Collected by: Charles A. Covington
Collected date/time: 04/21/22 09:50
Received date/time: 04/23/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854641	1	04/26/22 17:09	04/26/22 17:46	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1855471	5	04/28/22 07:39	04/28/22 07:39	RAF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1856834	10	04/30/22 21:49	04/30/22 21:49	KEG	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855658	1	04/28/22 15:18	04/28/22 15:18	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1855281	1	04/29/22 12:16	04/29/22 12:16	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853690	1	04/25/22 03:05	04/25/22 03:05	ACG	Mt. Juliet, TN

PLI-MW03 L1485924-06 GW

Collected by: Charles A. Covington | Collected date/time: 04/21/22 10:15 | Received date/time: 04/23/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854414	1	04/26/22 11:35	04/26/22 15:00	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1855471	5	04/28/22 07:52	04/28/22 07:52	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855658	1	04/28/22 15:21	04/28/22 15:21	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1855281	1	04/29/22 12:19	04/29/22 12:19	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853690	1	04/25/22 03:26	04/25/22 03:26	ACG	Mt. Juliet, TN

DMI-MW01 L1485924-07 GW

Collected by: Charles A. Covington | Collected date/time: 04/21/22 12:00 | Received date/time: 04/23/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854641	1	04/26/22 17:09	04/26/22 17:46	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1855471	5	04/28/22 08:04	04/28/22 08:04	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855658	1	04/28/22 15:39	04/28/22 15:39	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1855281	1	04/29/22 12:26	04/29/22 12:26	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853690	1	04/25/22 03:47	04/25/22 03:47	ACG	Mt. Juliet, TN

DMI-MW02 L1485924-08 GW

Collected by: Charles A. Covington | Collected date/time: 04/21/22 11:40 | Received date/time: 04/23/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854411	1	04/26/22 11:28	04/26/22 13:44	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1855471	10	04/28/22 08:17	04/28/22 08:17	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855658	1	04/28/22 15:43	04/28/22 15:43	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1855281	1	04/29/22 12:37	04/29/22 12:37	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853690	1	04/25/22 04:08	04/25/22 04:08	ACG	Mt. Juliet, TN

DMI-MW03 L1485924-09 GW

Collected by: Charles A. Covington | Collected date/time: 04/21/22 12:30 | Received date/time: 04/23/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1854641	1	04/26/22 17:09	04/26/22 17:46	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1855471	5	04/28/22 08:30	04/28/22 08:30	RAF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1855658	1	04/28/22 15:46	04/28/22 15:46	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1855281	1	04/29/22 13:21	04/29/22 13:21	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1853690	1	04/25/22 04:28	04/25/22 04:28	ACG	Mt. Juliet, TN

CASE NARRATIVE

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

Chris Ward
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	3200		50.0	1	04/26/2022 13:44	WG1854411

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	46.1		1.00	1	04/28/2022 05:43	WG1855471
Sulfate	2940		500	100	04/28/2022 05:56	WG1855471

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	04/28/2022 15:16	WG1855652

Sample Narrative:

L1485924-01 WG1855652: Endpoint pH 4.5 Headspace

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	04/29/2022 11:13	WG1855281
Ethane	ND		0.0130	1	04/29/2022 11:13	WG1855281
Ethene	ND		0.0130	1	04/29/2022 11:13	WG1855281
Acetylene	ND		0.0208	1	04/29/2022 11:13	WG1855281

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 01:43	WG1853690
Toluene	ND		0.00100	1	04/25/2022 01:43	WG1853690
Ethylbenzene	ND		0.00100	1	04/25/2022 01:43	WG1853690
Total Xylenes	ND		0.00300	1	04/25/2022 01:43	WG1853690
(S) Toluene-d8	*101*		*80.0-120*		*04/25/2022 01:43*	WG1853690
(S) 4-Bromofluorobenzene	*108*		*77.0-126*		*04/25/2022 01:43*	WG1853690
(S) 1,2-Dichloroethane-d4	*104*		*70.0-130*		*04/25/2022 01:43*	WG1853690

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	3030		50.0	1	04/26/2022 15:00	WG1854414

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	37.6		1.00	1	04/28/2022 06:09	WG1855471
Sulfate	2370		500	100	04/28/2022 06:22	WG1855471

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	39.8	T8	20.0	1	04/28/2022 15:35	WG1855652

Sample Narrative:

L1485924-02 WG1855652: Endpoint pH 4.5 Headspace

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	04/29/2022 11:22	WG1855281
Ethane	ND		0.0130	1	04/29/2022 11:22	WG1855281
Ethene	ND		0.0130	1	04/29/2022 11:22	WG1855281
Acetylene	ND		0.0208	1	04/29/2022 11:22	WG1855281

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 02:04	WG1853690
Toluene	ND		0.00100	1	04/25/2022 02:04	WG1853690
Ethylbenzene	ND		0.00100	1	04/25/2022 02:04	WG1853690
Total Xylenes	ND		0.00300	1	04/25/2022 02:04	WG1853690
(S) Toluene-d8	*101*		*80.0-120*		*04/25/2022 02:04*	WG1853690
(S) 4-Bromofluorobenzene	*108*		*77.0-126*		*04/25/2022 02:04*	WG1853690
(S) 1,2-Dichloroethane-d4	*104*		*70.0-130*		*04/25/2022 02:04*	WG1853690

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	3410		50.0	1	04/26/2022 15:00	WG1854414

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	42.8		1.00	1	04/28/2022 06:35	WG1855471
Sulfate	2680		500	100	04/28/2022 06:48	WG1855471

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	53.4	T8	20.0	1	04/28/2022 15:38	WG1855652

Sample Narrative:

L1485924-03 WG1855652: Endpoint pH 4.5 Headspace

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	04/29/2022 11:31	WG1855281
Ethane	ND		0.0130	1	04/29/2022 11:31	WG1855281
Ethene	ND		0.0130	1	04/29/2022 11:31	WG1855281
Acetylene	ND		0.0208	1	04/29/2022 11:31	WG1855281

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 02:24	WG1853690
Toluene	ND		0.00100	1	04/25/2022 02:24	WG1853690
Ethylbenzene	ND		0.00100	1	04/25/2022 02:24	WG1853690
Total Xylenes	ND		0.00300	1	04/25/2022 02:24	WG1853690
(S) Toluene-d8	*102*		*80.0-120*		*04/25/2022 02:24*	WG1853690
(S) 4-Bromofluorobenzene	*106*		*77.0-126*		*04/25/2022 02:24*	WG1853690
(S) 1,2-Dichloroethane-d4	*102*		*70.0-130*		*04/25/2022 02:24*	WG1853690

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1180		20.0	1	04/26/2022 13:44	WG1854411

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	40.6		5.00	5	04/28/2022 07:26	WG1855471
Sulfate	655		50.0	10	04/30/2022 21:33	WG1856834

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	04/28/2022 15:14	WG1855658

Sample Narrative:

L1485924-04 WG1855658: Endpoint pH 4.5 Headspace

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	04/29/2022 11:57	WG1855281
Ethane	ND		0.0130	1	04/29/2022 11:57	WG1855281
Ethene	ND		0.0130	1	04/29/2022 11:57	WG1855281
Acetylene	ND		0.0208	1	04/29/2022 11:57	WG1855281

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 02:45	WG1853690
Toluene	ND		0.00100	1	04/25/2022 02:45	WG1853690
Ethylbenzene	ND		0.00100	1	04/25/2022 02:45	WG1853690
Total Xylenes	ND		0.00300	1	04/25/2022 02:45	WG1853690
(S) Toluene-d8	*101*		*80.0-120*		*04/25/2022 02:45*	WG1853690
(S) 4-Bromofluorobenzene	*110*		*77.0-126*		*04/25/2022 02:45*	WG1853690
(S) 1,2-Dichloroethane-d4	*104*		*70.0-130*		*04/25/2022 02:45*	WG1853690

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1090		13.3	1	04/26/2022 17:46	WG1854641

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	38.9		5.00	5	04/28/2022 07:39	WG1855471
Sulfate	541		50.0	10	04/30/2022 21:49	WG1856834

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	24.2	B T8	20.0	1	04/28/2022 15:18	WG1855658

Sample Narrative:

L1485924-05 WG1855658: Endpoint pH 4.5 Headspace

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	04/29/2022 12:16	WG1855281
Ethane	ND		0.0130	1	04/29/2022 12:16	WG1855281
Ethene	ND		0.0130	1	04/29/2022 12:16	WG1855281
Acetylene	ND		0.0208	1	04/29/2022 12:16	WG1855281

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 03:05	WG1853690
Toluene	ND		0.00100	1	04/25/2022 03:05	WG1853690
Ethylbenzene	ND		0.00100	1	04/25/2022 03:05	WG1853690
Total Xylenes	ND		0.00300	1	04/25/2022 03:05	WG1853690
(S) Toluene-d8	*100*		*80.0-120*		*04/25/2022 03:05*	WG1853690
(S) 4-Bromofluorobenzene	*105*		*77.0-126*		*04/25/2022 03:05*	WG1853690
(S) 1,2-Dichloroethane-d4	*105*		*70.0-130*		*04/25/2022 03:05*	WG1853690

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	582		10.0	1	04/26/2022 15:00	WG1854414

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	36.3		5.00	5	04/28/2022 07:52	WG1855471
Sulfate	181		25.0	5	04/28/2022 07:52	WG1855471

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	04/28/2022 15:21	WG1855658

Sample Narrative:

L1485924-06 WG1855658: Endpoint pH 4.5 Headspace

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	04/29/2022 12:19	WG1855281
Ethane	ND		0.0130	1	04/29/2022 12:19	WG1855281
Ethene	ND		0.0130	1	04/29/2022 12:19	WG1855281
Acetylene	ND		0.0208	1	04/29/2022 12:19	WG1855281

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 03:26	WG1853690
Toluene	ND		0.00100	1	04/25/2022 03:26	WG1853690
Ethylbenzene	ND		0.00100	1	04/25/2022 03:26	WG1853690
Total Xylenes	ND		0.00300	1	04/25/2022 03:26	WG1853690
(S) Toluene-d8	*103*		*80.0-120*		*04/25/2022 03:26*	WG1853690
(S) 4-Bromofluorobenzene	*110*		*77.0-126*		*04/25/2022 03:26*	WG1853690
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*04/25/2022 03:26*	WG1853690

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	939		13.3	1	04/26/2022 17:46	WG1854641

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	120		5.00	5	04/28/2022 08:04	WG1855471
Sulfate	230		25.0	5	04/28/2022 08:04	WG1855471

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	23.1	B T8	20.0	1	04/28/2022 15:39	WG1855658

Sample Narrative:

L1485924-07 WG1855658: Endpoint pH 4.5 Headspace

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	04/29/2022 12:26	WG1855281
Ethane	ND		0.0130	1	04/29/2022 12:26	WG1855281
Ethene	ND		0.0130	1	04/29/2022 12:26	WG1855281
Acetylene	ND		0.0208	1	04/29/2022 12:26	WG1855281

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 03:47	WG1853690
Toluene	ND		0.00100	1	04/25/2022 03:47	WG1853690
Ethylbenzene	ND		0.00100	1	04/25/2022 03:47	WG1853690
Total Xylenes	ND		0.00300	1	04/25/2022 03:47	WG1853690
(S) Toluene-d8	*102*		*80.0-120*		*04/25/2022 03:47*	WG1853690
(S) 4-Bromofluorobenzene	*111*		*77.0-126*		*04/25/2022 03:47*	WG1853690
(S) 1,2-Dichloroethane-d4	*105*		*70.0-130*		*04/25/2022 03:47*	WG1853690

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1050		20.0	1	04/26/2022 13:44	WG1854411

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	121		10.0	10	04/28/2022 08:17	WG1855471
Sulfate	416		50.0	10	04/28/2022 08:17	WG1855471

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	21.4	B T8	20.0	1	04/28/2022 15:43	WG1855658

Sample Narrative:

L1485924-08 WG1855658: Endpoint pH 4.5 Headspace

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Methane	0.0629		0.0100	1	04/29/2022 12:37	WG1855281
Ethane	ND		0.0130	1	04/29/2022 12:37	WG1855281
Ethene	ND		0.0130	1	04/29/2022 12:37	WG1855281
Acetylene	ND		0.0208	1	04/29/2022 12:37	WG1855281

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 04:08	WG1853690
Toluene	ND		0.00100	1	04/25/2022 04:08	WG1853690
Ethylbenzene	ND		0.00100	1	04/25/2022 04:08	WG1853690
Total Xylenes	ND		0.00300	1	04/25/2022 04:08	WG1853690
(S) Toluene-d8	*99.7*		*80.0-120*		*04/25/2022 04:08*	WG1853690
(S) 4-Bromofluorobenzene	*107*		*77.0-126*		*04/25/2022 04:08*	WG1853690
(S) 1,2-Dichloroethane-d4	*106*		*70.0-130*		*04/25/2022 04:08*	WG1853690

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	789		13.3	1	04/26/2022 17:46	WG1854641

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	109		5.00	5	04/28/2022 08:30	WG1855471
Sulfate	297		25.0	5	04/28/2022 08:30	WG1855471

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	04/28/2022 15:46	WG1855658

Sample Narrative:

L1485924-09 WG1855658: Endpoint pH 4.5 Headspace

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	04/29/2022 13:21	WG1855281
Ethane	ND		0.0130	1	04/29/2022 13:21	WG1855281
Ethene	ND		0.0130	1	04/29/2022 13:21	WG1855281
Acetylene	ND		0.0208	1	04/29/2022 13:21	WG1855281

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/25/2022 04:28	WG1853690
Toluene	ND		0.00100	1	04/25/2022 04:28	WG1853690
Ethylbenzene	ND		0.00100	1	04/25/2022 04:28	WG1853690
Total Xylenes	ND		0.00300	1	04/25/2022 04:28	WG1853690
(S) Toluene-d8	*102*		*80.0-120*		*04/25/2022 04:28*	WG1853690
(S) 4-Bromofluorobenzene	*108*		*77.0-126*		*04/25/2022 04:28*	WG1853690
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*04/25/2022 04:28*	WG1853690

Method Blank (MB)

(MB) R3785986-1 04/26/22 13:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1484142-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1484142-01 04/26/22 13:44 • (DUP) R3785986-3 04/26/22 13:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	888	919	1	3.40		5

L1484948-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1484948-02 04/26/22 13:44 • (DUP) R3785986-4 04/26/22 13:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	897	936	1	4.22		5

Laboratory Control Sample (LCS)

(LCS) R3785986-2 04/26/22 13:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	2460	2830	115	81.7-118	

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

Method Blank (MB)

(MB) R3785949-1 04/26/22 15:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1484799-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1484799-02 04/26/22 15:00 • (DUP) R3785949-3 04/26/22 15:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	998	998	1	0.000		5

L1484852-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1484852-01 04/26/22 15:00 • (DUP) R3785949-4 04/26/22 15:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1090	1090	1	0.551		5

Laboratory Control Sample (LCS)

(LCS) R3785949-2 04/26/22 15:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	2460	2560	104	81.7-118	

Method Blank (MB)

(MB) R3786216-1 04/26/22 17:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1484852-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1484852-02 04/26/22 17:46 • (DUP) R3786216-3 04/26/22 17:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	547	566	1	3.41		5

L1484852-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1484852-03 04/26/22 17:46 • (DUP) R3786216-4 04/26/22 17:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	546	564	1	3.24		5

Laboratory Control Sample (LCS)

(LCS) R3786216-2 04/26/22 17:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	2460	2760	112	81.7-118	

Method Blank (MB)

(MB) R3786429-1 04/28/22 02:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Sulfate	U		0.594	5.00

L1485893-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1485893-02 04/28/22 04:52 • (DUP) R3786429-3 04/28/22 05:05

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	ND	1	0.000		20
Sulfate	ND	ND	1	0.000		20

L1486905-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1486905-02 04/28/22 08:43 • (DUP) R3786429-6 04/28/22 08:56

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	24.5	24.5	1	0.367		20
Sulfate	34.5	35.2	1	1.82		20

Laboratory Control Sample (LCS)

(LCS) R3786429-2 04/28/22 02:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.1	100	90.0-110	
Sulfate	40.0	40.4	101	90.0-110	

L1485893-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1485893-02 04/28/22 04:52 • (MS) R3786429-4 04/28/22 05:18 • (MSD) R3786429-5 04/28/22 05:31

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 %
Chloride	50.0	ND	53.7	53.5	107	107	1	80.0-120			0.356	20
Sulfate	50.0	ND	53.8	53.5	108	107	1	80.0-120			0.449	20

L1486905-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1486905-02 04/28/22 08:43 • (MS) R3786429-7 04/28/22 09:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	24.5	74.0	99.0	1	80.0-120	
Sulfate	50.0	34.5	83.7	98.4	1	80.0-120	

Method Blank (MB)

(MB) R3787052-1 04/30/22 10:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate, Dissolved	U		0.594	5.00

L1486101-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1486101-01 04/30/22 22:05 • (DUP) R3787052-3 04/30/22 22:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate, Dissolved	165	165	1	0.251	E	20

L1487248-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1487248-01 05/01/22 04:55 • (DUP) R3787052-5 05/01/22 05:12

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate, Dissolved	ND	ND	1	0.699		20

Laboratory Control Sample (LCS)

(LCS) R3787052-2 04/30/22 11:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate, Dissolved	40.0	39.8	99.6	90.0-110	

L1486101-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1486101-01 04/30/22 22:05 • (MS) R3787052-4 04/30/22 22:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate, Dissolved	50.0	165	209	88.1	1	80.0-120	E

L1487248-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1487248-01 05/01/22 04:55 • (MS) R3787052-6 05/01/22 05:28 • (MSD) R3787052-7 05/01/22 05:45

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, Dissolved	50.0	ND	52.1	51.9	101	101	1	80.0-120			0.428	20

Method Blank (MB)

(MB) R3786206-3 04/28/22 14:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Free Carbon Dioxide	U		6.67	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1485849-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485849-01 04/28/22 14:27 • (DUP) R3786206-5 04/28/22 14:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1485924-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485924-01 04/28/22 15:16 • (DUP) R3786206-7 04/28/22 15:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3786210-3 04/28/22 13:43

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Free Carbon Dioxide	9.12	J	6.67	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1484707-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1484707-01 04/28/22 14:24 • (DUP) R3786210-5 04/28/22 14:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1485924-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1485924-09 04/28/22 15:46 • (DUP) R3786210-9 04/28/22 15:50

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3786494-2 04/29/22 09:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Methane	U		0.00291	0.0100
Ethane	U		0.00407	0.0130
Ethene	U		0.00426	0.0130
Acetylene	U		0.00558	0.0208

L1485849-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1485849-09 04/29/22 11:04 • (DUP) R3786494-3 04/29/22 11:10

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

L1485928-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1485928-01 04/29/22 13:24 • (DUP) R3786494-4 04/29/22 13:27

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	0.0547	0.0592	1	7.90		20
Ethane	ND	ND	1	0.000		20
Ethene	ND	ND	1	0.000		20
Acetylene	ND	ND	1	0.000		20

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

(LCS) R3786494-1 04/29/22 09:50 • (LCSD) R3786494-5 04/29/22 13:31

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 %
Methane	0.0678	0.0685	0.0635	101	93.7	85.0-115			7.58	20
Ethane	0.129	0.117	0.114	90.7	88.4	85.0-115			2.60	20
Ethene	0.127	0.117	0.115	92.1	90.6	85.0-115			1.72	20
Acetylene	0.208	0.183	0.193	88.0	92.8	85.0-115			5.32	20

Method Blank (MB)

(MB) R3785052-3 04/24/22 19:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*110*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*99.6*			*70.0-130*

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

(LCS) R3785052-1 04/24/22 18:29 • (LCSD) R3785052-2 04/24/22 18:49

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 %
Benzene	0.00500	0.00501	0.00508	100	102	70.0-123			1.39	20
Toluene	0.00500	0.00491	0.00496	98.2	99.2	79.0-120			1.01	20
Ethylbenzene	0.00500	0.00501	0.00528	100	106	79.0-123			5.25	20
Xylenes, Total	0.0150	0.0155	0.0159	103	106	79.0-123			2.55	20
(S) Toluene-d8				*102*	*101*	*80.0-120*				
(S) 4-Bromofluorobenzene				*110*	*109*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*99.0*	*99.3*	*70.0-130*				

GLOSSARY OF TERMS

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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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.
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.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Terracon - Longmont, CO

1831 Lefthand Circle
Suite B
Longmont, CO 80501

Billing Information:
Mike Skridulis
1831 Lefthand Circle
Suite B
Longmont, CO 80501

Pres Chk

Report to:
Charles Covington

Email To: Charles.Covington@terracon.com

Project Description:
COL Annual GW Sampling

City/State Collected: Longmont, CO

Please Circle: PT MT CT ET

Phone: 303-454-5249

Client Project # 22227013

Lab Project # TERRALCO-22227013

Collected by (print): Charles A. Covington

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

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 1485924
H235

Acctnum: TERRALCO
Template: T206700
Prelogin: P915945
PM: 824 - Chris Ward
PB: CP 3.31.22

Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE,CO2,SULFATE 250mlHDPE-NoPres	RSK175 40mlAmb HCl	TDS 1L-HDPE NoPres	V8260BTEX 40mlAmb-HCl							Remarks	Sample # (lab only)
LM8-MW01	Grab	GW	—	4/21/22	1340	7	X	X	X	X								-01
LM8-MW02	Grab	GW	—	4/21/22	1400	7	X	X	X	X								-02
LM8-MW03	Grab	GW	—	4/21/22	1425	7	X	X	X	X								-03
PL1-MW01	Grab	GW	—	4/22/22	1040	7	X	X	X	X								-04
PL1-MW02	Grab	GW	—	4/22/22	0950	7	X	X	X	X								-05
PL1-MW03	Grab	GW	—	4/22/22	1015	7	X	X	X	X								-06
DM1-MW01	Grab	GW	—	4/22/22	1200	7	X	X	X	X								-07
DM1-MW02	Grab	GW	—	4/22/22	1140	7	X	X	X	X								-08
DM1-MW03	Grab	GW	—	4/22/22	1230	7	X	X	X	X								-09
		GW				~~7~~	~~X~~	~~X~~	~~X~~	~~X~~								

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __UPS X FedEx __Courier _____

Tracking # 5671 5381 1113

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
RAD Screen <0.5 mR/hr:		Y N

	Date:	Time:		
Relinquished by: (Signature)	4/22/22	1400	Received by: (Signature) FEDEX	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 0.4+2°C 2.9+0=2.9 Bottles Received: 63
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/23/22 Time: 900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

May 09, 2022

Terracon - Longmont, CO

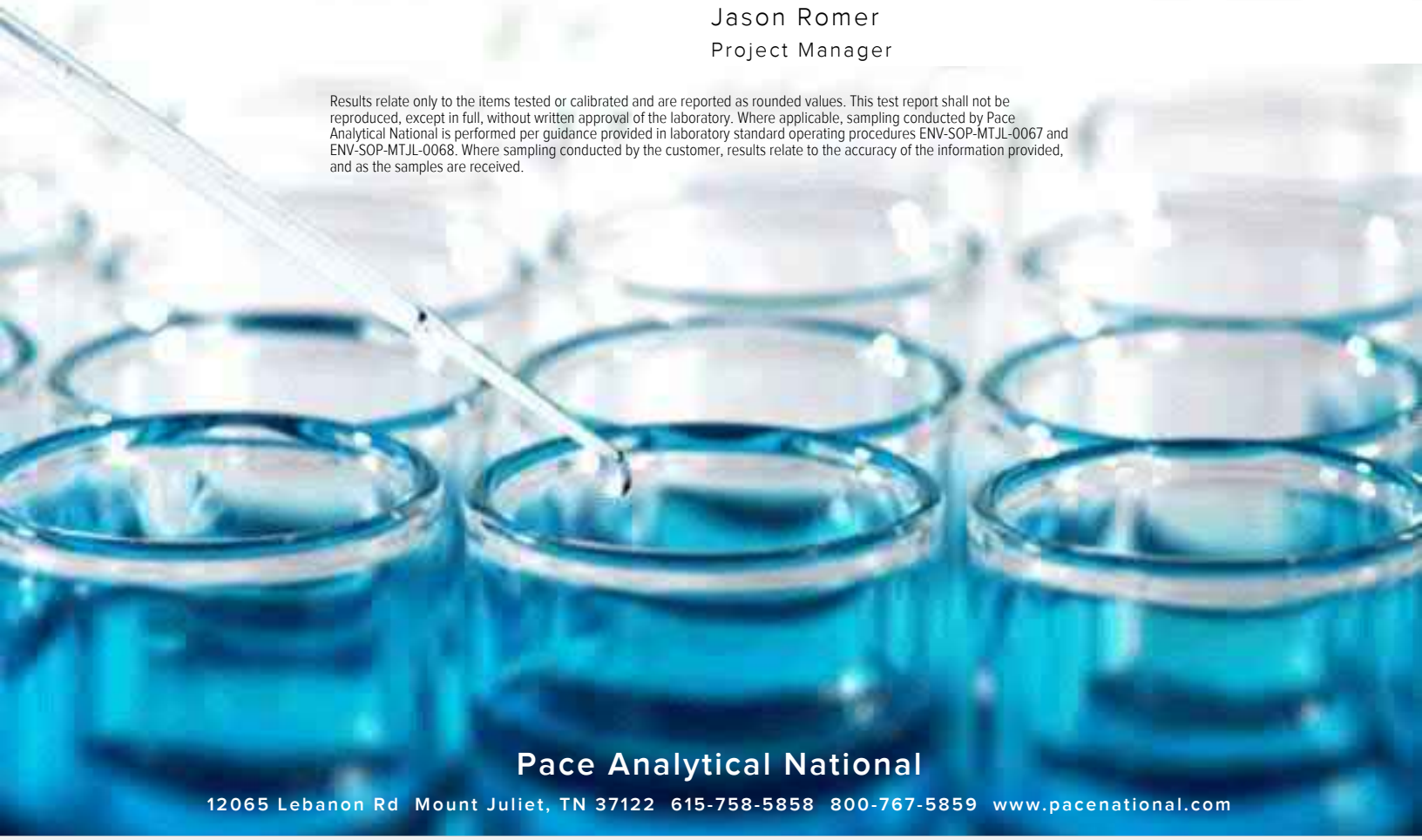
Sample Delivery Group:	L1487474
Samples Received:	04/28/2022
Project Number:	22227013
Description:	COL Annual GW Sampling

Report To:

Charles Covington
1831 Lefthand Circle
Suite C
Longmont, CO 80501

Entire Report Reviewed By:

Jason Romer
Project Manager



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STI-MW02 L1487474-01 GW

Collected by: Travis Whalen | Collected date/time: 04/25/22 14:50 | Received date/time: 04/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1857127	1	05/01/22 18:45	05/01/22 19:20	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1857292	10	05/04/22 19:01	05/04/22 19:01	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1857292	500	05/04/22 19:14	05/04/22 19:14	KEG	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1856808	1	05/02/22 17:43	05/02/22 17:43	JAR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1858196	1	05/04/22 15:12	05/04/22 15:12	DBB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1856268	1	04/29/22 11:20	04/29/22 11:20	ADM	Mt. Juliet, TN

STI-MW03 L1487474-02 GW

Collected by: Travis Whalen | Collected date/time: 04/25/22 15:50 | Received date/time: 04/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1857127	1	05/01/22 18:45	05/01/22 19:20	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1857292	10	05/04/22 19:27	05/04/22 19:27	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1857292	100	05/04/22 19:41	05/04/22 19:41	KEG	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1856808	1	05/02/22 17:46	05/02/22 17:46	JAR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1858196	1	05/04/22 15:15	05/04/22 15:15	DBB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1856268	1	04/29/22 11:39	04/29/22 11:39	ADM	Mt. Juliet, TN

STI-MW05 L1487474-03 GW

Collected by: Travis Whalen | Collected date/time: 04/25/22 15:30 | Received date/time: 04/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1857127	1	05/01/22 18:45	05/01/22 19:20	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1857292	500	05/04/22 20:34	05/04/22 20:34	KEG	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1856808	1	05/02/22 17:50	05/02/22 17:50	JAR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1858196	1	05/04/22 15:18	05/04/22 15:18	DBB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1856268	1	04/29/22 15:31	04/29/22 15:31	ADM	Mt. Juliet, TN

MYI-MW01 L1487474-04 GW

Collected by: Travis Whalen | Collected date/time: 04/26/22 10:15 | Received date/time: 04/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1857127	1	05/01/22 18:45	05/01/22 19:20	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1857292	1	05/04/22 20:48	05/04/22 20:48	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1857292	5	05/04/22 21:01	05/04/22 21:01	KEG	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1856808	1	05/02/22 17:54	05/02/22 17:54	JAR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1858810	1	05/05/22 13:21	05/05/22 13:21	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1856268	1	04/29/22 15:50	04/29/22 15:50	ADM	Mt. Juliet, TN

MYI-MW02 L1487474-05 GW

Collected by: Travis Whalen | Collected date/time: 04/26/22 10:45 | Received date/time: 04/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1857127	1	05/01/22 18:45	05/01/22 19:20	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1857292	1	05/04/22 21:14	05/04/22 21:14	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1857292	5	05/04/22 21:28	05/04/22 21:28	KEG	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1859183	1	05/05/22 17:48	05/05/22 17:48	JAR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1858810	1	05/05/22 13:26	05/05/22 13:26	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1856268	1	04/29/22 16:10	04/29/22 16:10	ADM	Mt. Juliet, TN

SAMPLE SUMMARY

MYI-MW03 L1487474-06 GW

Collected by: Travis Whalen
Collected date/time: 04/26/22 11:15
Received date/time: 04/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1857127	1	05/01/22 18:45	05/01/22 19:20	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1857292	1	05/04/22 21:41	05/04/22 21:41	KEG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1857292	5	05/04/22 21:55	05/04/22 21:55	KEG	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1856808	1	05/02/22 18:06	05/02/22 18:06	JAR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1858810	1	05/05/22 13:33	05/05/22 13:33	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1856268	1	04/29/22 16:29	04/29/22 16:29	ADM	Mt. Juliet, TN

CASE NARRATIVE

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

Jason Romer
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	14900		200	1	05/01/2022 19:20	WG1857127

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	749		10.0	10	05/04/2022 19:01	WG1857292
Sulfate	15400		2500	500	05/04/2022 19:14	WG1857292

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	05/02/2022 17:43	WG1856808

Sample Narrative:

L1487474-01 WG1856808: Endpoint pH 4.5 Headspace

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	05/04/2022 15:12	WG1858196
Ethane	ND		0.0130	1	05/04/2022 15:12	WG1858196
Ethene	ND		0.0130	1	05/04/2022 15:12	WG1858196
Acetylene	ND		0.0208	1	05/04/2022 15:12	WG1858196

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/29/2022 11:20	WG1856268
Toluene	ND		0.00100	1	04/29/2022 11:20	WG1856268
Ethylbenzene	ND		0.00100	1	04/29/2022 11:20	WG1856268
Total Xylenes	ND		0.00300	1	04/29/2022 11:20	WG1856268
(S) Toluene-d8	*102*		*80.0-120*		*04/29/2022 11:20*	WG1856268
(S) 4-Bromofluorobenzene	*98.6*		*77.0-126*		*04/29/2022 11:20*	WG1856268
(S) 1,2-Dichloroethane-d4	*95.4*		*70.0-130*		*04/29/2022 11:20*	WG1856268

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	7400		100	1	05/01/2022 19:20	WG1857127

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	122		10.0	10	05/04/2022 19:27	WG1857292
Sulfate	6270		500	100	05/04/2022 19:41	WG1857292

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	22.0	B T8	20.0	1	05/02/2022 17:46	WG1856808

Sample Narrative:

L1487474-02 WG1856808: Endpoint pH 4.5 Headspace

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	05/04/2022 15:15	WG1858196
Ethane	ND		0.0130	1	05/04/2022 15:15	WG1858196
Ethene	ND		0.0130	1	05/04/2022 15:15	WG1858196
Acetylene	ND		0.0208	1	05/04/2022 15:15	WG1858196

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/29/2022 11:39	WG1856268
Toluene	ND		0.00100	1	04/29/2022 11:39	WG1856268
Ethylbenzene	ND		0.00100	1	04/29/2022 11:39	WG1856268
Total Xylenes	ND		0.00300	1	04/29/2022 11:39	WG1856268
(S) Toluene-d8	*102*		*80.0-120*		*04/29/2022 11:39*	WG1856268
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*04/29/2022 11:39*	WG1856268
(S) 1,2-Dichloroethane-d4	*98.4*		*70.0-130*		*04/29/2022 11:39*	WG1856268

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	18700		200	1	05/01/2022 19:20	WG1857127

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	1150		500	500	05/04/2022 20:34	WG1857292
Sulfate	18200		2500	500	05/04/2022 20:34	WG1857292

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	05/02/2022 17:50	WG1856808

Sample Narrative:

L1487474-03 WG1856808: Endpoint pH 4.5 Headspace

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	05/04/2022 15:18	WG1858196
Ethane	ND		0.0130	1	05/04/2022 15:18	WG1858196
Ethene	ND		0.0130	1	05/04/2022 15:18	WG1858196
Acetylene	ND		0.0208	1	05/04/2022 15:18	WG1858196

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/29/2022 15:31	WG1856268
Toluene	ND		0.00100	1	04/29/2022 15:31	WG1856268
Ethylbenzene	ND		0.00100	1	04/29/2022 15:31	WG1856268
Total Xylenes	ND		0.00300	1	04/29/2022 15:31	WG1856268
(S) Toluene-d8	*103*		*80.0-120*		*04/29/2022 15:31*	WG1856268
(S) 4-Bromofluorobenzene	*91.6*		*77.0-126*		*04/29/2022 15:31*	WG1856268
(S) 1,2-Dichloroethane-d4	*93.6*		*70.0-130*		*04/29/2022 15:31*	WG1856268

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	899		13.3	1	05/01/2022 19:20	WG1857127

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	42.2		1.00	1	05/04/2022 20:48	WG1857292
Sulfate	346		25.0	5	05/04/2022 21:01	WG1857292

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	23.4	B T8	20.0	1	05/02/2022 17:54	WG1856808

Sample Narrative:

L1487474-04 WG1856808: Endpoint pH 4.5 Headspace

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	05/05/2022 13:21	WG1858810
Ethane	ND		0.0130	1	05/05/2022 13:21	WG1858810
Ethene	ND		0.0130	1	05/05/2022 13:21	WG1858810
Acetylene	ND		0.0208	1	05/05/2022 13:21	WG1858810

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/29/2022 15:50	WG1856268
Toluene	ND		0.00100	1	04/29/2022 15:50	WG1856268
Ethylbenzene	ND		0.00100	1	04/29/2022 15:50	WG1856268
Total Xylenes	ND		0.00300	1	04/29/2022 15:50	WG1856268
(S) Toluene-d8	*104*		*80.0-120*		*04/29/2022 15:50*	WG1856268
(S) 4-Bromofluorobenzene	*99.2*		*77.0-126*		*04/29/2022 15:50*	WG1856268
(S) 1,2-Dichloroethane-d4	*97.9*		*70.0-130*		*04/29/2022 15:50*	WG1856268

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	896		13.3	1	05/01/2022 19:20	WG1857127

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	42.3		1.00	1	05/04/2022 21:14	WG1857292
Sulfate	343		25.0	5	05/04/2022 21:28	WG1857292

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	05/05/2022 17:48	WG1859183

Sample Narrative:

L1487474-05 WG1859183: Endpoint pH 4.5 Headspace

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	05/05/2022 13:26	WG1858810
Ethane	ND		0.0130	1	05/05/2022 13:26	WG1858810
Ethene	ND		0.0130	1	05/05/2022 13:26	WG1858810
Acetylene	ND		0.0208	1	05/05/2022 13:26	WG1858810

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/29/2022 16:10	WG1856268
Toluene	ND		0.00100	1	04/29/2022 16:10	WG1856268
Ethylbenzene	ND		0.00100	1	04/29/2022 16:10	WG1856268
Total Xylenes	ND		0.00300	1	04/29/2022 16:10	WG1856268
(S) Toluene-d8	*101*		*80.0-120*		*04/29/2022 16:10*	WG1856268
(S) 4-Bromofluorobenzene	*94.1*		*77.0-126*		*04/29/2022 16:10*	WG1856268
(S) 1,2-Dichloroethane-d4	*94.4*		*70.0-130*		*04/29/2022 16:10*	WG1856268

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	936		13.3	1	05/01/2022 19:20	WG1857127

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	43.9		1.00	1	05/04/2022 21:41	WG1857292
Sulfate	370		25.0	5	05/04/2022 21:55	WG1857292

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	46.4	B T8	20.0	1	05/02/2022 18:06	WG1856808

Sample Narrative:

L1487474-06 WG1856808: Endpoint pH 4.5 Headspace

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	05/05/2022 13:33	WG1858810
Ethane	ND		0.0130	1	05/05/2022 13:33	WG1858810
Ethene	ND		0.0130	1	05/05/2022 13:33	WG1858810
Acetylene	ND		0.0208	1	05/05/2022 13:33	WG1858810

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/29/2022 16:29	WG1856268
Toluene	ND		0.00100	1	04/29/2022 16:29	WG1856268
Ethylbenzene	ND		0.00100	1	04/29/2022 16:29	WG1856268
Total Xylenes	ND		0.00300	1	04/29/2022 16:29	WG1856268
(S) Toluene-d8	*103*		*80.0-120*		*04/29/2022 16:29*	WG1856268
(S) 4-Bromofluorobenzene	*96.1*		*77.0-126*		*04/29/2022 16:29*	WG1856268
(S) 1,2-Dichloroethane-d4	*96.3*		*70.0-130*		*04/29/2022 16:29*	WG1856268

Method Blank (MB)

(MB) R3788062-1 05/01/22 19:20

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1487240-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1487240-01 05/01/22 19:20 • (DUP) R3788062-3 05/01/22 19:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1130	1180	1	4.04		5

L1487240-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1487240-04 05/01/22 19:20 • (DUP) R3788062-4 05/01/22 19:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	713	756	1	5.81	J3	5

Laboratory Control Sample (LCS)

(LCS) R3788062-2 05/01/22 19:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	2460	2470	100	81.7-118	

Method Blank (MB)

(MB) R3788348-1 05/04/22 14:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Sulfate	U		0.594	5.00

L1487052-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1487052-01 05/04/22 17:00 • (DUP) R3788348-3 05/04/22 17:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	ND	1	200	P1	20
Sulfate	ND	ND	1	10.9		20

L1487531-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1487531-02 05/04/22 23:02 • (DUP) R3788348-6 05/04/22 23:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	ND	1	19.1		20
Sulfate	ND	ND	1	16.0		20

Laboratory Control Sample (LCS)

(LCS) R3788348-2 05/04/22 14:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.4	98.6	90.0-110	
Sulfate	40.0	40.6	102	90.0-110	

L1487052-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1487052-01 05/04/22 17:00 • (MS) R3788348-4 05/04/22 17:54 • (MSD) R3788348-5 05/04/22 18:07

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 %
Chloride	50.0	ND	51.9	50.4	104	101	1	80.0-120			2.98	20
Sulfate	50.0	ND	53.1	51.3	105	101	1	80.0-120			3.41	20

L1487531-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1487531-02 05/04/22 23:02 • (MS) R3788348-7 05/04/22 23:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	ND	51.3	102	1	80.0-120	
Sulfate	50.0	ND	52.4	102	1	80.0-120	

Method Blank (MB)

(MB) R3787381-3 05/02/22 17:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Free Carbon Dioxide	9.13	J	6.67	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1487427-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1487427-01 05/02/22 17:33 • (DUP) R3787381-5 05/02/22 17:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3787381-7 05/02/22 18:34

Analyte	Original Result	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide		83.3	1	16.3		20

Sample Narrative:

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3788799-3 05/05/22 17:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Free Carbon Dioxide	18.1	J	6.67	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1487474-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1487474-05 05/05/22 17:48 • (DUP) R3788799-5 05/05/22 17:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5 Headspace

L1487664-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1487664-05 05/05/22 18:49 • (DUP) R3788799-7 05/05/22 18:58

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5 Headspace

Method Blank (MB)

(MB) R3788103-2 05/04/22 15:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Methane	U		0.00291	0.0100
Ethane	U		0.00407	0.0130
Ethene	U		0.00426	0.0130
Acetylene	U		0.00558	0.0208

L1487474-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1487474-01 05/04/22 15:12 • (DUP) R3788103-3 05/04/22 15:50

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

L1488332-44 Original Sample (OS) • Duplicate (DUP)

(OS) L1488332-44 05/04/22 16:35 • (DUP) R3788103-4 05/04/22 16:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	15.6	1.55	1	164		20
Ethane	ND	ND	1	0.000		20
Ethene	ND	ND	1	0.000		20
Acetylene	ND	ND	1	0.000		20

Sample Narrative:

OS: Non-target compounds too high to run at a lower dilution.

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

(LCS) R3788103-1 05/04/22 15:01 • (LCSD) R3788103-5 05/04/22 16:42

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 %
Methane	0.0678	0.0691	0.0734	102	108	85.0-115			6.04	20
Ethane	0.129	0.117	0.117	90.7	90.7	85.0-115			0.000	20
Ethene	0.127	0.119	0.118	93.7	92.9	85.0-115			0.844	20
Acetylene	0.208	0.196	0.185	94.2	88.9	85.0-115			5.77	20

Method Blank (MB)

(MB) R3788585-2 05/05/22 13:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Methane	U		0.00291	0.0100
Ethane	U		0.00407	0.0130
Ethene	U		0.00426	0.0130
Acetylene	U		0.00558	0.0208

L1487474-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1487474-04 05/05/22 13:21 • (DUP) R3788585-3 05/05/22 14:19

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

L1488869-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1488869-01 05/05/22 15:14 • (DUP) R3788585-4 05/05/22 15:21

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

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

(LCS) R3788585-1 05/05/22 12:04 • (LCSD) R3788585-5 05/05/22 15:25

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 %
Methane	0.0678	0.0729	0.0699	108	103	85.0-115			4.20	20
Ethane	0.129	0.110	0.115	85.3	89.1	85.0-115			4.44	20
Ethene	0.127	0.112	0.117	88.2	92.1	85.0-115			4.37	20
Acetylene	0.208	0.180	0.199	86.5	95.7	85.0-115			10.0	20

Method Blank (MB)

(MB) R3786697-3 04/29/22 06:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*102*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*98.4*			*70.0-130*

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

(LCS) R3786697-1 04/29/22 05:49 • (LCSD) R3786697-2 04/29/22 06:08

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 %
Benzene	0.00500	0.00466	0.00434	93.2	86.8	70.0-123			7.11	20
Toluene	0.00500	0.00484	0.00429	96.8	85.8	79.0-120			12.0	20
Ethylbenzene	0.00500	0.00492	0.00457	98.4	91.4	79.0-123			7.38	20
Xylenes, Total	0.0150	0.0146	0.0132	97.3	88.0	79.0-123			10.1	20
(S) Toluene-d8				*104*	*98.9*	*80.0-120*				
(S) 4-Bromofluorobenzene				*97.8*	*95.6*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*101*	*94.7*	*70.0-130*				

GLOSSARY OF TERMS

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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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.
J3	The associated batch QC was outside the established quality control range for precision.
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.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Terracon - Longmont, CO

1831 Lefthand Circle
Suite OB
Longmont, CO 80501

Billing Information:
Mike Skridulis
1831 Lefthand Circle
Suite OB
Longmont, CO 80501

Pres Chk

Report to: **Charles Covington**

Email To: **Charles.Covington@terracon.com**

Project Description: **COL Annual GW Sampling**

City/State Collected: Longmont, CO

Please Circle: PT (MT) CT ET

Phone: **303-454-5249**

Client Project # **22227013**

Lab Project # **TERRALCO-22227013**

Collected by (print): Travis O. Whalen

Site/Facility ID #

P.O. #

Collected by (signature): Travis O. Whalen

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed: STANDARD

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE,CO2,SULFATE 250mlHDPE-NoPres	RSK175 40mlAmb HCl	TDS 1L-HDPE NoPres	V8260BTEX 40mlAmb-HCl							Remarks	Sample # (lab only)
STI-MW02	Grab	GW	–	4/25/22	1450	7	X	X	X	X								-01
STI-MW03	Grab	GW	–	4/25/22	1550	7	X	X	X	X								-02
STI-MW05	Grab	GW	–	4/25/22	1530	7	X	X	X	X								-03
MYI-MW01	Grab	GW	–	4/26/22	1015	7	X	X	X	X								-04
MYI-MW02	Grab	GW	–	4/26/22	TW 1045	7	X	X	X	X								-05
MYI-MW03	Grab	GW	–	4/26/22	1115	7	X	X	X	X								-06

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 148744
E240

Acctnum: **TERRALCO**
Template: **T206700**
Prelogin: **P915945**
PM: **824 - Chris Ward**
PB: LP 3.31.22

Shipped Via: **FedEX Ground**

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking # 5671 5380 3983

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
RAD Screen <0.5 mR/hr:		✓Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received:
Travis O. Whalen	4/27/22	1600	FEDEX	(Yes) / No; (HCL) / MeoH; TBR
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.7 °C; Bottles Received: 42
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 04/28/22 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF (OK)

ANALYTICAL REPORT

May 09, 2022

Terracon - Longmont, CO

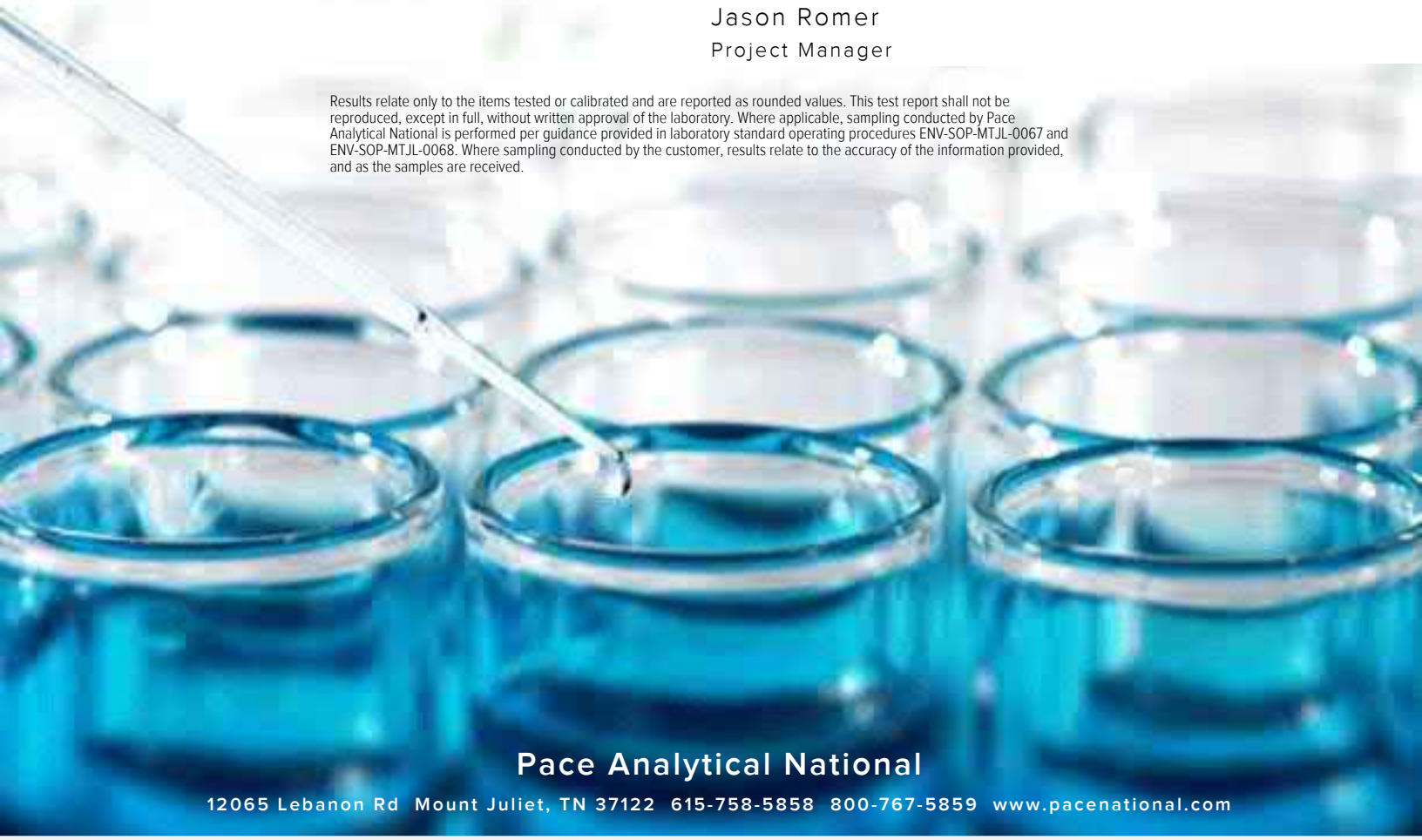
Sample Delivery Group:	L1487881
Samples Received:	04/28/2022
Project Number:	22227013
Description:	COL Annual GW Sampling

Report To:

Charles Covington
1831 Lefthand Circle
Suite C
Longmont, CO 80501

Entire Report Reviewed By:

Jason Romer
Project Manager



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GM1-MW01 L1487881-01 GW

Collected by: Travis Whalen | Collected date/time: 04/26/22 12:25 | Received date/time: 04/28/22 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1857921	1	05/03/22 11:23	05/03/22 14:15	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1860416	5	05/08/22 10:11	05/08/22 10:11	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1857851	1	05/03/22 17:15	05/03/22 17:15	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1857851	10	05/03/22 17:29	05/03/22 17:29	KEG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1858810	1	05/05/22 13:40	05/05/22 13:40	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1856850	1	04/30/22 15:32	04/30/22 15:32	JAH	Mt. Juliet, TN

GM1-MW02 L1487881-02 GW

Collected by: Travis Whalen | Collected date/time: 04/26/22 12:50 | Received date/time: 04/28/22 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1857921	1	05/03/22 11:23	05/03/22 14:15	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1856808	1	05/02/22 19:13	05/02/22 19:13	JAR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1857851	1	05/03/22 17:42	05/03/22 17:42	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1857851	10	05/03/22 17:55	05/03/22 17:55	KEG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1858810	1	05/05/22 13:47	05/05/22 13:47	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1856850	1	04/30/22 15:54	04/30/22 15:54	JAH	Mt. Juliet, TN

GM1-MW03 L1487881-03 GW

Collected by: Travis Whalen | Collected date/time: 04/26/22 13:00 | Received date/time: 04/28/22 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1857921	1	05/03/22 11:23	05/03/22 14:15	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1856808	1	05/02/22 19:18	05/02/22 19:18	JAR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1857851	1	05/03/22 18:09	05/03/22 18:09	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1857851	10	05/03/22 18:22	05/03/22 18:22	KEG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1858810	1	05/05/22 13:50	05/05/22 13:50	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1856850	1	04/30/22 16:16	04/30/22 16:16	JAH	Mt. Juliet, TN

RD1-MW01 L1487881-04 GW

Collected by: Travis Whalen | Collected date/time: 04/27/22 10:15 | Received date/time: 04/28/22 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1857921	1	05/03/22 11:23	05/03/22 14:15	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1856808	1	05/02/22 19:36	05/02/22 19:36	JAR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1857851	1	05/03/22 19:03	05/03/22 19:03	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1857851	10	05/03/22 19:16	05/03/22 19:16	KEG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1858810	1	05/05/22 13:57	05/05/22 13:57	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1856850	1	04/30/22 16:38	04/30/22 16:38	JAH	Mt. Juliet, TN

RD1-MW02 L1487881-05 GW

Collected by: Travis Whalen | Collected date/time: 04/27/22 10:50 | Received date/time: 04/28/22 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1857921	1	05/03/22 11:23	05/03/22 14:15	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1856808	1	05/02/22 19:40	05/02/22 19:40	JAR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1857851	1	05/03/22 19:29	05/03/22 19:29	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1857851	10	05/03/22 19:43	05/03/22 19:43	KEG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1858810	1	05/05/22 14:05	05/05/22 14:05	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1856850	1	04/30/22 17:00	04/30/22 17:00	JAH	Mt. Juliet, TN

RD1-MW03 L1487881-06 GW

Collected by: Travis Whalen
Collected date/time: 04/27/22 11:20
Received date/time: 04/28/22 13:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1857921	1	05/03/22 11:23	05/03/22 14:15	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1856808	1	05/02/22 19:50	05/02/22 19:50	JAR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1857851	1	05/03/22 19:56	05/03/22 19:56	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1857851	10	05/03/22 20:10	05/03/22 20:10	KEG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1858818	1	05/05/22 11:37	05/05/22 11:37	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1856850	1	04/30/22 17:22	04/30/22 17:22	JAH	Mt. Juliet, TN

CASE NARRATIVE

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

Jason Romer
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1130		20.0	1	05/03/2022 14:15	WG1857921

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	100	5	05/08/2022 10:11	WG1860416

Sample Narrative:

L1487881-01 WG1860416: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	29.5		1.00	1	05/03/2022 17:15	WG1857851
Sulfate	427		50.0	10	05/03/2022 17:29	WG1857851

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	05/05/2022 13:40	WG1858810
Ethane	ND		0.0130	1	05/05/2022 13:40	WG1858810
Ethene	ND		0.0130	1	05/05/2022 13:40	WG1858810
Acetylene	ND		0.0208	1	05/05/2022 13:40	WG1858810

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/30/2022 15:32	WG1856850
Toluene	ND		0.00100	1	04/30/2022 15:32	WG1856850
Ethylbenzene	ND		0.00100	1	04/30/2022 15:32	WG1856850
Total Xylenes	ND		0.00300	1	04/30/2022 15:32	WG1856850
(S) Toluene-d8	*102*		*80.0-120*		*04/30/2022 15:32*	WG1856850
(S) 4-Bromofluorobenzene	*104*		*77.0-126*		*04/30/2022 15:32*	WG1856850
(S) 1,2-Dichloroethane-d4	*115*		*70.0-130*		*04/30/2022 15:32*	WG1856850

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	918		20.0	1	05/03/2022 14:15	WG1857921

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	05/02/2022 19:13	WG1856808

Sample Narrative:

L1487881-02 WG1856808: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	27.5		1.00	1	05/03/2022 17:42	WG1857851
Sulfate	416		50.0	10	05/03/2022 17:55	WG1857851

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	05/05/2022 13:47	WG1858810
Ethane	ND		0.0130	1	05/05/2022 13:47	WG1858810
Ethene	ND		0.0130	1	05/05/2022 13:47	WG1858810
Acetylene	ND		0.0208	1	05/05/2022 13:47	WG1858810

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/30/2022 15:54	WG1856850
Toluene	ND		0.00100	1	04/30/2022 15:54	WG1856850
Ethylbenzene	ND		0.00100	1	04/30/2022 15:54	WG1856850
Total Xylenes	ND		0.00300	1	04/30/2022 15:54	WG1856850
(S) Toluene-d8	*97.2*		*80.0-120*		*04/30/2022 15:54*	WG1856850
(S) 4-Bromofluorobenzene	*99.0*		*77.0-126*		*04/30/2022 15:54*	WG1856850
(S) 1,2-Dichloroethane-d4	*114*		*70.0-130*		*04/30/2022 15:54*	WG1856850

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1180		20.0	1	05/03/2022 14:15	WG1857921

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	47.2	B T8	20.0	1	05/02/2022 19:18	WG1856808

Sample Narrative:

L1487881-03 WG1856808: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	33.9		1.00	1	05/03/2022 18:09	WG1857851
Sulfate	816		50.0	10	05/03/2022 18:22	WG1857851

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	05/05/2022 13:50	WG1858810
Ethane	ND		0.0130	1	05/05/2022 13:50	WG1858810
Ethene	ND		0.0130	1	05/05/2022 13:50	WG1858810
Acetylene	ND		0.0208	1	05/05/2022 13:50	WG1858810

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/30/2022 16:16	WG1856850
Toluene	ND		0.00100	1	04/30/2022 16:16	WG1856850
Ethylbenzene	ND		0.00100	1	04/30/2022 16:16	WG1856850
Total Xylenes	ND		0.00300	1	04/30/2022 16:16	WG1856850
(S) Toluene-d8	*99.1*		*80.0-120*		*04/30/2022 16:16*	WG1856850
(S) 4-Bromofluorobenzene	*100*		*77.0-126*		*04/30/2022 16:16*	WG1856850
(S) 1,2-Dichloroethane-d4	*114*		*70.0-130*		*04/30/2022 16:16*	WG1856850

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	932		20.0	1	05/03/2022 14:15	WG1857921

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	05/02/2022 19:36	WG1856808

Sample Narrative:

L1487881-04 WG1856808: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	45.7		1.00	1	05/03/2022 19:03	WG1857851
Sulfate	339		50.0	10	05/03/2022 19:16	WG1857851

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	05/05/2022 13:57	WG1858810
Ethane	ND		0.0130	1	05/05/2022 13:57	WG1858810
Ethene	ND		0.0130	1	05/05/2022 13:57	WG1858810
Acetylene	ND		0.0208	1	05/05/2022 13:57	WG1858810

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/30/2022 16:38	WG1856850
Toluene	ND		0.00100	1	04/30/2022 16:38	WG1856850
Ethylbenzene	ND		0.00100	1	04/30/2022 16:38	WG1856850
Total Xylenes	ND		0.00300	1	04/30/2022 16:38	WG1856850
(S) Toluene-d8	*100*		*80.0-120*		*04/30/2022 16:38*	WG1856850
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*04/30/2022 16:38*	WG1856850
(S) 1,2-Dichloroethane-d4	*112*		*70.0-130*		*04/30/2022 16:38*	WG1856850

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	890		20.0	1	05/03/2022 14:15	WG1857921

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	47.2	B T8	20.0	1	05/02/2022 19:40	WG1856808

Sample Narrative:

L1487881-05 WG1856808: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	52.0		1.00	1	05/03/2022 19:29	WG1857851
Sulfate	325		50.0	10	05/03/2022 19:43	WG1857851

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	05/05/2022 14:05	WG1858810
Ethane	ND		0.0130	1	05/05/2022 14:05	WG1858810
Ethene	ND		0.0130	1	05/05/2022 14:05	WG1858810
Acetylene	ND		0.0208	1	05/05/2022 14:05	WG1858810

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/30/2022 17:00	WG1856850
Toluene	ND		0.00100	1	04/30/2022 17:00	WG1856850
Ethylbenzene	ND		0.00100	1	04/30/2022 17:00	WG1856850
Total Xylenes	ND		0.00300	1	04/30/2022 17:00	WG1856850
(S) Toluene-d8	*99.9*		*80.0-120*		*04/30/2022 17:00*	WG1856850
(S) 4-Bromofluorobenzene	*98.9*		*77.0-126*		*04/30/2022 17:00*	WG1856850
(S) 1,2-Dichloroethane-d4	*115*		*70.0-130*		*04/30/2022 17:00*	WG1856850

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	938		20.0	1	05/03/2022 14:15	WG1857921

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	47.8	B T8	20.0	1	05/02/2022 19:50	WG1856808

Sample Narrative:

L1487881-06 WG1856808: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	47.7		1.00	1	05/03/2022 19:56	WG1857851
Sulfate	342		50.0	10	05/03/2022 20:10	WG1857851

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	05/05/2022 11:37	WG1858818
Ethane	ND		0.0130	1	05/05/2022 11:37	WG1858818
Ethene	ND		0.0130	1	05/05/2022 11:37	WG1858818
Acetylene	ND		0.0208	1	05/05/2022 11:37	WG1858818

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	04/30/2022 17:22	WG1856850
Toluene	ND		0.00100	1	04/30/2022 17:22	WG1856850
Ethylbenzene	ND		0.00100	1	04/30/2022 17:22	WG1856850
Total Xylenes	ND		0.00300	1	04/30/2022 17:22	WG1856850
(S) Toluene-d8	*96.9*		*80.0-120*		*04/30/2022 17:22*	WG1856850
(S) 4-Bromofluorobenzene	*99.3*		*77.0-126*		*04/30/2022 17:22*	WG1856850
(S) 1,2-Dichloroethane-d4	*119*		*70.0-130*		*04/30/2022 17:22*	WG1856850

Method Blank (MB)

(MB) R3788156-1 05/03/22 14:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1487530-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1487530-01 05/03/22 14:15 • (DUP) R3788156-3 05/03/22 14:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	225	221	1	1.79		5

L1487531-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1487531-02 05/03/22 14:15 • (DUP) R3788156-4 05/03/22 14:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	ND	ND	1	0.000		5

Laboratory Control Sample (LCS)

(LCS) R3788156-2 05/03/22 14:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	2460	2390	97.2	81.7-118	

Method Blank (MB)

(MB) R3787381-3 05/02/22 17:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Free Carbon Dioxide	9.13	J	6.67	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1487427-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1487427-01 05/02/22 17:33 • (DUP) R3787381-5 05/02/22 17:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3787381-7 05/02/22 18:34

Analyte	Original Result	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide		83.3	1	16.3		20

Sample Narrative:

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3789347-3 05/08/22 09:58

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Free Carbon Dioxide	9.86	J	6.67	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1488098-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1488098-01 05/08/22 10:41 • (DUP) R3789347-5 05/08/22 10:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1488331-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1488331-10 05/08/22 11:15 • (DUP) R3789347-7 05/08/22 11:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	ND	ND	1	1.52		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3788325-1 05/03/22 12:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Sulfate	U		0.594	5.00

L1486746-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1486746-02 05/03/22 14:06 • (DUP) R3788325-3 05/03/22 14:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	79.8	80.0	1	0.340		15
Sulfate	ND	ND	1	2.76		15

L1488062-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1488062-01 05/03/22 22:23 • (DUP) R3788325-6 05/03/22 22:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	3.31	3.31	1	0.0272		15
Sulfate	47.5	46.9	1	1.10		15

Laboratory Control Sample (LCS)

(LCS) R3788325-2 05/03/22 12:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.0	97.6	80.0-120	
Sulfate	40.0	40.5	101	80.0-120	

L1486746-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1486746-02 05/03/22 14:06 • (MS) R3788325-4 05/03/22 14:33 • (MSD) R3788325-5 05/03/22 14:47

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 %
Chloride	50.0	79.8	128	127	96.3	94.4	1	80.0-120	E	E	0.738	15
Sulfate	50.0	ND	54.8	54.5	104	103	1	80.0-120			0.528	15

L1488062-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1488062-01 05/03/22 22:23 • (MS) R3788325-7 05/03/22 22:50

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	3.31	55.1	104	1	80.0-120	
Sulfate	50.0	47.5	96.3	97.7	1	80.0-120	

Method Blank (MB)

(MB) R3788585-2 05/05/22 13:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Methane	U		0.00291	0.0100
Ethane	U		0.00407	0.0130
Ethene	U		0.00426	0.0130
Acetylene	U		0.00558	0.0208

L1487474-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1487474-04 05/05/22 13:21 • (DUP) R3788585-3 05/05/22 14:19

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

L1488869-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1488869-01 05/05/22 15:14 • (DUP) R3788585-4 05/05/22 15:21

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

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

(LCS) R3788585-1 05/05/22 12:04 • (LCSD) R3788585-5 05/05/22 15:25

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 %
Methane	0.0678	0.0729	0.0699	108	103	85.0-115			4.20	20
Ethane	0.129	0.110	0.115	85.3	89.1	85.0-115			4.44	20
Ethene	0.127	0.112	0.117	88.2	92.1	85.0-115			4.37	20
Acetylene	0.208	0.180	0.199	86.5	95.7	85.0-115			10.0	20

Method Blank (MB)

(MB) R3788412-2 05/05/22 08:06

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Methane	U		0.00291	0.0100
Ethane	U		0.00407	0.0130
Ethene	U		0.00426	0.0130
acetylene	U		0.00558	0.0208

L1487213-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1487213-01 05/05/22 09:06 • (DUP) R3788412-3 05/05/22 09:52

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

L1487832-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1487832-04 05/05/22 11:31 • (DUP) R3788412-4 05/05/22 11:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	0.969	0.981	1	1.23		20
Ethane	ND	ND	1	3.52		20
Ethene	0.141	0.146	1	3.48		20
acetylene	ND	ND	1	0.000		20

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

(LCS) R3788412-1 05/05/22 08:02 • (LCSD) R3788412-7 05/05/22 12:04

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 %
Methane	0.0678	0.0665	0.0729	98.1	108	85.0-115			9.18	20
Ethane	0.129	0.114	0.110	88.4	85.3	85.0-115			3.57	20
Ethene	0.127	0.117	0.112	92.1	88.2	85.0-115			4.37	20
acetylene	0.208	0.183	0.180	88.0	86.5	85.0-115			1.65	20

L1487832-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1487832-03 05/05/22 11:25 • (MS) R3788412-5 05/05/22 11:48 • (MSD) R3788412-6 05/05/22 11:59

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 %
Methane	0.0678	0.0273	0.102	0.0799	110	77.6	1	50.0-150		J3	24.3	20
Ethane	0.129	ND	0.129	0.121	100	93.8	1	50.0-150			6.40	20
Ethene	0.127	ND	0.135	0.124	106	97.6	1	50.0-150			8.49	20
Acetylene	0.208	ND	0.214	0.195	103	93.7	1	50.0-150			9.29	20

Method Blank (MB)

(MB) R3786871-3 04/30/22 11:03

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*96.9*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.4*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*118*			*70.0-130*

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

(LCS) R3786871-1 04/30/22 09:58 • (LCSD) R3786871-2 04/30/22 10:20

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 %
Benzene	0.00500	0.00523	0.00501	105	100	70.0-123			4.30	20
Toluene	0.00500	0.00483	0.00451	96.6	90.2	79.0-120			6.85	20
Ethylbenzene	0.00500	0.00512	0.00477	102	95.4	79.0-123			7.08	20
Xylenes, Total	0.0150	0.0148	0.0138	98.7	92.0	79.0-123			6.99	20
(S) Toluene-d8				*97.5*	*96.6*	*80.0-120*				
(S) 4-Bromofluorobenzene				*102*	*99.5*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*121*	*121*	*70.0-130*				

GLOSSARY OF TERMS

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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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.
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.
J3	The associated batch QC was outside the established quality control range for precision.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Terracon - Longmont, CO
1831 Lefthand Circle
Suite B
Longmont, CO 80501

Billing Information:
Mike Skridulis
1831 Lefthand Circle
Suite B
Longmont, CO 80501

Pres Chk

Report to: Charles Covington

Email To: Charles.Covington@terracon.com

Project Description: COL Annual Groundwater Sampling

City/State Collected: Longmont, CO

Please Circle: PT (MT) CT ET

Phone: 303-454-5249

Client Project # 22227013

Lab Project # TERRALCO-22227013

Collected by (print): Travis O. Whalen

Site/Facility ID #

P.O. #

Collected by (signature): Travis O. Whalen

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

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CHLORIDE,CO2,SULFATE 250mlHDPE-NP	RSK 175 40mlAmb HCl	TDS 1L-HDPE NoPres	V8260BTEX	Remarks	Sample # (lab only)
GM1-MW01	Grab	GW	-	4/26/22	1225	7	X	X	X	X		-01
GM1-MW02	Grab	GW	-	4/26/22	1250	7	X	X	X	X		-02
GM1-MW03	Grab	GW	-	4/26/22	1300	7	X	X	X	X		-03
RD1-MW01	Grab	GW	-	4/27/22	1015	7	X	X	X	X		-04
RD1-MW02	Grab	GW	-	4/27/22	1050	7	X	X	X	X		-05
RD1-MW03	Grab	GW	-	4/27/22	1120	7	X	X	X	X		-06

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 1487881
1229

Acctnum:
Template:
Prelogin:
PM:
PB:
Shipped Via:

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

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

Tracking # 5671 5380 4030

Sample Receipt Checklist
COC Seal Present/Intact: __NP X Y __N
COC Signed/Accurate: X Y __N
Bottles arrive intact: X Y __N
Correct bottles used: X Y __N
Sufficient volume sent: X Y __N
If Applicable
VOA Zero Headspace: X __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: X Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
Travis O Whalen	4/27/22	1400	FEDEX		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.4 °C Bottles Received: 42	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/28/22 Time: 1330	Hold: Condition: NCF / OK