2020 ANNUAL MONITORING REPORT

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

August 19, 2020
Terracon Project No. 22207002

Prepared for:
City of Longmont
Longmont, Colorado

Prepared by:
Terracon Consultants, Inc.
Longmont, Colorado

August 19, 2020

City of Longmont
1100 South Sherman Street
Longmont, Colorado 80501

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

Re: 2020 Annual Monitoring Report
Groundwater Quality Monitoring Program
Oil & Gas Well Sites
Longmont, Colorado
Terracon Project No. 22207002

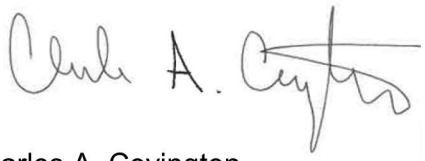
Dear Dr. Turner:

Terracon Consultants, Inc. (Terracon) is pleased to submit our report of the 2020 Annual Groundwater Quality Monitoring Program activities performed at four active oil & gas (O&G) well sites, ten plugged and abandoned (PA) O&G well sites, and one associated tank battery site located in 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 (P22207002), dated January 31, 2020.

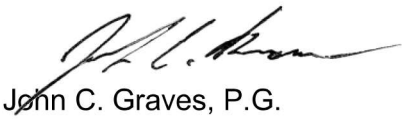
Terracon appreciates this opportunity to provide environmental consulting services to The City of Longmont. Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,

Terracon Consultants, Inc.



Charles A. Covington
Field Geologist



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

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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 2020 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 2020 monitoring event with the exception of the Tabor #1 (TB1) site.

This groundwater quality sampling event was performed in accordance with the scope of services outlined in Terracon Proposal No. P22207002, dated January 31, 2020. A total of 49 of the planned 52 monitoring wells were sampled on May 26th - 29th and June 2nd – 5th, June 8th, and June 10th to evaluate potential impacts to groundwater from current or historical oil and gas (O&G) extraction and production (E&P) operations at the sites. 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

Groundwater was encountered from 0.60 feet below top of casing (BTOC) as observed in monitoring well SGU-MW07 to 20.90 feet BTOC as observed in MY1-MW03. Groundwater elevations were observed ranging from 4,850.77 feet above mean sea level (amsl) in monitoring well DM1-MW02 to 4,952.90 feet amsl in monitoring well S31-MW01. Depth to groundwater and groundwater elevation data are summarized in Table 1.

Various 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). This project is located within the GWA. Water wells that are registered with Colorado Division of Water Resources (DWR), and include:

- household,
- domestic,
- livestock,
- irrigation,
- municipal/public,
- commercial,
- permitted or adjudicated springs, and
- monitoring wells installed for the purpose of complying with groundwater baseline sampling and monitoring requirements.

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.

1.0 SITE DESCRIPTION

This project consists of sampling monitoring wells associated with four active oil and gas (O&G) well sites, ten plugged and abandoned (PA) O&G well sites, and one associated tank battery site located in the City of Longmont, Colorado, (the City). The 2020 monitoring event analyzed potential impacts to groundwater, in accordance with Terracon Proposal No. P22207002, at the following sites:

- Domenico #1: three monitoring wells;
- Evans #6 Tank Battery: three monitoring wells;
- Evans #6 Wellhead: three monitoring wells;
- Stamp 31-2C: six monitoring wells[1];
- City of Longmont #1: three monitoring wells;
- Powell #1: three monitoring wells;
- Sherwood #1: three monitoring wells;
- Sherwood #2: three monitoring wells;
- Tabor #1: Not Sampled[2];
- Tabor #7: three monitoring wells;
- Longmont 8-10k: three monitoring wells;
- Maruyama: 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.

1) Terracon originally proposed the sampling of two monitoring wells. Due to current onsite remedial activities by the Operator from a recently discovered petroleum spill, the City of Longmont requested all available on-site monitoring wells to be sampled during this event.
2) All site monitoring wells have been destroyed.

The 2020 monitoring event well site locations are shown on Exhibit 1.

2.0 SCOPE OF SERVICES

The 2020 annual groundwater quality monitoring services described below were performed on May 26th - 29th and June 2nd - 5th, June 8th, and June 10th, 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 Wellhead: E6W-MW01, E6W-MW02, and E6W-MW03;
- Evans #6 Tank Battery: E6T-MW01, E6T-MW-02, and E6T-MW03;
- Stamp 31-2C: 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, SH2-MW02, and SH2-MW03;
- Tabor #7: TB7-MW01, TB7-MW02, TB7-MW03;
- Longmont 8-10k: LM8-MW01, LM8-MW02, and LM8-MW03;
- Maruyama #1: MY1-MW01, MY1-MW02, MY1-MW03;
- George Mayeda #1: GM1-MW01, GM1-MW02, and GM1-MW03;
- Mary #2: MR2-MW01, MR2-MW02, MR2-MW03;
- Wertman #1: WT1-MW01, WT1-MW02, WT1-MW03; and
- Serafini Gas Unit: SGU-MW01, SGU-MW02, SGU-MW03, SGU-MW-06, and SGU-MW07.

2.1 Standard of Care

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

2.2 Additional Scope Limitations

Findings, conclusions, and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this 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.

2.3 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.

3.0 FIELD INVESTIGATION

3.1 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.

3.2 Sampling and Analytical Program Summary

Terracon sampled a total of 49 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.

3.3 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.

4.0 FIELD INVESTIGATION RESULTS

4.1 Hydrogeology

Groundwater was encountered from 0.60 feet below top of casing (BTOC) as observed in monitoring well SGU-MW07 to 20.90 feet BTOC as observed in MY1-MW03. Groundwater elevations were observed ranging from 4,850.77 feet above mean sea level (amsl) in monitoring well DM1-MW02 to 4,952.90 feet amsl in monitoring well S31-MW01. Depth to groundwater and groundwater elevation data are summarized in Table 1.

Depth to groundwater and groundwater elevation data as measured in May and June 2020 were used to generate potentiometric surface maps and estimated groundwater flow direction.

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:

- Sherwood #1: northeast, towards the St. Vrain Creek;

- Sherwood #2: northeast, towards the St. Vrain Creek;
- City of Longmont #1: northeast, towards the St. Vrain Creek*;
- Serafini Gas Unit: northeast, towards the St. Vrain Creek;
- Powell #1: east, towards the St. Vrain Creek;
- Evans #6 Wellhead: east-southeast, towards the St. Vrain Creek;
- Evans #6 Tank Battery: southeast towards, the St. Vrain and Boulder Creeks;
- Domenico #1: north-northwest, towards Boulder Creek;
- Stamp 31-2C: southeast, towards Union Reservoir;
- Tabor #1: wells destroyed;
- Tabor #7: southeast, towards the St. Vrain Creek;
- Longmont 8-10k: southeast, towards the St. Vrain Creek;
- Maruyama: east-southeast, towards the St. Vrain Creek;
- George Mayeda: north, towards Spring Gulch;
- Mary #2: southwest, towards the St. Vrain Creek; and
- Wertman #1: west-southwest, towards the St. Vrain Creek.

*At the time of sampling, water flow was observed trending to the south at the City of Longmont #1 site. Based on topographic features observed on-site and that the site is centrally located within an agriculturally irrigated field, it is assumed that groundwater flow is to the northeast, towards the St. Vrain Creek.

5.0 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).

5.1 Organic Compounds

Dissolved methane and ethane were detected above their respective laboratory reporting limits at the following sites. Concentrations shown below were rounded to the nearest 0.001 milligrams per liter (mg/L). Dissolved ethene was not detected above the laboratory reporting limit in the samples collected.

5.1.1 Powell #1 Wellhead (PL1)

- Methane was reported in samples PL1-MW02 and PL1-MW03R at concentrations of 0.020 mg/L and 0.017 mg/L, respectively.

5.1.2 Domenico #1 Wellsite (DM1)

- Methane was reported in sample DM1-MW01 at a concentration of 0.044 mg/L.

5.1.3 Stamp 31-2C Wellsite (S31)

- Methane was reported in samples S31-MW01 and S31-MW03 at concentrations of 0.310 mg/L and 0.805 mg/L, respectively.
- Ethane was reported in samples S31-MW01 and S31-MW03 at concentrations of 0.019 mg/L and 0.020 mg/L, respectively.

5.1.4 Serafini Gas Unit (SGU)

- Methane was reported in sample SGU-MW07 at a concentration of 0.022 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). Currently, the reported methane concentrations do not require additional investigation of groundwater.

5.2 Inorganics in Groundwater

Inorganic cations and anions 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 utilized 2020 analytical data for chloride and sulfate from the sites sampled during the 2020 sampling event to calculate respective regional background concentrations.

Terracon used the USEPA's statistical software (ProUCL), Version 5.1, to determine if the dataset used to calculate the mean was statistically normal. The ProUCL software can be downloaded at https://www.epa.gov/land-research/proucl-software. After eliminating monitoring well analytical data that was not representative of normal conditions, the data was inputted into ProUCL. Analysis was conducted to evaluate if there are additional outlying data points and if the data set adhered to a normal distribution. Several sulfate analytical results were removed from the data set based on the results of the initial outlier test. The outlier test does state that there is a potential

outlier. However, based on a 1% and 5% significance level, additional outliers were not identified; therefore no additional analytical results were removed from the data set. A normal Q-Q plot was then generated to evaluate if the data set for chloride and sulfate adhered to a normal distribution. The normal Q-Q plot illustrates that both data sets are normal. The mean and standard deviation were also calculated using ProUCL.

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

Statistical Analysis	Chloride (mg/L)	Sulfate (mg/L)
Mean (from background well data)	39.5	344.5
COGCC cleanup goal (1.25 x background)	49.38	430.63
Standard Deviation	7.996	175.4
Sample Size	31	29

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 are included below.

Sulfate concentrations were reported in groundwater samples collected from monitoring wells at the Sherwood #1, Sherwood #2, Powell #1, Evans #6 Tank Battery, Evans #6 Wellhead, Longmont 8-10K, Domenico #1, City of Longmont #1, Serafini Gas Unit, Stamp 31-2C, George Mayeda #1, Maruyama #1, Tabor #7, and Mary #2 sites above calculated COGCC background levels. Chloride concentrations were reported in groundwater samples collected from monitoring wells at the Sherwood #1, Sherwood #2, Evans #6 Tank Battery, Domenico #1, Stamp 31-2C, and Wertman #1 well sites above calculated COGCC background levels.

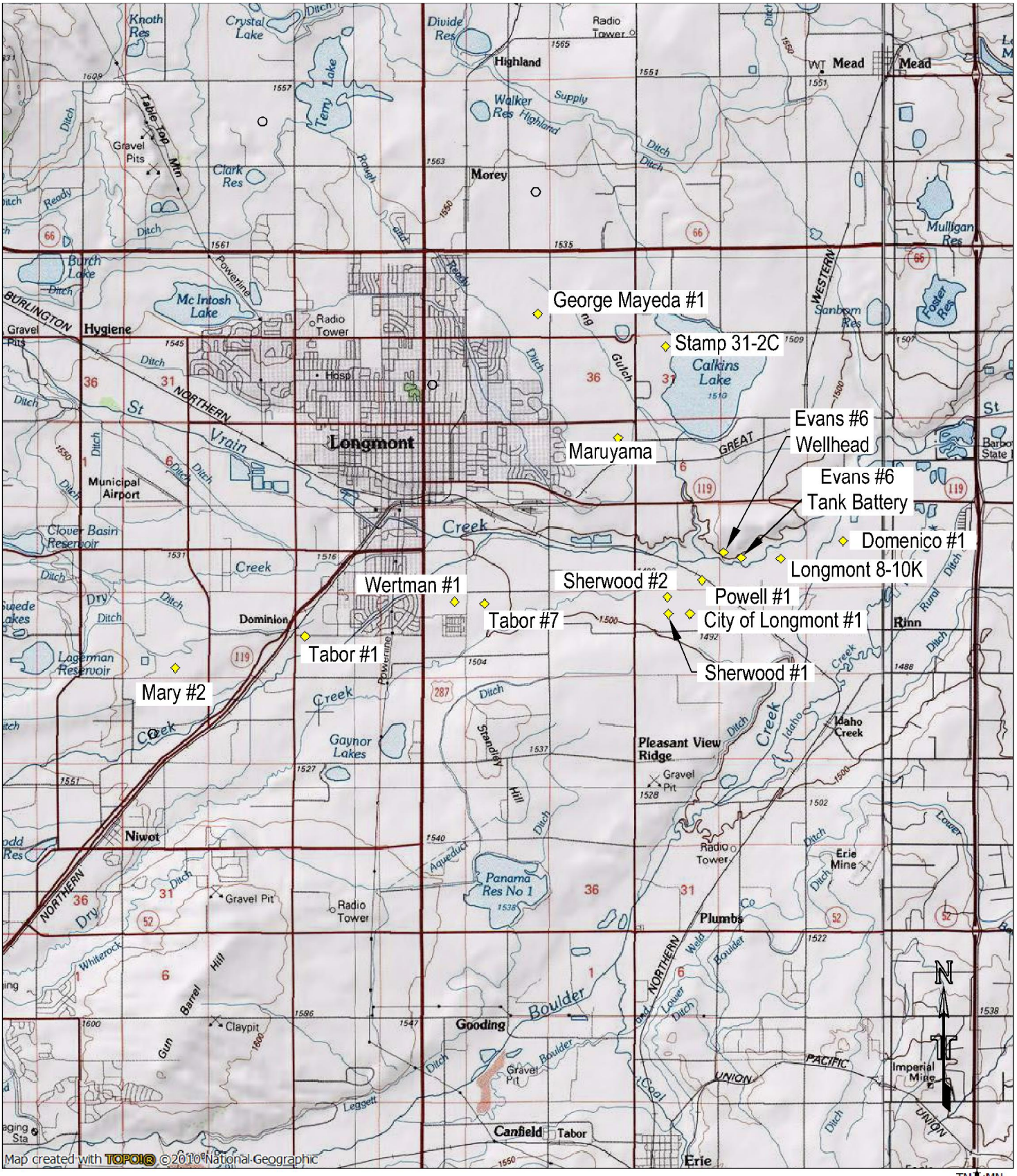
APPENDIX A – EXHIBITS & TABLES

Exhibit 1 – Wellsite Locations Map

Exhibit 2 -16 – Potentiometric Surface Maps: Various Well Sites

Table 1 – Groundwater Elevation Data

Table 2 – Groundwater Analytical Results



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

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
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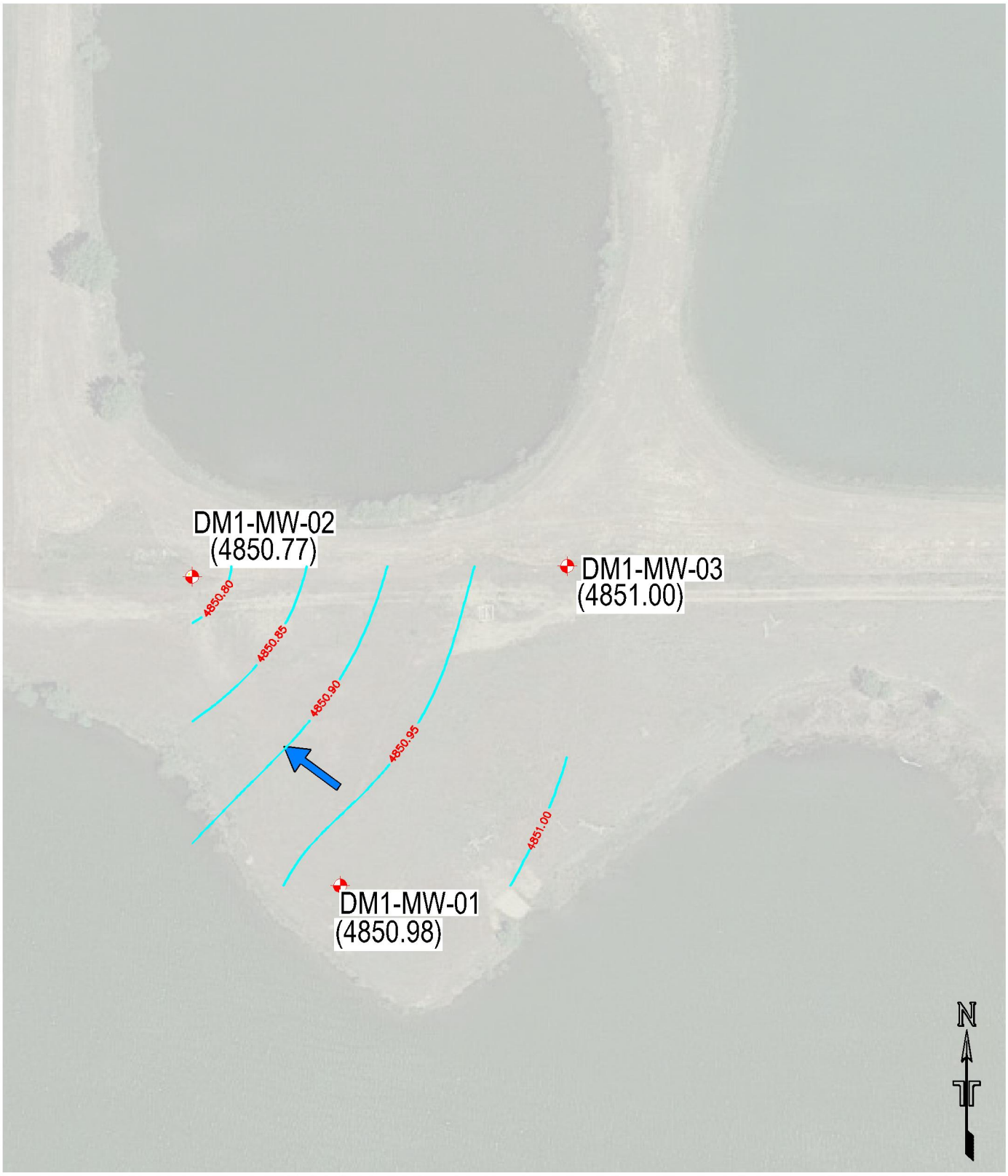
ACAD NO.	001
SHEET NO.:	1 OF 15



LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, June 8, 2020

– Approximate Grounwater Flow Direction, June 8, 2020

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 and Piezometric Surface Diagram - Domenico #1

City of Longmont Oil and Gas Well Sites

Longmont
Colorado

Exhibit 2

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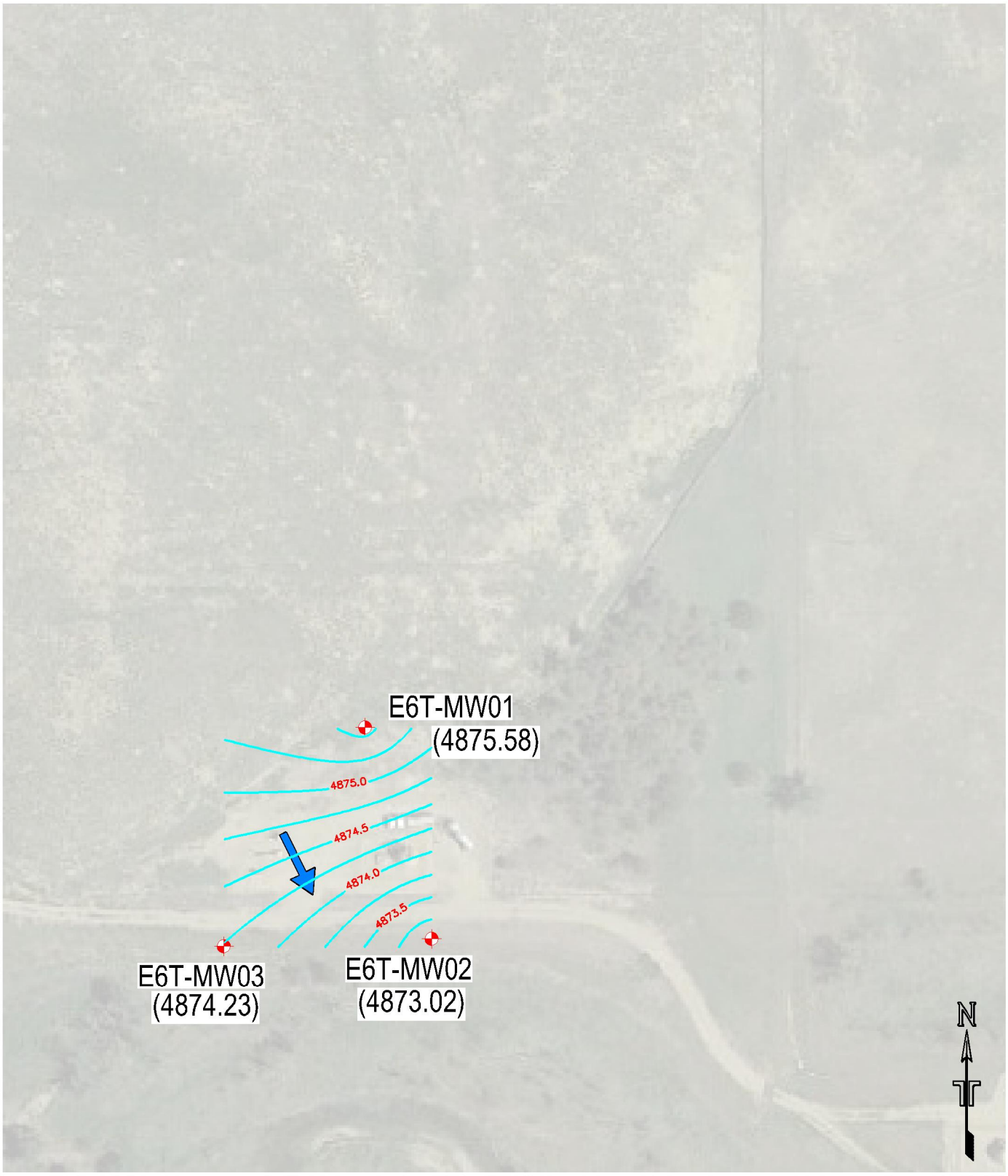

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, June 4, 2020

– Approximate Grounwater Flow Direction, June 4, 2020

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 and Piezometric Surface Diagram - Evans #6 Tank Battery

City of Longmont Oil and Gas Well Sites

Longmont
Colorado

Exhibit 3

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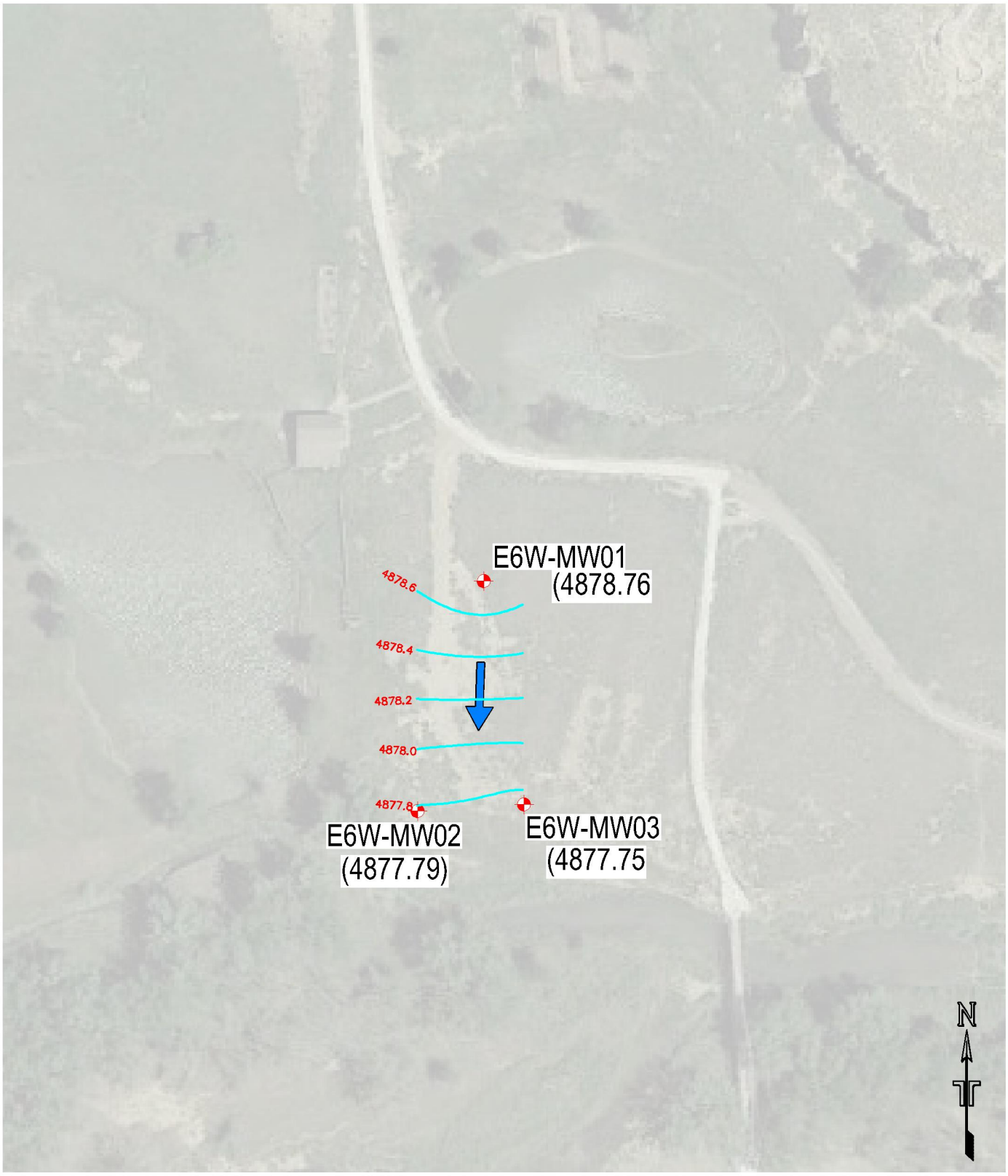

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, August 6, 2020

– Approximate Grounwater Flow Direction, August 6, 2020

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 and Piezometric Surface Diagram - Evans #6 Wellhead

City of Longmont Oil and Gas Well Sites

Longmont
Colorado

Exhibit 4

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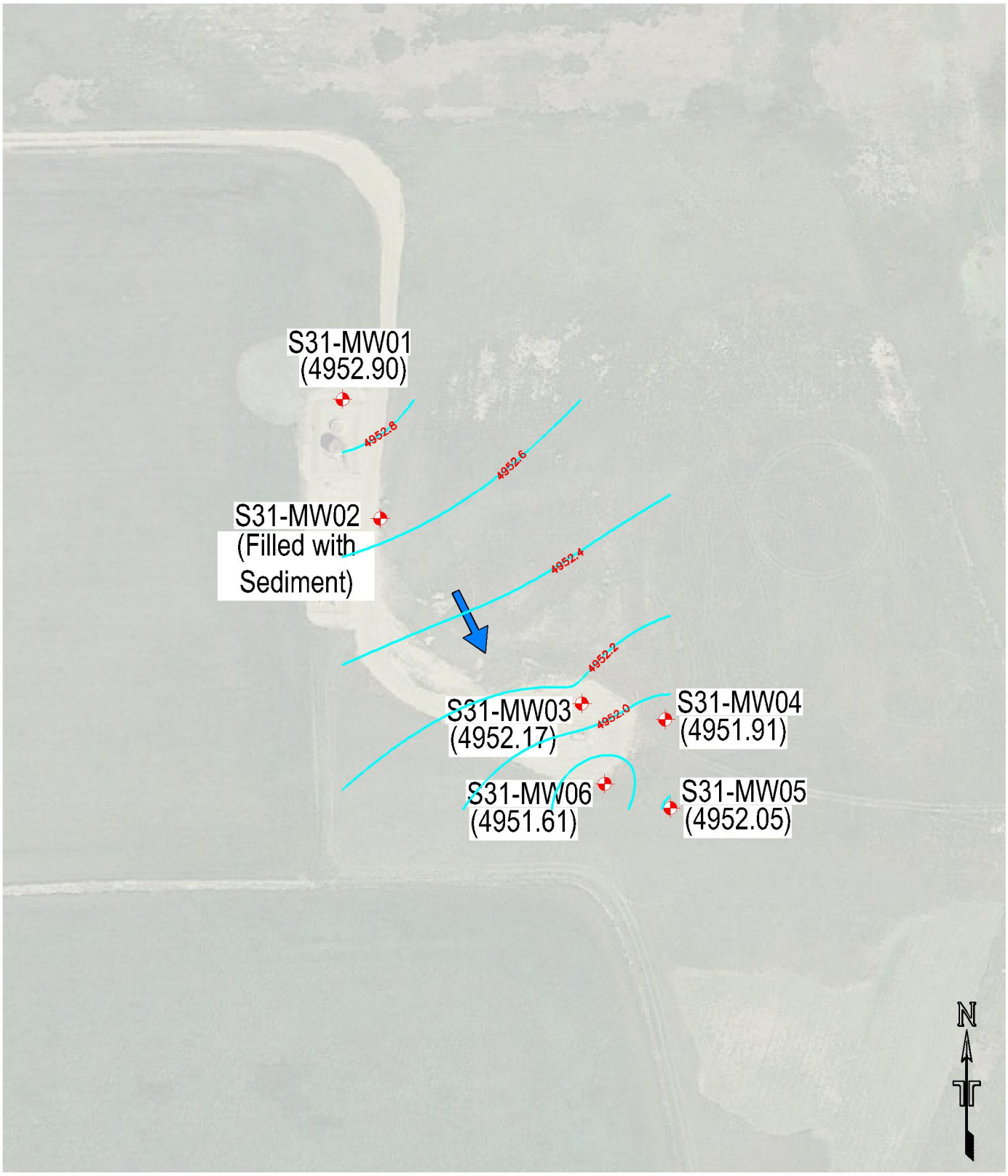

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, May 26, 2020

– Approximate Grounwater Flow Direction, May 26, 2020

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 - Stamp 31-1C

City of Longmont Oil and Gas Well Sites

Longmont

Colorado

Exhibit 5

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ACAD NO.	005
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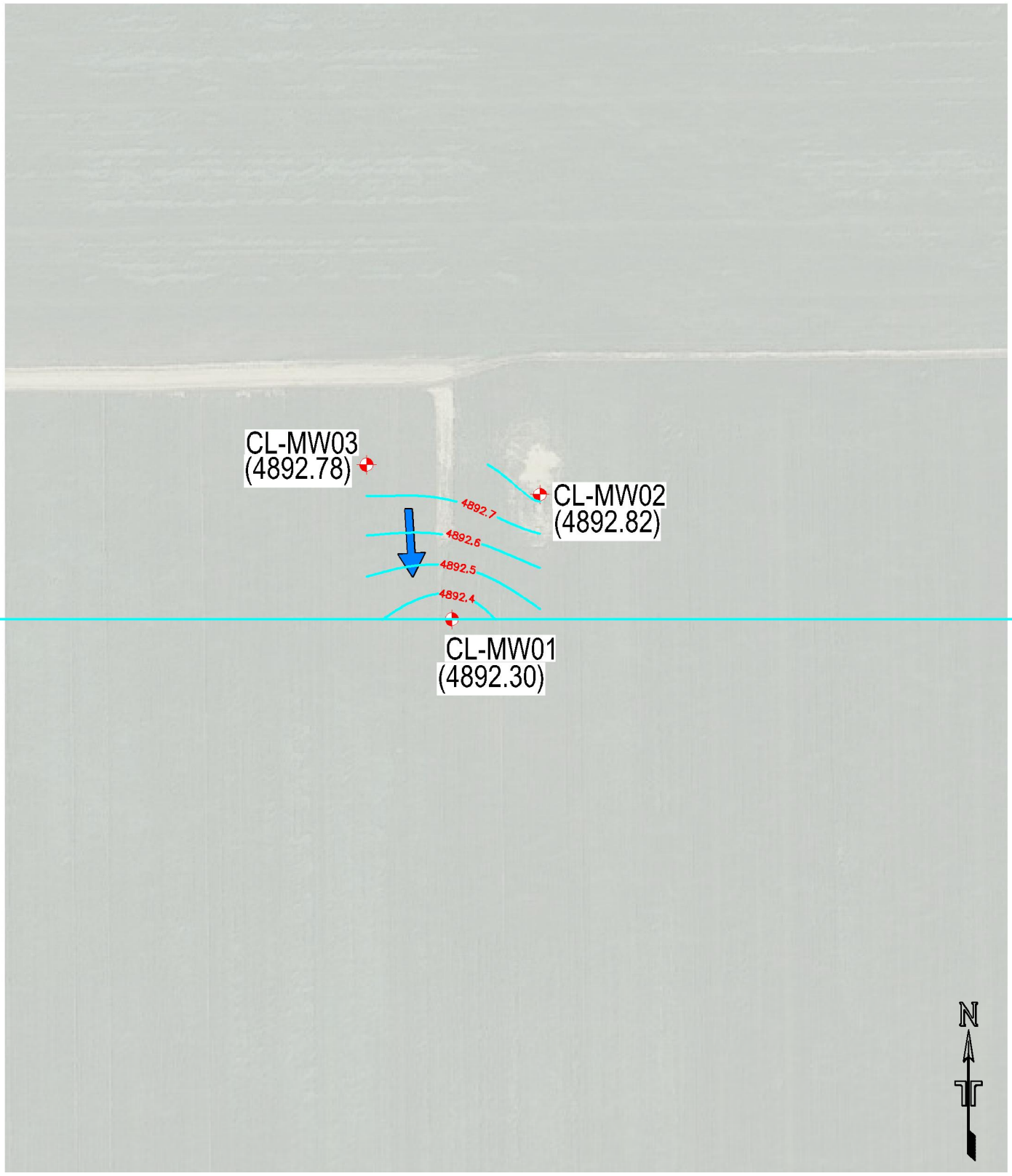

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, June 2, 2020

– Approximate Grounwater Flow Direction, June 2, 2020

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 and Piezometric Surface Diagram - City of Longmont #1

City of Longmont Oil and Gas Well Sites

Longmont
Colorado

Exhibit 6

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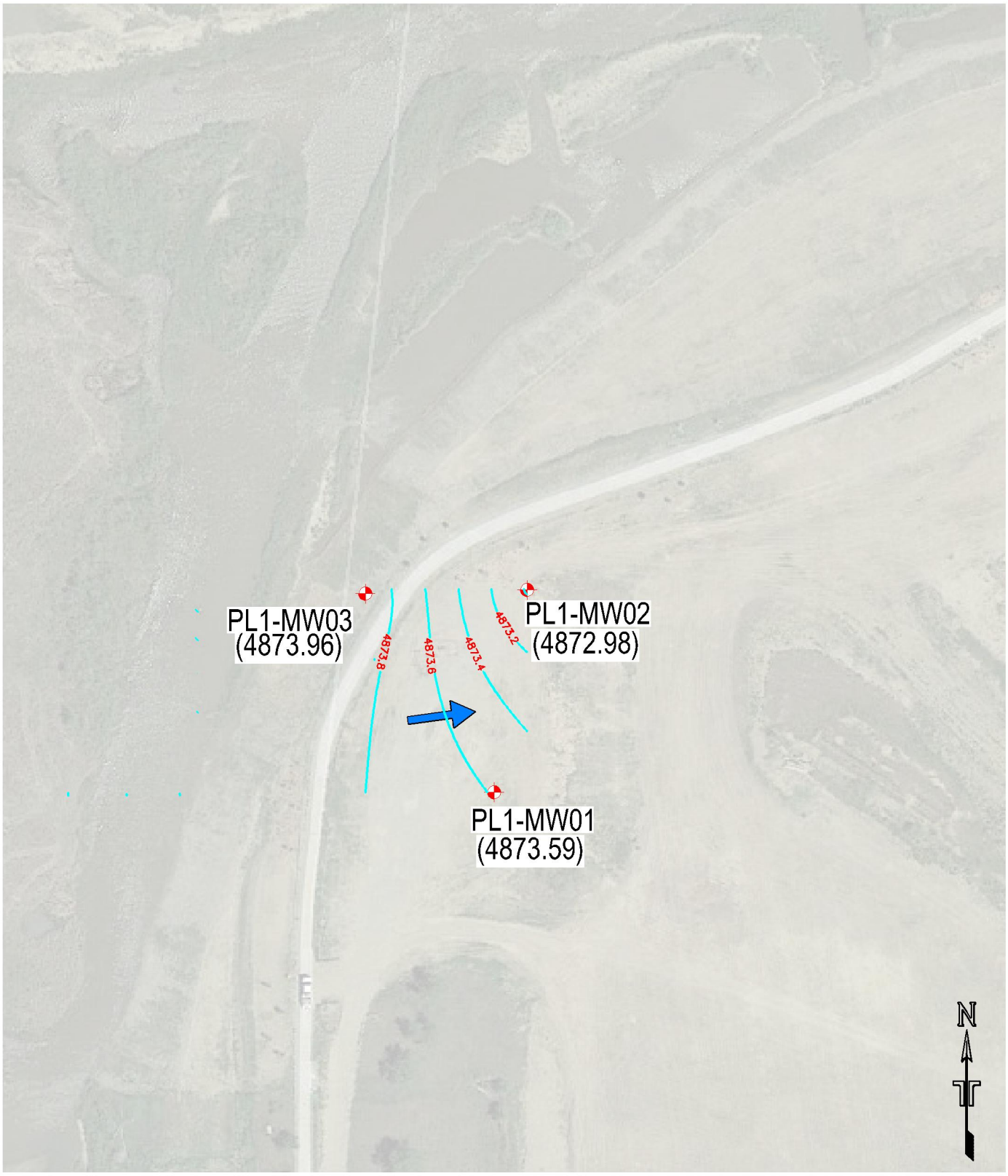

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, May 28, 2020

– Approximate Grounwater Flow Direction, May 28, 2020

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

Exhibit 7

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
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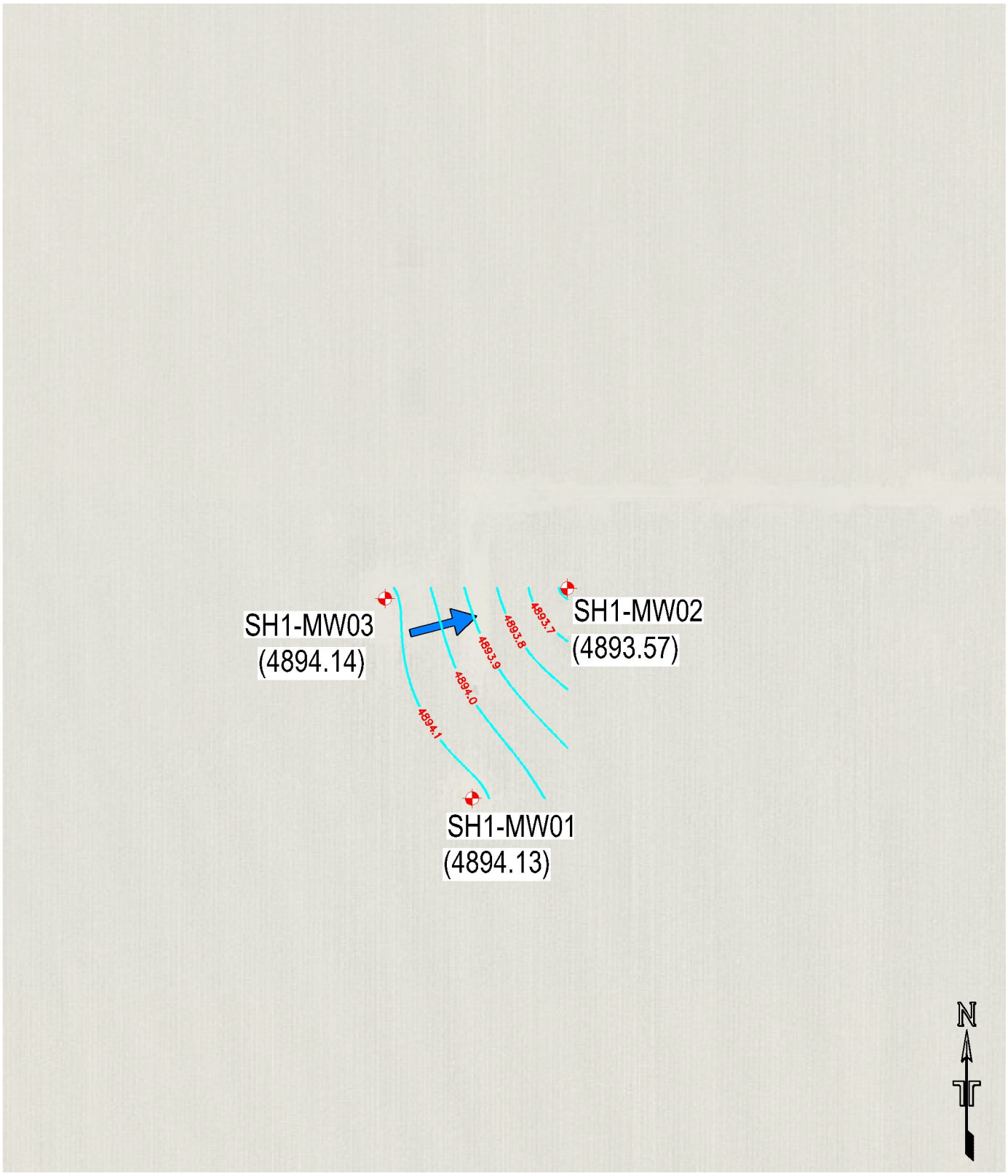
ACAD NO.	007
SHEET NO.:	7 OF 15



LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, May 29, 2020

– Approximate Grounwater Flow Direction, May 29, 2020

0' 100'
Approximate Scale

Terracon
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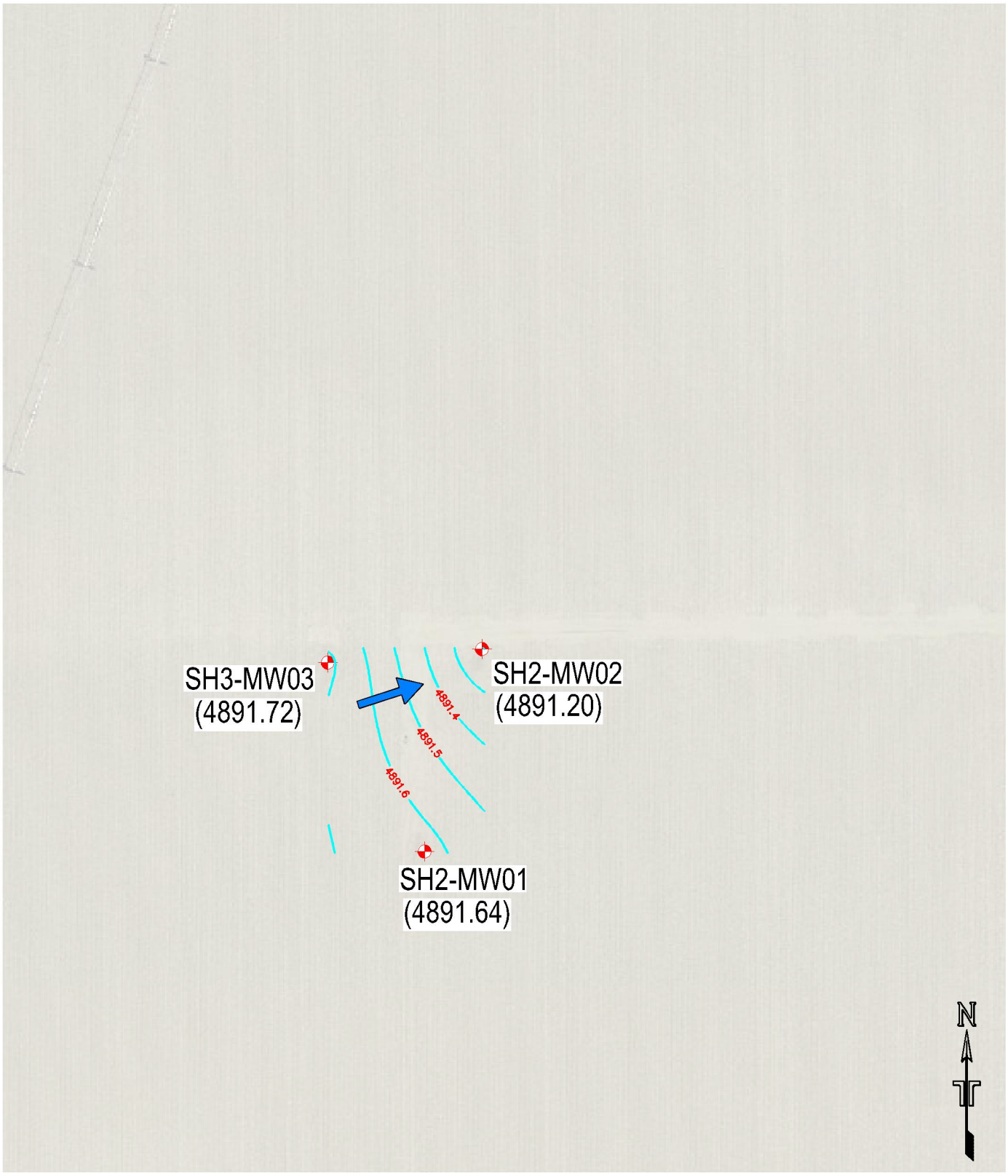
PH. (970) 484-0359 FAX. (970) 484-0454

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

Exhibit 8

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	8/5/20
JOB NO.	22207002
ACAD NO.	008
SHEET NO.:	8 OF 15



LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, June 5, 2020

– Approximate Grounwater Flow Direction, June 5, 2020

0' 100'
Approximate Scale

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Site and Piezometric Surface Diagram - Sherwood #2

City of Longmont Oil and Gas Well Sites

Longmont
Colorado

Exhibit 9

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	8/5/20
JOB NO.	22207002
ACAD NO.	009
SHEET NO.:	9 OF 15

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, June 3, 2020

– Approximate Grounwater Flow Direction, June 3, 2020

0' 100'
Approximate Scale

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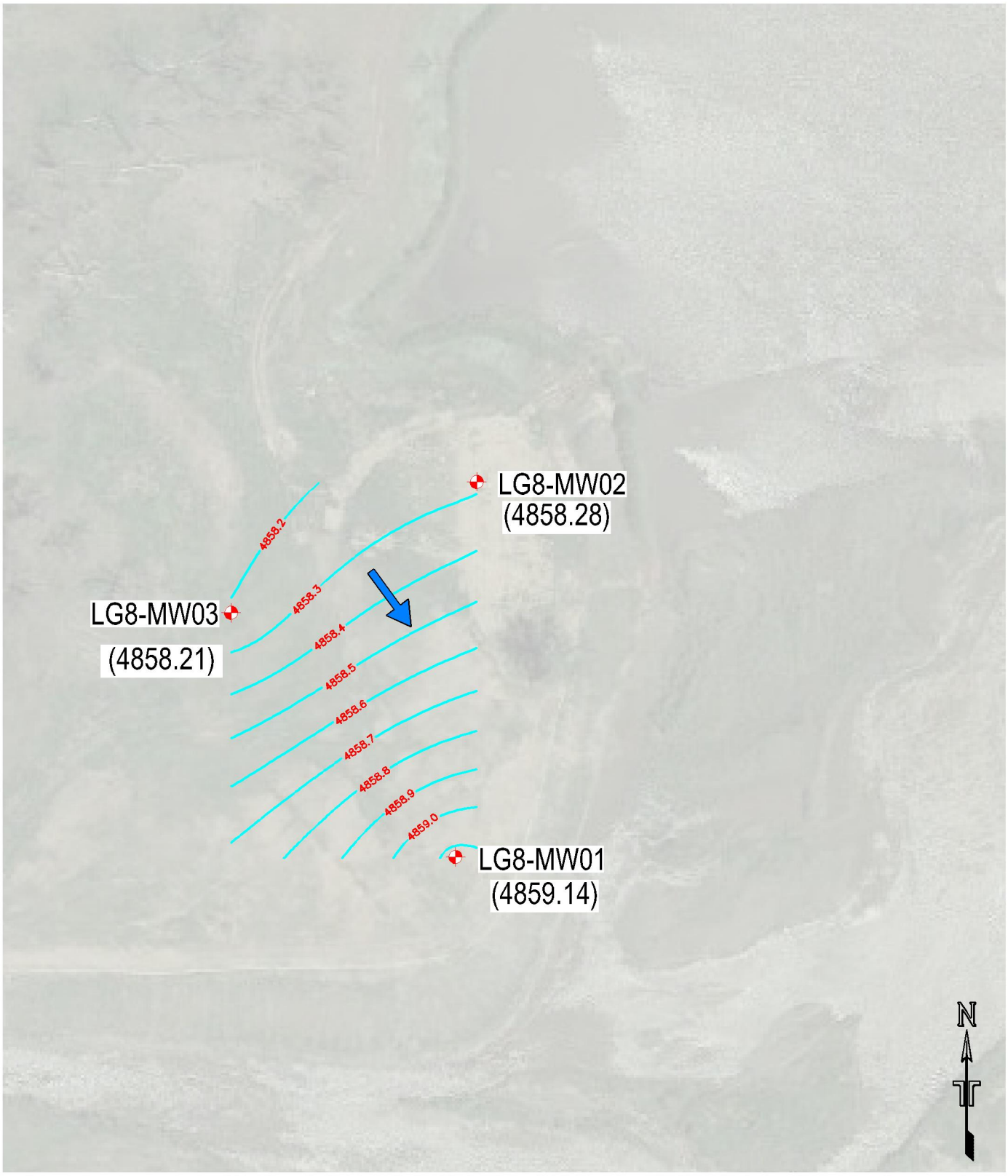
Site and Piezometric Surface Diagram - Tabor #7

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:	8/5/20
JOB NO.	22207002
ACAD NO.	010
SHEET NO.:	10 OF 15



LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, June 4, 2020

– Approximate Grounwater Flow Direction, June 4, 2020

0' 100'

Approximate Scale

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Site Diagram - Longmont 8-10K

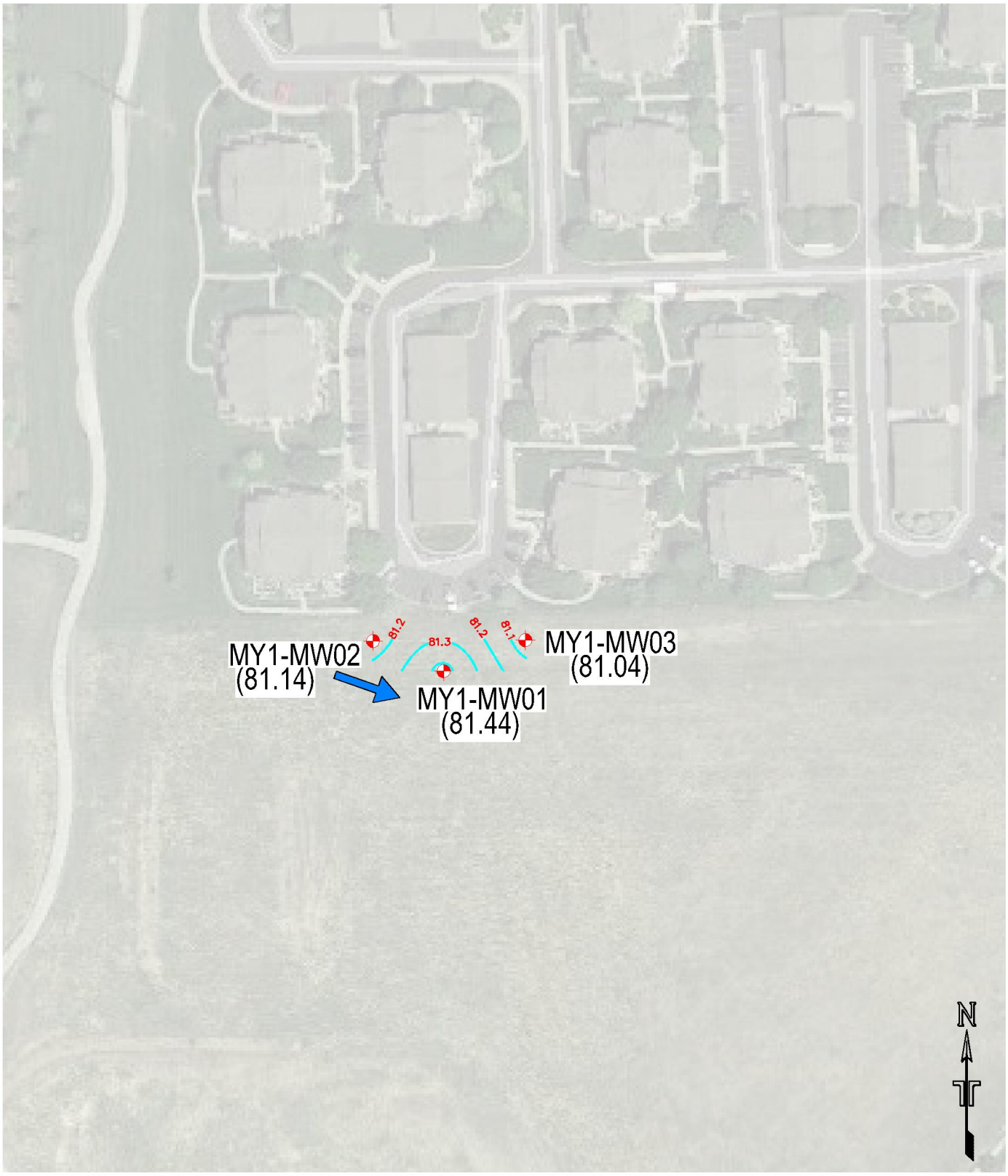
City of Longmont Oil and Gas Well Sites

Longmont

Colorado

Exhibit 11

DESIGNED BY:	JAS
DRAWN BY:	JAS
APPVD. BY:	MJS
SCALE:	AS SHOWN
DATE:	8/5/20
JOB NO.	22207002
ACAD NO.	011
SHEET NO.:	11 OF 15



LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, May 27, 2020

– Approximate Grounwater Flow Direction, May 27, 2020

0' 100'
Approximate Scale

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Site and Piezometric Surface Diagram - Maruyama
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:	8/5/20
JOB NO.	22207002
ACAD NO.	012
SHEET NO.:	12 OF 15

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, May 2, 2020

– Approximate Grounwater Flow Direction, May 2, 2020

0' 100'
Approximate Scale

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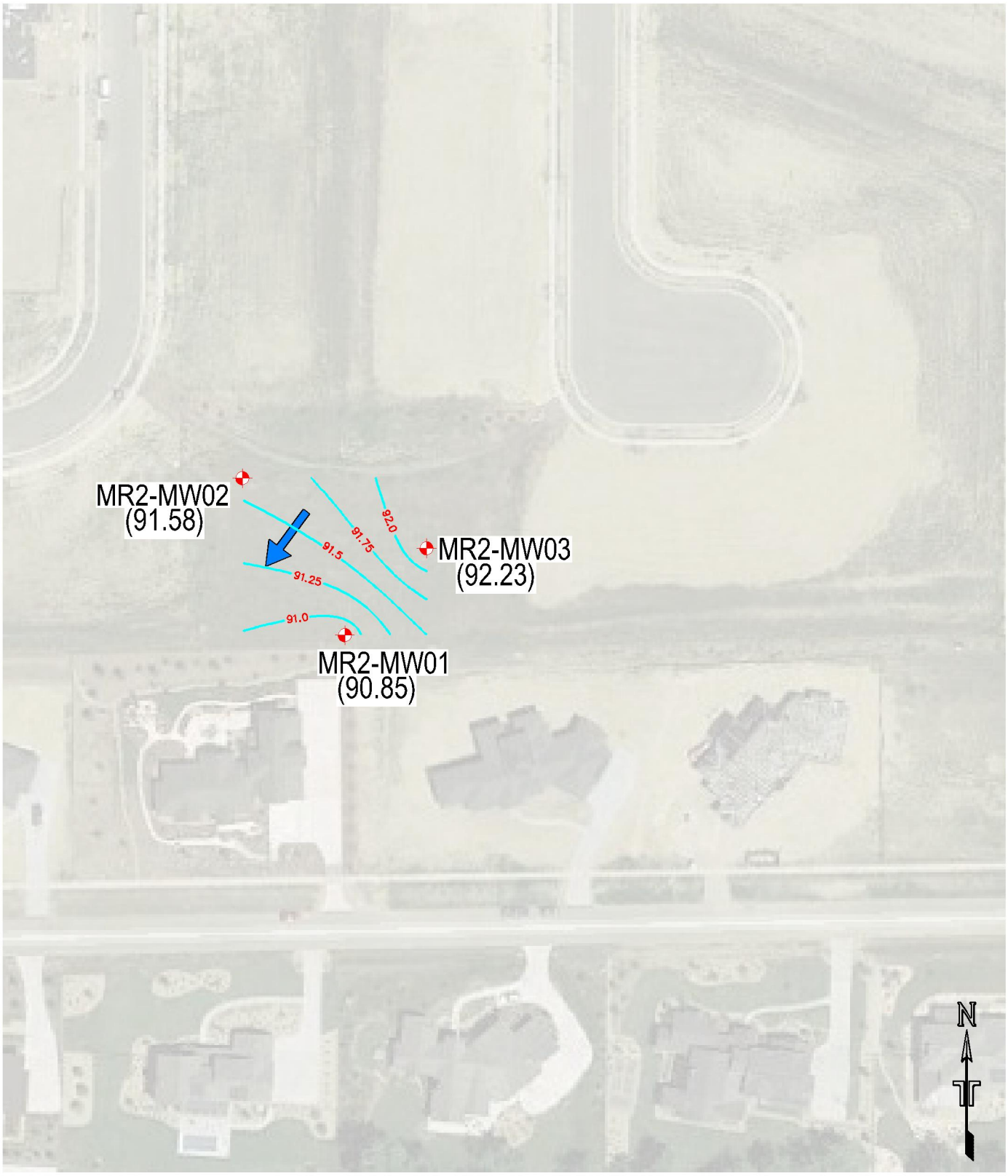
Site and Piezometric Surface Diagram - George Mayeda #1

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:	8/5/20
JOB NO.	22207002
ACAD NO.	013
SHEET NO.:	13 OF 15



LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, May 27, 2020

– Approximate Grounwater Flow Direction, May 27, 2020

0' 100'
Approximate Scale

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Site and Piezometric Surface Diagram - Mary #2

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:	8/5/20
JOB NO.	22207002
ACAD NO.	014
SHEET NO.:	14 OF 15

LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, May 28, 2020

– Approximate Grounwater Flow Direction, May 28, 2020

0' 100'
Approximate Scale

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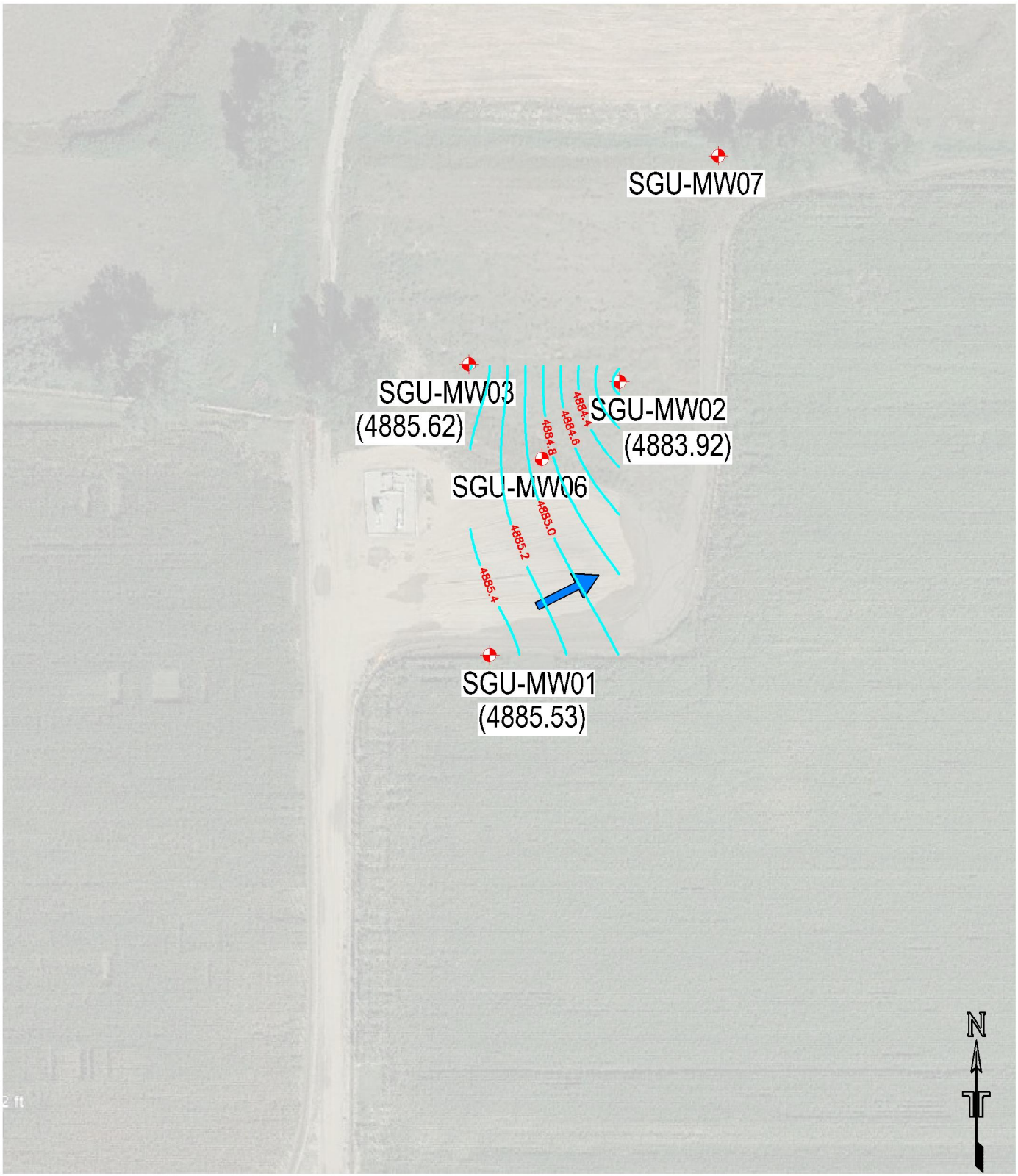
Site and Piezometric Surface Diagram - Wertman #1

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:	8/5/20
JOB NO.	22207002
ACAD NO.	015
SHEET NO.:	15 OF 15



LEGEND

– Approximate Location of Groundwater Monitoring Wells

4851.2 – Approximate Groundwater Elevation (feet above mean sea level) Contours Reported, June 10, 2020

– Approximate Grounwater Flow Direction, June 10, 2020

0' 100'
Approximate Scale

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Consulting Engineers and Scientists
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Site and Piezometric Surface Diagram - Serafini
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:	8/7/20
JOB NO.	22207002
ACAD NO.	016
SHEET NO.:	16 OF 16

Table 1 - Groundwater Elevation Data
City of Longmont - Groundwater Quality Monitoring
Project Number 22187009

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
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
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
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
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
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
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
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
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

Table 1 - Groundwater Elevation Data
City of Longmont - Groundwater Quality Monitoring
Project Number 22187009

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
		6/28/2018		3.65	4888.72
		6/10/2020		6.84	4885.53
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		7.5	4883.92
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		6.1	4885.62
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	6/10/2020	14.90	6.45	No Survey Information
SGU-MW07		6/10/2020	9.60	0.60	
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
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
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
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
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
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

Table 1 - Groundwater Elevation Data
City of Longmont - Groundwater Quality Monitoring
Project Number 22187009

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
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
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
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
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
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
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
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
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

Table 1 - Groundwater Elevation Data
City of Longmont - Groundwater Quality Monitoring
Project Number 22187009

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	4957.15	3/22/2013	14.13	6.00	4951.15
		10/24/2013		3.08	4954.07
		7/29/2014		2.92	4954.23
		4/1/2015		4.31	4952.84
		6/23/2016		2.78	4954.37
		5/22/2017		3.43	4953.72
		6/29/2018		2.94	4954.21
		6/10/2019		1.78	4955.37
		5/26/2020		4.25	4952.90
S31-MW02	4958.62	3/22/2013	14.22	8.55	4950.07
		10/24/2013		3.92	4954.70
		7/29/2014		Sediment[6]	
		4/1/2015			
		6/23/2016			
		5/22/2017			
		6/10/2019			
		5/26/2020			
S31-MW03	4958.27	10/24/2013	13.59	4.91	4953.36
		7/29/2014		5.24	4953.03
		4/1/2015		6.30	4951.97
		6/23/2016		4.92	4953.35
		5/22/2017		6.59	4951.68
		6/29/2018		4.45	4953.82
		6/10/2019		5.35	4952.92
		5/26/2020		6.10	4952.17
S31-MW04	4957.11	3/22/2013	14.90	9.22	4947.89
		10/24/2013		4.11	4953.00
		7/29/2014		4.41	4952.70
		4/1/2015		5.28	4951.83
		6/23/2016		4.10	4953.01
		5/22/2017		5.71	4951.40
		6/29/2018		3.68	4953.43
		5/26/2020		5.20	4951.91
S31-MW05	4956.89	10/24/2013	14.97	4.11	4952.78
		7/29/2014		4.61	4952.28
		4/1/2015		5.12	4951.77
		6/23/2016		4.50	4952.39
		5/22/2017		5.69	4951.20
		6/29/2018		3.09	4953.80
		5/26/2020		5.10	4952.05
S31-MW06	4957.57	10/24/2013	11.44	4.20	4953.37
		7/29/2014		4.62	4952.95
		4/1/2015		5.61	4951.96
		6/23/2016		4.37	4953.20
		5/22/2017		5.98	4951.59
		6/29/2018		3.14	4954.43
		5/26/2020		5.54	4951.61
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		
TB1-MW02		5/16/2019	27.22	17.93	
		6/3/2020	Not Located / Destroyed		
TB1-MW03		5/16/2019	Not Located / Destroyed		
		6/3/2020			
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	
TB7-MW02		5/16/2019	19.70	16.64	
		6/3/2020		15.80	
TB7-MW03		5/16/2019	19.40	16.00	
		6/3/2020		15.22	
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	
MY1-MW02		5/16/2019	24.72	21.20	
		5/27/2020		20.18	
MY1-MW03		5/16/2019	24.55	21.41	
		5/27/2020		20.90	
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	
WT1-MW02		5/16/2019	17.18	14.37	
		5/28/2020		13.64	
WT1-MW03		5/16/2019	17.16	13.48	
		5/28/2020		12.78	
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	
GM1-MW02		6/3/2019	13.55	10.82	
		5/28/2020		8.90	
GM1-MW03		6/3/2019	14.40	11.20	
		5/28/2020		9.58	
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	
MR2-MW02		5/15/2019	24.39	16.75	
		5/27/2020		14.85	
MR2-MW03		5/15/2019	24.54	17.55	
		5/27/2020		15.64	

[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 22187009

			Volatile Organic Compounds					Other Organic Compounds			Inorganic Parameters															General Parameters	
Parameter			Benzene	Ethylbenzene	Naphthalene	Toluene	Xylenes (Total)	Methane	Ethane	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	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	--	--	--	430.625	--	--	--
					--	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	--	--	6.5 - 8.5
Detection Level			0.001	0.001	0.005	0.001	0.003	0.0066	0.0062	0.0062		0.05					20	20	20	1		0.1	0.5	0.1		0.05		
Wellsite	Sample ID	Date	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	Std. Units
		Date	Benzene	Ethylbenzene		Toluene	Xylenes (Total)	Methane	Ethane	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	pH
Sherwood #1 Wellhead	SH1-MW01[1]	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	--	--	--	--	--	--	--	--	--	--	65.1	--	--	--	723	--	2053	6.92
	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
		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	7.3
		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	--	--	--	--	--	--	--	--	--	--	66.9	--	--	--	840	--	2145	6.78
	SH1-MW03[1]	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
		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	--	--	--	--	--	--	--	--	--	--	66.3	--	--	--	893	--	2209	6.54
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	--	--	--	--	--	--	--	--	--	--	55.9	--	--	--	977	--	2385	--
	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	--	--	--	--	--	--	--	--	--	--	58.1	--	--	--	983	--	2420	--
	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	--	--	--	--	--	--	--	--	--	--	62.7	--	--	--	995	--	2400	--
City of Longmont #1 Wellhead	CL1-MW01[2]	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
		6/2/2010	ND	ND	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	49.3	--	--	--	302	--	1481	4.37
	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	--	--	--	--	--	--	--	--	--	--	47.4	--	--	--	266	--	1388	--
	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	--	--	--	--	--	--	--	--	--	--	46.4	--	--	--	280	--	1672	--
Serafini 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	--	--	--	--	--	--	--	--	--	--	39.1	--	--	--	176	--	1093	7.50
	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	--	--	--	--	--	--	--	--	--	--	37.5	--	--	--	156	--	1070	7.30
	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	--	--	--	--	--	--	--	--	--	--	46.1	--	--	--	222	--	1214	7.40
	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	--	--	--	--	--	--	--	--	--	--	41.5	--	--	--	208	--	1232	7.30
	SGU-MW07	6/10/2020	ND	ND	--	ND	ND	0.0224	ND	ND	--	--	--	--	--	--	--	--	--	--	41.9	--	--	--	61	--	870	7.30
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	--	--	--	--	--	--	--	--	--	--	36.6	--	--	--	375	--	1272	6.95
	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	0.02	ND	ND	--	--	--	--	--	--	--	--	--	--	38.2	--	--	--	563	--	1659	6.74
	PL1-MW03[1]	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	--	--	--	--	--	--	--	--	--	--	34.3	--	--	--	292	--	1158	6.99

Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 22187009

			Volatile Organic Compounds					Other Organic Compounds			Inorganic Parameters															General Parameters	
Parameter			Benzene	Ethylbenzene	Naphthalene	Toluene	Xylenes (Total)	Methane	Ethane	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	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	--	--	--	430.625	--	--	--
					--	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	--	--	6.5 - 8.5
Detection Level			0.001	0.001	0.005	0.001	0.003	0.0066	0.0062	0.0062		0.05					20	20	20	1		0.1	0.5	0.1		0.05		
Wellsite	Sample ID	Date	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	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
		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	7.2
		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	7.2
		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	7.53
		6/3/2020	ND	ND	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	81.7	--	--	--	1,490	--	3404	--
	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
		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	7.3
		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	--	--	--	--	--	--	--	--	--	--	93.0	--	--	--	2,820	--	4660	--
	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
		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	7.2
		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	ND	--	--	--	--	--	--	--	--	--	--	188.0	--	--	--	7,080	--	9455	--
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
		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	--	--	--	--	--	--	--	--	--	--	38.1	--	--	--	826	--	1956	--
	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
		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	--	--	--	--	--	--	--	--	--	--	40.5	--	--	--	1,210	--	2520	--
	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	--	--	--	--	--	--	--	--	--	--	32.3	--	--	--	968	--	2270	--
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	--	--	--	--	--	--	--	--	--	--	38.6	--	--	--	2600	--	4011	--
	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	ND	--	--	--	--	--	--	--	--	--	--	41	--	--	--	2950	--	4012	--
	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	ND	--	--	--	--	--	--	--	--	--	--	43.8	--	--	--	2840	--	4064	--
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	--	--	--	--	--	--	--	--	--	--	96.3	--	--	--	219	--	1445	7.30
	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	ND	--	--	--	--	--	--	--	--	--	--	106.0	--	--	--	271	--	1565	7.20
	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	--	--	--	--	--	--	--	--	--	--	98.7	--	--	--	248	--	1212	7.30

Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 22187009

			Volatile Organic Compounds					Other Organic Compounds			Inorganic Parameters															General Parameters	
Parameter			Benzene	Ethylbenzene	Naphthalene	Toluene	Xylenes (Total)	Methane	Ethane	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	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	--	--	--	430.625	--	--	--
					--	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	--	--	6.5 - 8.5
Detection Level			0.001	0.001	0.005	0.001	0.003	0.0066	0.0062	0.0062		0.05					20	20	20	1		0.1	0.5	0.1		0.05		
Wellsite	Sample ID	Date	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	Std. Units
Stamp 31-2C Wellsite	S31-MW01	3/22/2013	ND	ND	--	ND	ND	**0.0137**	ND	ND	**365**	ND	**1,400**	**26.5**	**2,850**	**9.7**	ND	**606**	**606**	**1.8**	**381**	**2.8**	**0.32**	**3.1**	**13,200**	ND	**17200**	**7.50**
		10/24/2013	ND	ND	--	**0.0022**	ND	**0.101**	ND	ND	**340**	**0.196**	**814**	**14.5**	**2,060**	**8.01**	ND	**642**	**642**	**3.6**	**369**	**1.5**	**0.16**	**1.6**	**8,340**	ND	**5670**	**7.20**
		7/29/2014	ND	**0.011**	--	ND	ND	**0.142**	ND	ND	**356**	**0.192**	**986**	**16.2**	**2,680**	**8.99**	ND	**829**	**829**	**3.1**	**725**	ND	ND	ND	**8,930**	--	**11866**	**7.13**
		4/1/2015	**0.0014**	**0.186**	--	ND	ND	**0.372**	**0.0094**	ND	**318**	ND	**687**	**10.4**	**2,260**	**11.9**	ND*	**1,120**	**1,120**	**8**	**762**	ND	ND	ND	**7,340**	--	**12985**	**7.21**
		6/23/2016	ND	ND	--	ND*	ND	**0.262**	**0.0245**	ND*	**434**	ND	**1,270**	**13.8**	**2,900**	**16.4**	ND	**762**	**762**	ND	**699**	ND	ND	ND	**11,200**	--	**15456**	**7.04**
		5/22/2017	ND	**0.0065**	--	ND*	ND	**0.318**	**0.0145**	ND*	**416**	ND	**1,200**	**13.3**	**2,880**	**10**	ND	**753**	**753**	ND	**637**	ND	ND	ND	**9,930**	--	**15430**	**7.26**
		6/29/2018	ND	ND	--	ND	ND	**0.134**	ND*	ND*	**407**	ND	**1,270**	**13.4**	**3,060**	**8.76**	ND	**648**	**648**	ND	**351**	ND	ND	ND	**11,300**	--	--	--
		6/10/2019	ND	ND	--	ND	ND	**0.266**	ND	ND	**415**	ND	**1,300**	**12.8**	**3,000**	**8.71**	ND	**724**	**724**	ND	**455**	ND	ND	ND	**11,800**	--	**13540**	**7.23**
		5/26/2020	ND	ND	--	ND	ND	**0.31**	**0.0192**	ND	--	--	--	--	--	--	--	--	--	--	**333**	--	--	--	**11,200**	--	**15410**	**7.90**
	S31-MW02[4]	3/22/2013	**0.0946**	**0.0232**	--	ND	ND	**0.0323**	**0.0119**	ND	**377**	ND	**872**	**18.4**	**1,940**	**7.99**	ND	**860**	**860**	**1.5**	**150**	ND	ND	ND	**9,110**	ND	**12500**	**7.20**
		10/24/2013	**0.0549**	ND	--	**0.0102**	ND	**0.0506**	**0.0169**	ND	**352**	ND	**655**	**12.3**	**1,600**	**6.28**	ND	**771**	**771**	**2.4**	**181**	ND	ND	ND	**6,330**	ND	**4060**	**7.00**
	S31-MW03	10/24/2013	**0.0062**	ND	--	**0.0013**	ND	**0.0485**	**0.0076**	ND	**362**	**0.204**	**814**	**7.83**	**1,860**	**11.5**	ND*	**1,340**	**1,340**	**2.3**	**253**	ND	ND	ND	**7,050**	ND	**4760**	**7.10**
		7/29/2014	**0.0018**	ND	--	ND	ND	**0.111**	**0.0236**	ND	**383**	ND	**750**	**8.72**	**1,520**	**9.85**	ND*	**1,410**	**1,410**	**1.8**	**176**	ND	ND	ND	**6,480**	--	**8796**	**7.09**
		4/1/2015	ND	**0.0012**	--	ND	ND	**0.104**	**0.0228**	ND	**405**	ND	**711**	**9.83**	**1,490**	**9.15**	ND*	**1,790**	**1,790**	**1.7**	**162**	ND	ND	ND	**5,860**	--	**10227**	**7.01**
		6/23/2016	**0.0012**	ND	--	ND*	ND	**0.171**	**0.016**	ND*	**466**	ND	**858**	**8.44**	**1,720**	**12.1**	ND	**1,360**	**1,360**	ND	**147**	ND	ND	ND	**6,870**	--	**10812**	**7.15**
		5/22/2017	ND	ND	--	ND*	ND	**0.319**	**0.19**	ND*	**438**	ND	**743**	**8.65**	**1,510**	**9.34**	ND	**1,280**	**1,280**	ND	**118**	ND	ND	ND	**5,770**	--	**9593**	**7.18**
		6/29/2018	**0.0021**	ND	--	ND	ND	**0.319**	**0.19**	ND*	**438**	ND	**743**	**8.65**	**1,510**	**9.34**	ND	**1,280**	**1,280**	ND	**118**	ND	ND	ND	**5,770**	--	**9593**	**7.18**
		6/10/2019	ND	ND	--	ND	ND	**0.36**	ND	ND	**463**	ND	**753**	**9.42**	**1,860**	**8.33**	ND	**1,090**	**1,090**	ND	**107**	ND	ND	ND	**6,520**	--	**8440**	**7.11**
		5/26/2020	ND	ND	--	ND	ND	**0.805**	**0.0202**	ND	--	--	--	--	--	--	--	--	--	--	**105**	--	--		**3,920**	--	**7639**	**7.52**
	S31-MW04	3/22/2013	ND	ND	--	ND	ND	ND	ND	ND	**383**	ND	**759**	**19.6**	**1,380**	**9.55**	ND	**480**	**480**	**4.4**	**85.2**	**1.9**	**0.21**	**2.1**	**7,180**	ND	**9980**	**7.50**
		10/24/2013	ND	ND	--	ND	ND	ND	ND	ND	**345**	**0.216**	**710**	**13.4**	**1,660**	**7.7**	ND	**497**	**497**	**1.5**	**75.1**	**0.46**	ND	**0.46**	**6,710**	ND	**4250**	**7.30**
		7/29/2014	ND	ND	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	ND	**480**	**480**	**2.4**	**105**	**0.75**	ND	**0.75**	**6,960**	--	**8258**	**7.42**
		7/31/2014	--	--	--	--	--	--	--	--	**382**	ND	**796**	**10.6**	**1,560**	**8.43**	--	--	--	--	--	--	--	--	--	--	**10164**	**7.49**
		4/1/2015	ND	ND	--	ND	ND	ND	ND	ND	**382**	ND	**776**	**12.2**	**1,530**	**9.03**	ND	**528**	**528**	**2.8**	**119.0**	**1.3**	ND	**1.3**	**7,100**	--	**10363**	**7.36**
		6/23/2016	ND	ND	--	ND*	ND	ND*	ND*	ND*	**437**	ND	**888**	**10.3**	**1,660**	**10.7**	ND	**485**	**485**	ND	**127**	**3.12**	ND	**3.12**	**8,050**	--	**10789**	**7.28**
		5/22/2017	ND	ND	--	ND*	ND	ND*	ND*	ND*	**410**	ND	**765**	**10.3**	**1,560**	**8.45**	ND	**554**	**554**	ND	**185**	ND	ND	ND	**6,870**	--	**10020**	**7.43**
		6/29/2018	ND	ND	--	ND	ND	ND*	ND*	ND*	**426**	ND	**841**	**11**	**1,630**	**9.12**	ND	**539**	**539**	ND	**107**	ND	ND	ND	**7,210**	--	--	--
		5/26/2020	ND	ND	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	**71**	--	--	--	**6,400**	--	**8706**	**7.78**
	S31-MW05	10/24/2013	ND	ND	--	ND	ND	ND	ND	ND	**361**	**0.079**	**627**	**12**	**1,250**	**6.94**	ND	**464**	**464**	**1.1**	**60.4**	**0.17**	ND	**0.17**	**6,060**	ND	**3770**	**7.20**
		7/29/2014	ND	ND	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	ND	**434**	**434**	**1.4**	**59.4**	**0.23**	ND	**0.23**	**5,740**	--	**6148**	**7.37**
		7/30/2014	--	--	--	--	--	--	--	--	**362**	ND	**554**	**9.36**	**1,030**	**7.14**	--	--	--	--	--	--	--	--	--	--	NS	NS
		4/1/2015	ND	ND	--	ND	ND	ND	ND	ND	**381**	ND	**570**	**10.7**	**1,020**	**7.12**	ND	**468**	**468**	**1.4**	**64.8**	**0.43**	ND	**0.44**	**5,250**	--	**7915**	**7.29**
		6/23/2016	ND	ND	--	ND*	ND	ND*	ND*	ND*	**422**	ND	**922**	**8.95**	**1,670**	**9.55**	ND	**535**	**535**	ND	**106**	**0.177**	ND	**0.177**	**9,090**	--	**11864**	**7.26**
		5/22/2017	ND	ND	--	ND*	ND	ND*	ND*	ND*	**411**	ND	**548**	**9.09**	**996**	**6.93**	ND	**523**	**523**	ND	**76.5**	ND	ND	ND	**4,690**	--	**7564**	**7.37**
		6/29/2018	ND	ND	--	ND	ND	ND*	ND*	ND*	**439**	ND	**548**	**9.32**	**971**	**7.03**	ND	**484**	**484**	ND	**71.1**	ND	ND	ND	**4,590**	--	--	--
		5/26/2020	ND	ND	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	**66.0**	--	--	--	**5,200**	--	**7031**	**7.69**
	S31-MW06	10/24/2013	ND	ND	--	ND	ND	ND	ND	ND	**366**	ND	**497**	**11.1**	**1,120**	**6.74**	ND	**485**	**485**	**1**	**56.5**	ND	ND	ND	**5,380**	ND	**3440**	**7.20**
		7/29/2014	ND	ND	--	ND	ND	ND	ND	ND	**386**	ND	**554**	**9.16**	**1,010**	**7.13**	ND	**465**	**465**	**1.5**	**66.7**	ND	ND	ND	**5,540**	--	**6147**	**7.33**
		4/1/2015	ND	ND	--	ND	ND	ND	ND	ND	**372**	ND	**605**	**11**	**1,110**	**8.28**	ND	**494**	**494**	**1.5**	**77.6**	**0.6**	ND	**0.6**	**5,690**	--	**8375**	**7.26**
		6/23/2016	ND	ND	--	ND*	ND	ND*	ND*	ND*	**454**	ND	**870**	**9.61**	**1,430**	**11.8**	ND	**527**	**527**	ND	**131**	**0.621**	ND	**0.621**	**6,980**	--	**9450**	**7.08**
		5/22/2017	ND	ND	--	ND*	ND	ND*	ND*	ND*	**421**	ND	**589**	**9.49**	**1,150**	**8.2**	ND	**531**	**531**	ND	**81.4**	ND	ND	ND	**5,400**	--	**8013**	**7.08**
		6/29/2018	ND	ND	--	ND	ND	ND*	ND*	ND*	**442**	ND	**565**	**9.24**	**999**	**7.61**	ND	**514**	**514**	ND	**74.6**	ND	ND	ND	**4,850**	--	--	--
		5/26/2020	ND	ND	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	**63.0**	--	--	--	**5,090**	--	**7055**	**7.73**
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	--	--	--	--	--	--	--	--	--	--	**32.1**	--	--	--	**411**	--	**816**	**7.04**
	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	--	--	--	--	--	--	--	--	--	--	**27.8**	--	--	--	**429**	--	**1722**	**7.22**
	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	--	--	--	--	--	--	--	--	--	--	**29.6**	--	--	--	**493**	--	**1479**	**7.39**
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	--	--	--	--	--	--	--	--	--	--	**31.4**	--	--	--	**321**	--	**1298**	**7.19**
	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	--	--	--	--	--	--	--	--	--	--	**31.4**	--	--	--	**324**	--	**1398**	**7.12**
	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	ND	--	--	--	--	--	--	--	--	--	--	**33.3**	--	--	--	**336**	--	**1346**	**7.12**
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**
	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**
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	--	--	--	--	--	--	--	--	--	--	**38.3**	--	--	--	**445**	--	**1566**	--
	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	--	--	--	--	--	--	--	--	--	--	**40.5**	--	--	--	**422**	--	**1550**	--
	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	--	--	--	--	--	--	--	--	--	--	**42.3**	--	--	--	**425**	--	**1770**	--
Wertman #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	--	--	--	--	--	--	--	--	--	--	**59.2**	--	--	--	**291**	--	**1509**	**6.97**
	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	--	--	--	--	--	--	--	--	--	--	**37.8**	--	--	--	**335**	--	**1263**	**6.81**
	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	--	--	--	--	--	--	--	--	--	--	**27.2**	--	--	--	**171**	--	**818**	**7.20**
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	ND	--	--	--	--	--	--	--	--	--	--	**129**	--	--	--	**1990**	--	**4492**	**6.86**
	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	--	--	--	--	--	--	--	--	--	--	**5.63**	--	--	--	**100**	--	**1002**	**7.30**
	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	--	--	--	--	--	--	--	--	--	--	**36.3**	--	--	--	**602**	--	**1766**	**7.24**

**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.
[4] Filled with sediment. No water present.
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

APPENDIX B – ANALYTICAL REPORTS & CHAINS OF CUSTODY

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

June 03, 2020

Terracon Consultants, Inc - Longmont, CO

Sample Delivery Group:	L1222567
Samples Received:	05/27/2020
Project Number:	22207002
Description:	COL 2020 Annual GW Monitoring

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

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

TABLE OF CONTENTS

S31-MW01 L1222567-01 GW

Collected by: Charles A Covington | Collected date/time: 05/26/20 10:45 | Received date/time: 05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1484664	1	05/30/20 13:07	05/30/20 14:42	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1485442	1	06/02/20 15:12	06/02/20 15:12	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	100	05/29/20 22:07	05/29/20 22:07	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	1000	05/30/20 09:26	05/30/20 09:26	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1485662	1	06/03/20 09:08	06/03/20 09:08	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1485433	1	06/02/20 03:09	06/02/20 03:09	JHH	Mt. Juliet, TN

S31-MW03 L1222567-02 GW

Collected by: Charles A Covington | Collected date/time: 05/26/20 11:10 | Received date/time: 05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1484664	1	05/30/20 13:07	05/30/20 14:42	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1485442	1	06/02/20 15:19	06/02/20 15:19	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	100	05/29/20 22:52	05/29/20 22:52	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	5	05/29/20 22:37	05/29/20 22:37	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1485662	1	06/03/20 09:10	06/03/20 09:10	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1483194	1	05/28/20 07:21	05/28/20 07:21	JCP	Mt. Juliet, TN

S31-MW04 L1222567-03 GW

Collected by: Charles A Covington | Collected date/time: 05/26/20 11:20 | Received date/time: 05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1484664	1	05/30/20 13:07	05/30/20 14:42	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1485442	1	06/02/20 15:27	06/02/20 15:27	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	1	05/29/20 23:37	05/29/20 23:37	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	100	05/29/20 23:51	05/29/20 23:51	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1485662	1	06/03/20 09:17	06/03/20 09:17	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1483194	1	05/28/20 07:45	05/28/20 07:45	JCP	Mt. Juliet, TN

S31-MW05 L1222567-04 GW

Collected by: Charles A Covington | Collected date/time: 05/26/20 12:20 | Received date/time: 05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1484664	1	05/30/20 13:07	05/30/20 14:42	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1485442	1	06/02/20 15:34	06/02/20 15:34	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	1	05/30/20 00:06	05/30/20 00:06	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	100	05/30/20 00:21	05/30/20 00:21	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1485662	1	06/03/20 09:22	06/03/20 09:22	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1483194	1	05/28/20 08:08	05/28/20 08:08	JCP	Mt. Juliet, TN

S31-MW06 L1222567-05 GW

Collected by: Charles A Covington | Collected date/time: 05/26/20 11:50 | Received date/time: 05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1484664	1	05/30/20 13:07	05/30/20 14:42	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1485442	1	06/02/20 15:41	06/02/20 15:41	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	1	05/30/20 00:36	05/30/20 00:36	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	100	05/30/20 00:51	05/30/20 00:51	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1485662	1	06/03/20 09:24	06/03/20 09:24	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1483194	1	05/28/20 08:32	05/28/20 08:32	JCP	Mt. Juliet, TN

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

GM1-MWO1 L1222567-06 GW

Collected by	Collected date/time	Received date/time
Charles A Covington	05/26/20 14:00	05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1484664	1	05/30/20 13:07	05/30/20 14:42	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1485442	1	06/02/20 15:57	06/02/20 15:57	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	1	05/30/20 01:06	05/30/20 01:06	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	5	05/30/20 01:21	05/30/20 01:21	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1485662	1	06/03/20 09:26	06/03/20 09:26	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1483194	1	05/28/20 08:55	05/28/20 08:55	JCP	Mt. Juliet, TN

GM1-MWO2 L1222567-07 GW

Collected by	Collected date/time	Received date/time
Charles A Covington	05/26/20 14:30	05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1484664	1	05/30/20 13:07	05/30/20 14:42	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1485442	1	06/02/20 16:05	06/02/20 16:05	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	1	05/30/20 01:36	05/30/20 01:36	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	5	05/30/20 01:51	05/30/20 01:51	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1485662	1	06/03/20 09:29	06/03/20 09:29	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1483194	1	05/28/20 09:19	05/28/20 09:19	JCP	Mt. Juliet, TN

GM1-MWO3 L1222567-08 GW

Collected by	Collected date/time	Received date/time
Charles A Covington	05/26/20 14:35	05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1484664	1	05/30/20 13:07	05/30/20 14:42	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1485442	1	06/02/20 16:13	06/02/20 16:13	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	1	05/30/20 02:36	05/30/20 02:36	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1483805	10	05/30/20 09:56	05/30/20 09:56	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1485662	1	06/03/20 09:31	06/03/20 09:31	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1483194	1	05/28/20 09:42	05/28/20 09:42	JCP	Mt. Juliet, TN

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	15300		200	1	05/30/2020 14:42	WG1484664

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	35.3	T8	20.0	1	06/02/2020 15:12	WG1485442

Sample Narrative:

L1222567-01 WG1485442: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	333		100	100	05/29/2020 22:07	WG1483805
Sulfate	11200		5000	1000	05/30/2020 09:26	WG1483805

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Methane	0.310		0.0100	1	06/03/2020 09:08	WG1485662
Ethane	0.0192		0.0130	1	06/03/2020 09:08	WG1485662
Ethene	ND		0.0130	1	06/03/2020 09:08	WG1485662
Acetylene	ND		0.0208	1	06/03/2020 09:08	WG1485662

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	06/02/2020 03:09	WG1485433
Toluene	ND		0.00100	1	06/02/2020 03:09	WG1485433
Ethylbenzene	ND		0.00100	1	06/02/2020 03:09	WG1485433
Total Xylenes	ND		0.00300	1	06/02/2020 03:09	WG1485433
(S) Toluene-d8	*99.4*		*80.0-120*		*06/02/2020 03:09*	WG1485433
(S) 4-Bromofluorobenzene	*92.9*		*77.0-126*		*06/02/2020 03:09*	WG1485433
(S) 1,2-Dichloroethane-d4	*130*		*70.0-130*		*06/02/2020 03:09*	WG1485433

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	6750		100	1	05/30/2020 14:42	WG1484664

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	130	T8	20.0	1	06/02/2020 15:19	WG1485442

Sample Narrative:

L1222567-02 WG1485442: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	105		5.00	5	05/29/2020 22:37	WG1483805
Sulfate	3920		500	100	05/29/2020 22:52	WG1483805

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Methane	0.805		0.0100	1	06/03/2020 09:10	WG1485662
Ethane	0.0202		0.0130	1	06/03/2020 09:10	WG1485662
Ethene	ND		0.0130	1	06/03/2020 09:10	WG1485662
Acetylene	ND		0.0208	1	06/03/2020 09:10	WG1485662

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	05/28/2020 07:21	WG1483194
Toluene	ND		0.00100	1	05/28/2020 07:21	WG1483194
Ethylbenzene	ND		0.00100	1	05/28/2020 07:21	WG1483194
Total Xylenes	ND		0.00300	1	05/28/2020 07:21	WG1483194
(S) Toluene-d8	*109*		*80.0-120*		*05/28/2020 07:21*	WG1483194
(S) 4-Bromofluorobenzene	*96.0*		*77.0-126*		*05/28/2020 07:21*	WG1483194
(S) 1,2-Dichloroethane-d4	*115*		*70.0-130*		*05/28/2020 07:21*	WG1483194

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	6300		100	1	05/30/2020 14:42	WG1484664

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	30.3	T8	20.0	1	06/02/2020 15:27	WG1485442

Sample Narrative:

L1222567-03 WG1485442: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	70.5		1.00	1	05/29/2020 23:37	WG1483805
Sulfate	6400		500	100	05/29/2020 23:51	WG1483805

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	06/03/2020 09:17	WG1485662
Ethane	ND		0.0130	1	06/03/2020 09:17	WG1485662
Ethene	ND		0.0130	1	06/03/2020 09:17	WG1485662
Acetylene	ND		0.0208	1	06/03/2020 09:17	WG1485662

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	05/28/2020 07:45	WG1483194
Toluene	ND		0.00100	1	05/28/2020 07:45	WG1483194
Ethylbenzene	ND		0.00100	1	05/28/2020 07:45	WG1483194
Total Xylenes	ND		0.00300	1	05/28/2020 07:45	WG1483194
(S) Toluene-d8	*112*		*80.0-120*		*05/28/2020 07:45*	WG1483194
(S) 4-Bromofluorobenzene	*83.9*		*77.0-126*		*05/28/2020 07:45*	WG1483194
(S) 1,2-Dichloroethane-d4	*119*		*70.0-130*		*05/28/2020 07:45*	WG1483194

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	6150		100	1	05/30/2020 14:42	WG1484664

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	06/02/2020 15:34	WG1485442

Sample Narrative:

L1222567-04 WG1485442: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	66.0		1.00	1	05/30/2020 00:06	WG1483805
Sulfate	5200		500	100	05/30/2020 00:21	WG1483805

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	06/03/2020 09:22	WG1485662
Ethane	ND		0.0130	1	06/03/2020 09:22	WG1485662
Ethene	ND		0.0130	1	06/03/2020 09:22	WG1485662
Acetylene	ND		0.0208	1	06/03/2020 09:22	WG1485662

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	05/28/2020 08:08	WG1483194
Toluene	ND		0.00100	1	05/28/2020 08:08	WG1483194
Ethylbenzene	ND		0.00100	1	05/28/2020 08:08	WG1483194
Total Xylenes	ND		0.00300	1	05/28/2020 08:08	WG1483194
(S) Toluene-d8	*121*	J1	*80.0-120*		*05/28/2020 08:08*	WG1483194
(S) 4-Bromofluorobenzene	*86.1*		*77.0-126*		*05/28/2020 08:08*	WG1483194
(S) 1,2-Dichloroethane-d4	*116*		*70.0-130*		*05/28/2020 08:08*	WG1483194

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	5320		100	1	05/30/2020 14:42	WG1484664

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	28.3	T8	20.0	1	06/02/2020 15:41	WG1485442

Sample Narrative:

L1222567-05 WG1485442: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	63.0		1.00	1	05/30/2020 00:36	WG1483805
Sulfate	5090		500	100	05/30/2020 00:51	WG1483805

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	06/03/2020 09:24	WG1485662
Ethane	ND		0.0130	1	06/03/2020 09:24	WG1485662
Ethene	ND		0.0130	1	06/03/2020 09:24	WG1485662
Acetylene	ND		0.0208	1	06/03/2020 09:24	WG1485662

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	05/28/2020 08:32	WG1483194
Toluene	ND		0.00100	1	05/28/2020 08:32	WG1483194
Ethylbenzene	ND		0.00100	1	05/28/2020 08:32	WG1483194
Total Xylenes	ND		0.00300	1	05/28/2020 08:32	WG1483194
(S) Toluene-d8	*119*		*80.0-120*		*05/28/2020 08:32*	WG1483194
(S) 4-Bromofluorobenzene	*83.1*		*77.0-126*		*05/28/2020 08:32*	WG1483194
(S) 1,2-Dichloroethane-d4	*114*		*70.0-130*		*05/28/2020 08:32*	WG1483194

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	941		13.3	1	05/30/2020 14:42	WG1484664

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	06/02/2020 15:57	WG1485442

Sample Narrative:

L1222567-06 WG1485442: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	32.1		1.00	1	05/30/2020 01:06	WG1483805
Sulfate	411		25.0	5	05/30/2020 01:21	WG1483805

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	06/03/2020 09:26	WG1485662
Ethane	ND		0.0130	1	06/03/2020 09:26	WG1485662
Ethene	ND		0.0130	1	06/03/2020 09:26	WG1485662
Acetylene	ND		0.0208	1	06/03/2020 09:26	WG1485662

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	05/28/2020 08:55	WG1483194
Toluene	ND		0.00100	1	05/28/2020 08:55	WG1483194
Ethylbenzene	ND		0.00100	1	05/28/2020 08:55	WG1483194
Total Xylenes	ND		0.00300	1	05/28/2020 08:55	WG1483194
(S) Toluene-d8	*118*		*80.0-120*		*05/28/2020 08:55*	WG1483194
(S) 4-Bromofluorobenzene	*85.6*		*77.0-126*		*05/28/2020 08:55*	WG1483194
(S) 1,2-Dichloroethane-d4	*114*		*70.0-130*		*05/28/2020 08:55*	WG1483194

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	875		13.3	1	05/30/2020 14:42	WG1484664

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	06/02/2020 16:05	WG1485442

Sample Narrative:

L1222567-07 WG1485442: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	27.8		1.00	1	05/30/2020 01:36	WG1483805
Sulfate	429		25.0	5	05/30/2020 01:51	WG1483805

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	06/03/2020 09:29	WG1485662
Ethane	ND		0.0130	1	06/03/2020 09:29	WG1485662
Ethene	ND		0.0130	1	06/03/2020 09:29	WG1485662
Acetylene	ND		0.0208	1	06/03/2020 09:29	WG1485662

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	05/28/2020 09:19	WG1483194
Toluene	ND		0.00100	1	05/28/2020 09:19	WG1483194
Ethylbenzene	ND		0.00100	1	05/28/2020 09:19	WG1483194
Total Xylenes	ND		0.00300	1	05/28/2020 09:19	WG1483194
(S) Toluene-d8	*119*		*80.0-120*		*05/28/2020 09:19*	WG1483194
(S) 4-Bromofluorobenzene	*88.3*		*77.0-126*		*05/28/2020 09:19*	WG1483194
(S) 1,2-Dichloroethane-d4	*115*		*70.0-130*		*05/28/2020 09:19*	WG1483194

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1040		20.0	1	05/30/2020 14:42	WG1484664

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	06/02/2020 16:13	WG1485442

Sample Narrative:

L1222567-08 WG1485442: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	29.6		1.00	1	05/30/2020 02:36	WG1483805
Sulfate	493		50.0	10	05/30/2020 09:56	WG1483805

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	06/03/2020 09:31	WG1485662
Ethane	ND		0.0130	1	06/03/2020 09:31	WG1485662
Ethene	ND		0.0130	1	06/03/2020 09:31	WG1485662
Acetylene	ND		0.0208	1	06/03/2020 09:31	WG1485662

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	05/28/2020 09:42	WG1483194
Toluene	ND		0.00100	1	05/28/2020 09:42	WG1483194
Ethylbenzene	ND		0.00100	1	05/28/2020 09:42	WG1483194
Total Xylenes	ND		0.00300	1	05/28/2020 09:42	WG1483194
(S) Toluene-d8	*119*		*80.0-120*		*05/28/2020 09:42*	WG1483194
(S) 4-Bromofluorobenzene	*84.7*		*77.0-126*		*05/28/2020 09:42*	WG1483194
(S) 1,2-Dichloroethane-d4	*114*		*70.0-130*		*05/28/2020 09:42*	WG1483194

Method Blank (MB)

(MB) R3533480-1 05/30/20 14:42

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Dissolved Solids	U		2.82	10.0

L1222567-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222567-01 05/30/20 14:42 • (DUP) R3533480-3 05/30/20 14:42

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Dissolved Solids	15300	16000	1	4.22		5

Laboratory Control Sample (LCS)

(LCS) R3533480-2 05/30/20 14:42

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/l	mg/l	%	%	
Dissolved Solids	8800	8470	96.3	85.0-115	

Method Blank (MB)

(MB) R3534294-2 06/02/20 14:34

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

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3534294-4 06/02/20 14:49

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
		mg/l		%		%
Free Carbon Dioxide		ND	1	6.22		20

Sample Narrative:

DUP: Endpoint pH 4.5

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3534294-7 06/02/20 17:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
		mg/l		%		%
Free Carbon Dioxide		ND	1	0.944		20

Sample Narrative:

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3533811-1 05/29/20 08:12

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

L1222300-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222300-01 05/29/20 18:53 • (DUP) R3533811-3 05/29/20 19:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	4390	4390	100	0.0801		15

L1222567-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222567-01 05/29/20 22:07 • (DUP) R3533811-6 05/29/20 22:22

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	333	332	100	0.272		15

L1222567-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222567-01 05/30/20 09:26 • (DUP) R3533811-8 05/30/20 09:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	11200	11100	1000	0.184		15

Laboratory Control Sample (LCS)

(LCS) R3533811-2 05/29/20 08:27

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.3	98.3	80.0-120	
Sulfate	40.0	40.0	100	80.0-120	

L1222300-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222300-02 05/29/20 19:23 • (MS) R3533811-4 05/29/20 19:37 • (MSD) R3533811-5 05/29/20 19:52

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	39.4	88.4	89.0	98.1	99.3	1	80.0-120			0.682	15
Sulfate	50.0	506	539	541	66.0	69.6	1	80.0-120	E V	E V	0.335	15

L1222567-08 Original Sample (OS) • Matrix Spike (MS)

(OS) L1222567-08 05/30/20 02:36 • (MS) R3533811-7 05/30/20 02:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	29.6	80.1	101	1	80.0-120	
Sulfate	50.0	508	535	53.8	1	80.0-120	E V

Method Blank (MB)

(MB) R3534465-2 06/03/20 08:46

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

L1222567-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222567-01 06/03/20 09:08 • (DUP) R3534465-3 06/03/20 09:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	0.310	0.314	1	1.28		20
Ethane	0.0192	0.0194	1	1.04		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) R3534465-1 06/03/20 08:42 • (LCSD) R3534465-6 06/03/20 09:56

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	0.0696	0.0682	103	101	85.0-115			2.03	20
Ethane	0.129	0.122	0.122	94.6	94.6	85.0-115			0.000	20
Ethene	0.127	0.117	0.116	92.1	91.3	85.0-115			0.858	20
Acetylene	0.208	0.182	0.185	87.5	88.9	85.0-115			1.63	20

L1222798-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222798-01 06/03/20 09:34 • (MS) R3534465-4 06/03/20 09:45 • (MSD) R3534465-5 06/03/20 09:48

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	10.4	9.88	10.4	0.000	0.000	1	85.0-115	E V	E V	5.13	20
Ethane	0.129	ND	0.129	0.141	100	109	1	85.0-115			8.89	20
Ethene	0.127	ND	0.119	0.131	93.7	103	1	85.0-115			9.60	20
Acetylene	0.208	ND	0.182	0.200	87.5	96.2	1	85.0-115			9.42	20

Method Blank (MB)

(MB) R3533853-3 05/28/20 03:35

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*120*			*80.0-120*
(S) 4-Bromofluorobenzene	*86.5*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*

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

(LCS) R3533853-1 05/28/20 02:24 • (LCSD) R3533853-2 05/28/20 02:48

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	0.00488	0.00513	97.6	103	70.0-123			5.00	20
Ethylbenzene	0.00500	0.00502	0.00481	100	96.2	79.0-123			4.27	20
Toluene	0.00500	0.00511	0.00505	102	101	79.0-120			1.18	20
Xylenes, Total	0.0150	0.0135	0.0135	90.0	90.0	79.0-123			0.000	20
(S) Toluene-d8				*110*	*111*	*80.0-120*				
(S) 4-Bromofluorobenzene				*87.6*	*88.4*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*114*	*111*	*70.0-130*				

Method Blank (MB)

(MB) R3534031-3 06/01/20 20:47

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*101*			*80.0-120*
(S) 4-Bromofluorobenzene	*86.6*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*122*			*70.0-130*

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

(LCS) R3534031-1 06/01/20 19:49 • (LCSD) R3534031-2 06/01/20 20:08

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	0.00537	0.00538	107	108	70.0-123			0.186	20
Ethylbenzene	0.00500	0.00449	0.00443	89.8	88.6	79.0-123			1.35	20
Toluene	0.00500	0.00433	0.00426	86.6	85.2	79.0-120			1.63	20
Xylenes, Total	0.0150	0.0130	0.0133	86.7	88.7	79.0-123			2.28	20
(S) Toluene-d8				*97.8*	*98.4*	*80.0-120*				
(S) 4-Bromofluorobenzene				*91.3*	*90.6*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*126*	*122*	*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).
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

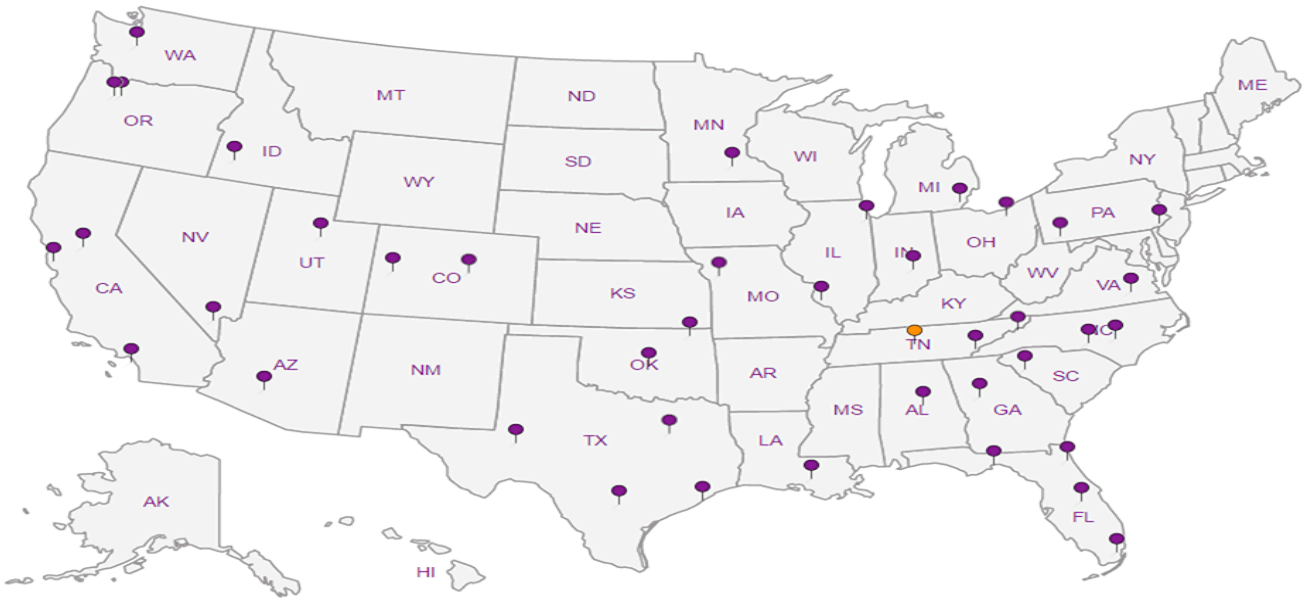
Third Party Federal Accreditations

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

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

Our Locations

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



Terracon - Longmont
1831 Lefthand Circle, Suite C
Longmont, CO 80501

Billing Information: **Same as Address**

Report to: Mike Skridulis

Email To: mjskridulis@terracon.com

Project Description: **COL 2020 Annual GW Monitoring**

City/State Collected: Longmont, CO

Phone: **303-454-5249** Fax: **970-484-0454**

Client Project # **22207002**

Lab Project #

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

Pres Chk

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX8260 (2) 40ml Amber w/HCl	RSK-175 (2) 40ml Amber w/HCl	CO2 - 250ml HDPE No Pres	TDS, Cl, SO4 - 250ml HDPE No Pres	Remarks	Sample # (lab only)
S31 - MW01	Grab	GW		5/26/20	1045	6	X	X	X	X		-01
S31 - MW03					1110	6	X	X	X	X		-02
S31 - MW04					1120	6	X	X	X	X		-03
S31 - MW05					1220	6	X	X	X	X		-04
S31 - MW06					1150	6	X	X	X	X		-05
GM1 - MW01					1400	6	X	X	X	X		-06
GM1 - MW02					1430	6	X	X	X	X		-07
GM1 - MW03					1435	6	X	X	X	X		-08

Invoice:
Customer : PNDCO Date : 21Apr20
Phone : (615)758-5858 COD : Weight : 10 LBS
Sat Del : N DV :
Svce: STANDARD OVERNIGHT
TRCK: 1790 3018 8743

Shipping :	0.00
Special :	0.00
Handling :	0.00
Total :	0.00

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation

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

L# 1222567

D074

Acctnum: **TERRALCO**

Template:

Prelogin:

TSR: **Chris Ward**

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 X FedEx ___ Courier ___ _____

Tracking # 1790 3018 8743

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	5/26/20	1600	FEDEX		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.7 °C 1.4-.3=1.1	Bottles Received: 48
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5-27-20	Time: 0845

Hold: | Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

June 08, 2020

Terracon Consultants, Inc - Longmont, CO

Sample Delivery Group:	L1223798
Samples Received:	05/30/2020
Project Number:	22207002
Description:	COL 2020 Annual GW Monitoring

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

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

MY1-MW01 L1223798-01 GW

Collected by: Charles A. Covington | Collected date/time: 05/27/20 12:00 | Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1485707	1	06/03/20 02:33	06/03/20 04:16	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 00:26	06/05/20 00:26	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	1	06/03/20 22:13	06/03/20 22:13	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	5	06/04/20 08:00	06/04/20 08:00	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 09:11	06/05/20 09:11	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1485632	1	06/02/20 10:19	06/02/20 10:19	ACG	Mt. Juliet, TN

MY1-MW02 L1223798-02 GW

Collected by: Charles A. Covington | Collected date/time: 05/27/20 11:30 | Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1485707	1	06/03/20 02:33	06/03/20 04:16	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 00:36	06/05/20 00:36	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	1	06/03/20 23:04	06/03/20 23:04	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	5	06/03/20 23:49	06/03/20 23:49	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 09:13	06/05/20 09:13	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488370	1	06/07/20 04:59	06/07/20 04:59	JAH	Mt. Juliet, TN

MY1-MW03 L1223798-03 GW

Collected by: Charles A. Covington | Collected date/time: 05/27/20 12:20 | Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1485707	1	06/03/20 02:33	06/03/20 04:16	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 00:45	06/05/20 00:45	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	5	06/04/20 00:02	06/04/20 00:02	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 09:16	06/05/20 09:16	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488370	1	06/07/20 05:19	06/07/20 05:19	JAH	Mt. Juliet, TN

MR2-MW01 L1223798-04 GW

Collected by: Charles A. Covington | Collected date/time: 05/27/20 10:00 | Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1485707	1	06/03/20 02:33	06/03/20 04:16	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 08:56	06/05/20 08:56	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	50	06/04/20 08:51	06/04/20 08:51	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 09:20	06/05/20 09:20	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488370	1	06/07/20 05:39	06/07/20 05:39	JAH	Mt. Juliet, TN

MR2-MW02 L1223798-05 GW

Collected by: Charles A. Covington | Collected date/time: 05/27/20 09:00 | Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1485707	1	06/03/20 02:33	06/03/20 04:16	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 09:06	06/05/20 09:06	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	5	06/04/20 00:27	06/04/20 00:27	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 09:31	06/05/20 09:31	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488370	1	06/07/20 05:59	06/07/20 05:59	JAH	Mt. Juliet, TN

MR2-MW03 L1223798-06 GW

Collected by: Charles A. Covington
Collected date/time: 05/27/20 09:30
Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1485707	1	06/03/20 02:33	06/03/20 04:16	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 09:15	06/05/20 09:15	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	10	06/04/20 09:04	06/04/20 09:04	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 09:41	06/05/20 09:41	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488370	1	06/07/20 06:19	06/07/20 06:19	JAH	Mt. Juliet, TN

WT1-MW01 L1223798-07 GW

Collected by: Charles A. Covington
Collected date/time: 05/28/20 09:10
Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1488326	1	06/07/20 05:23	06/07/20 13:53	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 09:24	06/05/20 09:24	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	5	06/04/20 01:19	06/04/20 01:19	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 09:45	06/05/20 09:45	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488370	1	06/07/20 06:39	06/07/20 06:39	JAH	Mt. Juliet, TN

WT1-MW02 L1223798-08 GW

Collected by: Charles A. Covington
Collected date/time: 05/28/20 08:40
Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1488326	1	06/07/20 05:23	06/07/20 13:53	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 09:35	06/05/20 09:35	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	1	06/04/20 01:32	06/04/20 01:32	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	5	06/04/20 01:45	06/04/20 01:45	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 09:48	06/05/20 09:48	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488370	1	06/07/20 06:59	06/07/20 06:59	JAH	Mt. Juliet, TN

WT1-MW03 L1223798-09 GW

Collected by: Charles A. Covington
Collected date/time: 05/28/20 09:30
Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1488326	1	06/07/20 05:23	06/07/20 13:53	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 09:53	06/05/20 09:53	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	1	06/04/20 01:57	06/04/20 01:57	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	5	06/04/20 02:10	06/04/20 02:10	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 09:51	06/05/20 09:51	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488370	1	06/07/20 07:19	06/07/20 07:19	JAH	Mt. Juliet, TN

PL1-MW01 L1223798-10 GW

Collected by: Charles A. Covington
Collected date/time: 05/28/20 11:20
Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1488326	1	06/07/20 05:23	06/07/20 13:53	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 10:03	06/05/20 10:03	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	1	06/04/20 02:23	06/04/20 02:23	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	5	06/04/20 02:36	06/04/20 02:36	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 09:54	06/05/20 09:54	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488370	1	06/07/20 07:39	06/07/20 07:39	JAH	Mt. Juliet, TN

PL1-MW02 L1223798-11 GW

Collected by: Charles A. Covington | Collected date/time: 05/28/20 11:50 | Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1488326	1	06/07/20 05:23	06/07/20 13:53	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 10:12	06/05/20 10:12	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	10	06/04/20 09:17	06/04/20 09:17	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	5	06/04/20 02:49	06/04/20 02:49	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 09:57	06/05/20 09:57	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488370	1	06/07/20 07:59	06/07/20 07:59	JAH	Mt. Juliet, TN

PL1-MW03 L1223798-12 GW

Collected by: Charles A. Covington | Collected date/time: 05/28/20 12:20 | Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1488326	1	06/07/20 05:23	06/07/20 13:53	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 10:20	06/05/20 10:20	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	1	06/04/20 03:02	06/04/20 03:02	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	5	06/04/20 03:15	06/04/20 03:15	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 10:00	06/05/20 10:00	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488370	1	06/07/20 08:18	06/07/20 08:18	JAH	Mt. Juliet, TN

SH1-MW01 L1223798-13 GW

Collected by: Charles A. Covington | Collected date/time: 05/28/20 10:50 | Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1488326	1	06/07/20 05:23	06/07/20 13:53	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 02:46	06/05/20 02:46	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	1	06/04/20 03:55	06/04/20 03:55	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	10	06/04/20 04:08	06/04/20 04:08	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 10:02	06/05/20 10:02	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488370	1	06/07/20 08:38	06/07/20 08:38	JAH	Mt. Juliet, TN

SH1-MW02 L1223798-14 GW

Collected by: Charles A. Covington | Collected date/time: 05/28/20 10:25 | Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1488326	1	06/07/20 05:23	06/07/20 13:53	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 02:54	06/05/20 02:54	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	1	06/04/20 04:21	06/04/20 04:21	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	10	06/04/20 04:33	06/04/20 04:33	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 10:09	06/05/20 10:09	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488370	1	06/07/20 08:59	06/07/20 08:59	JAH	Mt. Juliet, TN

SH1-MW03 L1223798-15 GW

Collected by: Charles A. Covington | Collected date/time: 05/28/20 11:30 | Received date/time: 05/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1488326	1	06/07/20 05:23	06/07/20 13:53	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1486235	1	06/05/20 03:03	06/05/20 03:03	LEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	1	06/04/20 04:46	06/04/20 04:46	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1485497	10	06/04/20 04:59	06/04/20 04:59	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1487198	1	06/05/20 10:13	06/05/20 10:13	CEP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488370	1	06/07/20 09:19	06/07/20 09:19	JAH	Mt. Juliet, TN

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	904		13.3	1	06/03/2020 04:16	WG1485707

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	06/05/2020 00:26	WG1486235

Sample Narrative:

L1223798-01 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	31.4		1.00	1	06/03/2020 22:13	WG1485497
Sulfate	321		25.0	5	06/04/2020 08:00	WG1485497

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	06/05/2020 09:11	WG1487198
Ethane	ND		0.0130	1	06/05/2020 09:11	WG1487198
Ethene	ND		0.0130	1	06/05/2020 09:11	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 09:11	WG1487198

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	06/02/2020 10:19	WG1485632
Toluene	ND		0.00100	1	06/02/2020 10:19	WG1485632
Ethylbenzene	ND		0.00100	1	06/02/2020 10:19	WG1485632
Total Xylenes	ND		0.00300	1	06/02/2020 10:19	WG1485632
(S) Toluene-d8	*108*		*80.0-120*		*06/02/2020 10:19*	WG1485632
(S) 4-Bromofluorobenzene	*98.4*		*77.0-126*		*06/02/2020 10:19*	WG1485632
(S) 1,2-Dichloroethane-d4	*109*		*70.0-130*		*06/02/2020 10:19*	WG1485632

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	893		13.3	1	06/03/2020 04:16	WG1485707

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	06/05/2020 00:36	WG1486235

Sample Narrative:

L1223798-02 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	31.4		1.00	1	06/03/2020 23:04	WG1485497
Sulfate	324		25.0	5	06/03/2020 23:49	WG1485497

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	06/05/2020 09:13	WG1487198
Ethane	ND		0.0130	1	06/05/2020 09:13	WG1487198
Ethene	ND		0.0130	1	06/05/2020 09:13	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 09:13	WG1487198

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	06/07/2020 04:59	WG1488370
Toluene	ND		0.00100	1	06/07/2020 04:59	WG1488370
Ethylbenzene	ND		0.00100	1	06/07/2020 04:59	WG1488370
Total Xylenes	ND		0.00300	1	06/07/2020 04:59	WG1488370
(S) Toluene-d8	*94.9*		*80.0-120*		*06/07/2020 04:59*	WG1488370
(S) 4-Bromofluorobenzene	*95.5*		*77.0-126*		*06/07/2020 04:59*	WG1488370
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*06/07/2020 04:59*	WG1488370

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	934		20.0	1	06/03/2020 04:16	WG1485707

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	20.1	T8	20.0	1	06/05/2020 00:45	WG1486235

Sample Narrative:

L1223798-03 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	33.3		5.00	5	06/04/2020 00:02	WG1485497
Sulfate	336		25.0	5	06/04/2020 00:02	WG1485497

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	06/05/2020 09:16	WG1487198
Ethane	ND		0.0130	1	06/05/2020 09:16	WG1487198
Ethene	ND		0.0130	1	06/05/2020 09:16	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 09:16	WG1487198

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	06/07/2020 05:19	WG1488370
Toluene	ND		0.00100	1	06/07/2020 05:19	WG1488370
Ethylbenzene	ND		0.00100	1	06/07/2020 05:19	WG1488370
Total Xylenes	ND		0.00300	1	06/07/2020 05:19	WG1488370
(S) Toluene-d8	*96.1*		*80.0-120*		*06/07/2020 05:19*	WG1488370
(S) 4-Bromofluorobenzene	*91.4*		*77.0-126*		*06/07/2020 05:19*	WG1488370
(S) 1,2-Dichloroethane-d4	*118*		*70.0-130*		*06/07/2020 05:19*	WG1488370

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	3900		50.0	1	06/03/2020 04:16	WG1485707

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	20.3	T8	20.0	1	06/05/2020 08:56	WG1486235

Sample Narrative:

L1223798-04 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	129		50.0	50	06/04/2020 08:51	WG1485497
Sulfate	1990		250	50	06/04/2020 08:51	WG1485497

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	06/05/2020 09:20	WG1487198
Ethane	ND		0.0130	1	06/05/2020 09:20	WG1487198
Ethene	ND		0.0130	1	06/05/2020 09:20	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 09:20	WG1487198

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	06/07/2020 05:39	WG1488370
Toluene	ND		0.00100	1	06/07/2020 05:39	WG1488370
Ethylbenzene	ND		0.00100	1	06/07/2020 05:39	WG1488370
Total Xylenes	ND		0.00300	1	06/07/2020 05:39	WG1488370
(S) Toluene-d8	*96.9*		*80.0-120*		*06/07/2020 05:39*	WG1488370
(S) 4-Bromofluorobenzene	*91.4*		*77.0-126*		*06/07/2020 05:39*	WG1488370
(S) 1,2-Dichloroethane-d4	*119*		*70.0-130*		*06/07/2020 05:39*	WG1488370

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	600		10.0	1	06/03/2020 04:16	WG1485707

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	06/05/2020 09:06	WG1486235

Sample Narrative:

L1223798-05 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	5.63		5.00	5	06/04/2020 00:27	WG1485497
Sulfate	100		25.0	5	06/04/2020 00:27	WG1485497

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	06/05/2020 09:31	WG1487198
Ethane	ND		0.0130	1	06/05/2020 09:31	WG1487198
Ethene	ND		0.0130	1	06/05/2020 09:31	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 09:31	WG1487198

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	06/07/2020 05:59	WG1488370
Toluene	ND		0.00100	1	06/07/2020 05:59	WG1488370
Ethylbenzene	ND		0.00100	1	06/07/2020 05:59	WG1488370
Total Xylenes	ND		0.00300	1	06/07/2020 05:59	WG1488370
(S) Toluene-d8	*98.1*		*80.0-120*		*06/07/2020 05:59*	WG1488370
(S) 4-Bromofluorobenzene	*92.9*		*77.0-126*		*06/07/2020 05:59*	WG1488370
(S) 1,2-Dichloroethane-d4	*119*		*70.0-130*		*06/07/2020 05:59*	WG1488370

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1340		20.0	1	06/03/2020 04:16	WG1485707

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	06/05/2020 09:15	WG1486235

Sample Narrative:

L1223798-06 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	36.3		10.0	10	06/04/2020 09:04	WG1485497
Sulfate	602		50.0	10	06/04/2020 09:04	WG1485497

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	06/05/2020 09:41	WG1487198
Ethane	ND		0.0130	1	06/05/2020 09:41	WG1487198
Ethene	ND		0.0130	1	06/05/2020 09:41	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 09:41	WG1487198

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	06/07/2020 06:19	WG1488370
Toluene	ND		0.00100	1	06/07/2020 06:19	WG1488370
Ethylbenzene	ND		0.00100	1	06/07/2020 06:19	WG1488370
Total Xylenes	ND		0.00300	1	06/07/2020 06:19	WG1488370
(S) Toluene-d8	*95.9*		*80.0-120*		*06/07/2020 06:19*	WG1488370
(S) 4-Bromofluorobenzene	*94.7*		*77.0-126*		*06/07/2020 06:19*	WG1488370
(S) 1,2-Dichloroethane-d4	*123*		*70.0-130*		*06/07/2020 06:19*	WG1488370

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	824	Q	20.0	1	06/07/2020 13:53	WG1488326

Sample Narrative:

L1223798-07 WG1488326: The LCS failed in the initial sample analysis and the reanalysis could not be performed before HT ex

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	06/05/2020 09:24	WG1486235

Sample Narrative:

L1223798-07 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	59.2		5.00	5	06/04/2020 01:19	WG1485497
Sulfate	291		25.0	5	06/04/2020 01:19	WG1485497

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	06/05/2020 09:45	WG1487198
Ethane	ND		0.0130	1	06/05/2020 09:45	WG1487198
Ethene	ND		0.0130	1	06/05/2020 09:45	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 09:45	WG1487198

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	06/07/2020 06:39	WG1488370
Toluene	ND		0.00100	1	06/07/2020 06:39	WG1488370
Ethylbenzene	ND		0.00100	1	06/07/2020 06:39	WG1488370
Total Xylenes	ND		0.00300	1	06/07/2020 06:39	WG1488370
(S) Toluene-d8	*96.3*		*80.0-120*		*06/07/2020 06:39*	WG1488370
(S) 4-Bromofluorobenzene	*94.8*		*77.0-126*		*06/07/2020 06:39*	WG1488370
(S) 1,2-Dichloroethane-d4	*120*		*70.0-130*		*06/07/2020 06:39*	WG1488370

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	798	Q	20.0	1	06/07/2020 13:53	WG1488326

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	06/05/2020 09:35	WG1486235

Sample Narrative:

L1223798-08 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	37.8		1.00	1	06/04/2020 01:32	WG1485497
Sulfate	335		25.0	5	06/04/2020 01:45	WG1485497

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	06/05/2020 09:48	WG1487198
Ethane	ND		0.0130	1	06/05/2020 09:48	WG1487198
Ethene	ND		0.0130	1	06/05/2020 09:48	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 09:48	WG1487198

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	06/07/2020 06:59	WG1488370
Toluene	ND		0.00100	1	06/07/2020 06:59	WG1488370
Ethylbenzene	ND		0.00100	1	06/07/2020 06:59	WG1488370
Total Xylenes	ND		0.00300	1	06/07/2020 06:59	WG1488370
(S) Toluene-d8	*96.7*		*80.0-120*		*06/07/2020 06:59*	WG1488370
(S) 4-Bromofluorobenzene	*95.8*		*77.0-126*		*06/07/2020 06:59*	WG1488370
(S) 1,2-Dichloroethane-d4	*119*		*70.0-130*		*06/07/2020 06:59*	WG1488370

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	496	Q	20.0	1	06/07/2020 13:53	WG1488326

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	06/05/2020 09:53	WG1486235

Sample Narrative:

L1223798-09 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	27.2		1.00	1	06/04/2020 01:57	WG1485497
Sulfate	171		25.0	5	06/04/2020 02:10	WG1485497

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	06/05/2020 09:51	WG1487198
Ethane	ND		0.0130	1	06/05/2020 09:51	WG1487198
Ethene	ND		0.0130	1	06/05/2020 09:51	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 09:51	WG1487198

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	06/07/2020 07:19	WG1488370
Toluene	ND		0.00100	1	06/07/2020 07:19	WG1488370
Ethylbenzene	ND		0.00100	1	06/07/2020 07:19	WG1488370
Total Xylenes	ND		0.00300	1	06/07/2020 07:19	WG1488370
(S) Toluene-d8	*98.8*		*80.0-120*		*06/07/2020 07:19*	WG1488370
(S) 4-Bromofluorobenzene	*93.6*		*77.0-126*		*06/07/2020 07:19*	WG1488370
(S) 1,2-Dichloroethane-d4	*118*		*70.0-130*		*06/07/2020 07:19*	WG1488370

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	866	Q	20.0	1	06/07/2020 13:53	WG1488326

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	06/05/2020 10:03	WG1486235

Sample Narrative:

L1223798-10 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	36.6		1.00	1	06/04/2020 02:23	WG1485497
Sulfate	375		25.0	5	06/04/2020 02:36	WG1485497

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	06/05/2020 09:54	WG1487198
Ethane	ND		0.0130	1	06/05/2020 09:54	WG1487198
Ethene	ND		0.0130	1	06/05/2020 09:54	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 09:54	WG1487198

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	06/07/2020 07:39	WG1488370
Toluene	ND		0.00100	1	06/07/2020 07:39	WG1488370
Ethylbenzene	ND		0.00100	1	06/07/2020 07:39	WG1488370
Total Xylenes	ND		0.00300	1	06/07/2020 07:39	WG1488370
(S) Toluene-d8	*97.8*		*80.0-120*		*06/07/2020 07:39*	WG1488370
(S) 4-Bromofluorobenzene	*93.3*		*77.0-126*		*06/07/2020 07:39*	WG1488370
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*06/07/2020 07:39*	WG1488370

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1110	Q	20.0	1	06/07/2020 13:53	WG1488326

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	06/05/2020 10:12	WG1486235

Sample Narrative:

L1223798-11 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	38.2		5.00	5	06/04/2020 02:49	WG1485497
Sulfate	563		50.0	10	06/04/2020 09:17	WG1485497

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Methane	0.0204		0.0100	1	06/05/2020 09:57	WG1487198
Ethane	ND		0.0130	1	06/05/2020 09:57	WG1487198
Ethene	ND		0.0130	1	06/05/2020 09:57	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 09:57	WG1487198

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	06/07/2020 07:59	WG1488370
Toluene	ND		0.00100	1	06/07/2020 07:59	WG1488370
Ethylbenzene	ND		0.00100	1	06/07/2020 07:59	WG1488370
Total Xylenes	ND		0.00300	1	06/07/2020 07:59	WG1488370
(S) Toluene-d8	*97.2*		*80.0-120*		*06/07/2020 07:59*	WG1488370
(S) 4-Bromofluorobenzene	*96.9*		*77.0-126*		*06/07/2020 07:59*	WG1488370
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*06/07/2020 07:59*	WG1488370

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	670	Q	20.0	1	06/07/2020 13:53	WG1488326

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	06/05/2020 10:20	WG1486235

Sample Narrative:

L1223798-12 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	34.3		1.00	1	06/04/2020 03:02	WG1485497
Sulfate	292		25.0	5	06/04/2020 03:15	WG1485497

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Methane	0.0169		0.0100	1	06/05/2020 10:00	WG1487198
Ethane	ND		0.0130	1	06/05/2020 10:00	WG1487198
Ethene	ND		0.0130	1	06/05/2020 10:00	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 10:00	WG1487198

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	06/07/2020 08:18	WG1488370
Toluene	ND		0.00100	1	06/07/2020 08:18	WG1488370
Ethylbenzene	ND		0.00100	1	06/07/2020 08:18	WG1488370
Total Xylenes	ND		0.00300	1	06/07/2020 08:18	WG1488370
(S) Toluene-d8	*95.6*		*80.0-120*		*06/07/2020 08:18*	WG1488370
(S) 4-Bromofluorobenzene	*94.9*		*77.0-126*		*06/07/2020 08:18*	WG1488370
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*06/07/2020 08:18*	WG1488370

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1310	Q	25.0	1	06/07/2020 13:53	WG1488326

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	06/05/2020 02:46	WG1486235

Sample Narrative:

L1223798-13 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	65.1		1.00	1	06/04/2020 03:55	WG1485497
Sulfate	723		50.0	10	06/04/2020 04:08	WG1485497

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	06/05/2020 10:02	WG1487198
Ethane	ND		0.0130	1	06/05/2020 10:02	WG1487198
Ethene	ND		0.0130	1	06/05/2020 10:02	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 10:02	WG1487198

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	06/07/2020 08:38	WG1488370
Toluene	ND		0.00100	1	06/07/2020 08:38	WG1488370
Ethylbenzene	ND		0.00100	1	06/07/2020 08:38	WG1488370
Total Xylenes	ND		0.00300	1	06/07/2020 08:38	WG1488370
(S) Toluene-d8	*94.6*		*80.0-120*		*06/07/2020 08:38*	WG1488370
(S) 4-Bromofluorobenzene	*90.4*		*77.0-126*		*06/07/2020 08:38*	WG1488370
(S) 1,2-Dichloroethane-d4	*120*		*70.0-130*		*06/07/2020 08:38*	WG1488370

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1510	Q	25.0	1	06/07/2020 13:53	WG1488326

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	06/05/2020 02:54	WG1486235

Sample Narrative:

L1223798-14 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	66.9		1.00	1	06/04/2020 04:21	WG1485497
Sulfate	840		50.0	10	06/04/2020 04:33	WG1485497

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	06/05/2020 10:09	WG1487198
Ethane	ND		0.0130	1	06/05/2020 10:09	WG1487198
Ethene	ND		0.0130	1	06/05/2020 10:09	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 10:09	WG1487198

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	06/07/2020 08:59	WG1488370
Toluene	ND		0.00100	1	06/07/2020 08:59	WG1488370
Ethylbenzene	ND		0.00100	1	06/07/2020 08:59	WG1488370
Total Xylenes	ND		0.00300	1	06/07/2020 08:59	WG1488370
(S) Toluene-d8	*97.5*		*80.0-120*		*06/07/2020 08:59*	WG1488370
(S) 4-Bromofluorobenzene	*93.7*		*77.0-126*		*06/07/2020 08:59*	WG1488370
(S) 1,2-Dichloroethane-d4	*124*		*70.0-130*		*06/07/2020 08:59*	WG1488370

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1450	Q	25.0	1	06/07/2020 13:53	WG1488326

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	06/05/2020 03:03	WG1486235

Sample Narrative:

L1223798-15 WG1486235: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	66.3		1.00	1	06/04/2020 04:46	WG1485497
Sulfate	893		50.0	10	06/04/2020 04:59	WG1485497

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	06/05/2020 10:13	WG1487198
Ethane	ND		0.0130	1	06/05/2020 10:13	WG1487198
Ethene	ND		0.0130	1	06/05/2020 10:13	WG1487198
Acetylene	ND		0.0208	1	06/05/2020 10:13	WG1487198

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	06/07/2020 09:19	WG1488370
Toluene	ND		0.00100	1	06/07/2020 09:19	WG1488370
Ethylbenzene	ND		0.00100	1	06/07/2020 09:19	WG1488370
Total Xylenes	ND		0.00300	1	06/07/2020 09:19	WG1488370
(S) Toluene-d8	*97.0*		*80.0-120*		*06/07/2020 09:19*	WG1488370
(S) 4-Bromofluorobenzene	*93.0*		*77.0-126*		*06/07/2020 09:19*	WG1488370
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*06/07/2020 09:19*	WG1488370

Method Blank (MB)

(MB) R3535069-1 06/03/20 04:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

L1223798-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1223798-06 06/03/20 04:16 • (DUP) R3535069-3 06/03/20 04:16

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1340	1330	1	0.601		5

Laboratory Control Sample (LCS)

(LCS) R3535069-2 06/03/20 04:16

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8730	99.2	85.0-115	

Method Blank (MB)

(MB) R3536128-1 06/07/20 13:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

L1224759-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1224759-01 06/07/20 13:53 • (DUP) R3536128-3 06/07/20 13:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	217	215	1	0.926		5

L1225379-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1225379-01 06/07/20 13:53 • (DUP) R3536128-4 06/07/20 13:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1060	1150	1	8.52	J3	5

Laboratory Control Sample (LCS)

(LCS) R3536128-2 06/07/20 13:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8040	91.4	85.0-115	

Method Blank (MB)

(MB) R3535328-2 06/04/20 23:26

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

L1223631-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1223631-04 06/04/20 23:33 • (DUP) R3535328-4 06/04/20 23:42

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	66.2	66.0	1	0.329		20

Sample Narrative:

OS: Endpoint pH 4.5 HEADSPACE

DUP: Endpoint pH 4.5

L1223798-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1223798-08 06/05/20 09:35 • (DUP) R3535328-8 06/05/20 09:44

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) R3535490-1 06/03/20 08:09

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

L1223798-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1223798-01 06/03/20 22:13 • (DUP) R3535490-3 06/03/20 22:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	31.4	30.9	1	1.69		15

L1224079-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1224079-04 06/04/20 06:55 • (DUP) R3535490-6 06/04/20 07:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	ND	1	0.000		15
Sulfate	ND	ND	1	0.000		15

L1223798-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1223798-01 06/04/20 08:00 • (DUP) R3535490-8 06/04/20 08:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	321	315	5	1.68		15

Laboratory Control Sample (LCS)

(LCS) R3535490-2 06/03/20 08:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.8	99.5	80.0-120	
Sulfate	40.0	40.4	101	80.0-120	

L1223798-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1223798-01 06/03/20 22:13 • (MS) R3535490-4 06/03/20 22:38 • (MSD) R3535490-5 06/03/20 22:51

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	31.4	81.3	81.8	99.8	101	1	80.0-120			0.559	15
Sulfate	50.0	317	332	332	30.5	29.6	1	80.0-120	E V	E V	0.140	15

L1224079-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1224079-04 06/04/20 06:55 • (MS) R3535490-7 06/04/20 07:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	ND	50.5	101	1	80.0-120	
Sulfate	50.0	ND	51.1	102	1	80.0-120	

Method Blank (MB)

(MB) R3535404-2 06/05/20 08:54

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

L1223798-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1223798-04 06/05/20 09:20 • (DUP) R3535404-3 06/05/20 09:37

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

L1223798-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1223798-14 06/05/20 10:09 • (DUP) R3535404-4 06/05/20 10:16

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) R3535404-1 06/05/20 08:49 • (LCSD) R3535404-5 06/05/20 10:19

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	0.0660	0.0633	97.3	93.4	85.0-115			4.18	20
Ethane	0.129	0.124	0.123	96.1	95.3	85.0-115			0.810	20
Ethene	0.127	0.118	0.119	92.9	93.7	85.0-115			0.844	20
Acetylene	0.208	0.189	0.189	90.9	90.9	85.0-115			0.000	20

Method Blank (MB)

(MB) R3534050-2 06/02/20 08:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*108*			*80.0-120*
(S) 4-Bromofluorobenzene	*100*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3534050-1 06/02/20 07:50

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00459	91.8	70.0-123	
Ethylbenzene	0.00500	0.00436	87.2	79.0-123	
Toluene	0.00500	0.00449	89.8	79.0-120	
Xylenes, Total	0.0150	0.0138	92.0	79.0-123	
(S) Toluene-d8			*106*	*80.0-120*	
(S) 4-Bromofluorobenzene			*102*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*106*	*70.0-130*	

Method Blank (MB)

(MB) R3535880-2 06/07/20 04:17

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*96.9*			*80.0-120*
(S) 4-Bromofluorobenzene	*96.5*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*119*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3535880-1 06/07/20 03:37

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00602	120	70.0-123	
Ethylbenzene	0.00500	0.00546	109	79.0-123	
Toluene	0.00500	0.00542	108	79.0-120	
Xylenes, Total	0.0150	0.0159	106	79.0-123	
(S) Toluene-d8			*95.6*	*80.0-120*	
(S) 4-Bromofluorobenzene			*95.7*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*122*	*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.
Q	Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

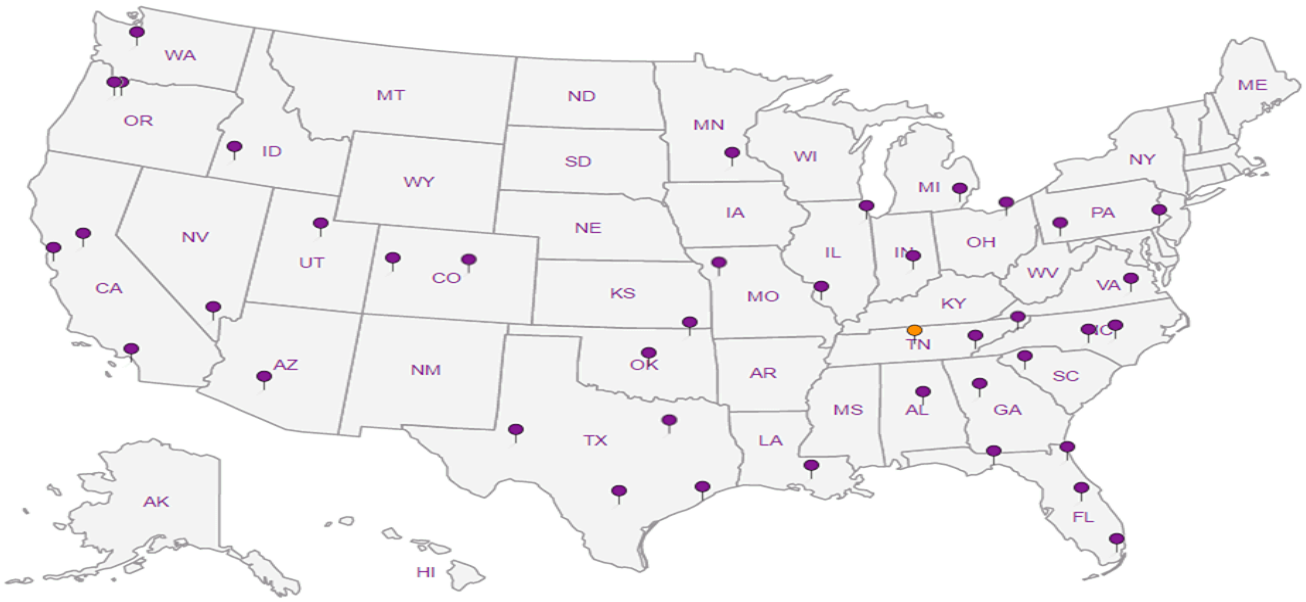
Third Party Federal Accreditations

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

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

Our Locations

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



Terracon - Longmont
1831 Lefthand Circle, Suite C
Longmont, CO 80501

Billing Information: Same as Address

Pres Chk

Report to: Mike Skridulis

Email To: mjskridulis@terracon.com

Project Description: COL 2020 Annual GW Monitoring

City/State Collected: Longmont, CO

Phone: 303-454-5249
Fax: 970-484-0454

Client Project # 22207002

Lab Project #

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 2

Pace Analytical® National Center for Testing & Innovation

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

L# L1223798
D229

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX8260 (2) 40ml Amber w/HCl	RSK-175 (2) 40ml Amber w/HCl	CO2 - 250ml HDPE No Pres	TDS, Cl, SO4 - 250ml HDPE No Pres	Remarks	Sample # (lab only)
MY1 - MW01	Grab	GW	-	5/27/20	1200	6	X	X	X	X		-01
MY1 - MW02	Grab	GW	-	5/27/20	1130	6	X	X	X	X		02
MY1 - MW03	Grab	GW	-	5/27/20	1220	6	X	X	X	X		03
MR2 - MW01	Grab	GW	-	5/27/20	1000	6	X	X	X	X		04
MR2 - MW02	Grab	GW	-	5/27/20	0900	6	X	X	X	X		05
MR2 - MW03	Grab	GW	-	5/27/20	0930	6	X	X	X	X		06
WT1 - MW01	Grab	GW	-	5/28/20	0910	6	X	X	X	X		07
WT1 - MW02	Grab	GW	-	5/28/20	0840	6	X	X	X	X		08
WT1 - MW03	Grab	GW		5/28/20	0930	6	X	X	X	X		09

Invoice:
Customer : PNDCO
Phone : (615)758-5858
SAT Del : Y
Svos: PRIORITY OVERNIGHT
TRCK: 1380 7996 1555
Date : 13Feb20
Weight : 10 LBS
COD :
DV :
0.00 Shipping :
Special :
Handling :
Total :
0.00
0.00
0.00
0.00

* 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 # 1380 7996 1555

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	5/29/20	1600	FEDEX
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No (0) HCL / MeoH TBR

Temp: 1.3+0=1.3 °C Bottles Received: 90

Date: 5-30-20 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

Terracon - Longmont
1831 Lefthand Circle, Suite C
Longmont, CO 80501

Billing Information: **Same as Address**

Pres Chk

Report to: Mike Skridulis

Email To: mjskridulis@terracon.com

Project Description: **COL 2020 Annual GW Monitoring**

City/State Collected: Longmont, CO

Phone: **303-454-5249**
Fax: **970-484-0454**

Client Project # **22207002**

Lab Project #

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	BTEX8260 (2) 40ml Amber w/HCl	RSK-175 (2) 40ml Amber w/HCl	CO2 - 250ml HDPE No Pres	TDS, Cl, SO4 - 250ml HDPE No Pres	Remarks	Sample # (lab only)
PL1-MW01	Grab	GW	-	5/28/20	1120	6	X	X	X	X		-10
PL1-MW02	Grab	GW	-	5/28/20	1150	6	X	X	X	X		11
PL1-MW03	Grab	GW	-	5/28/20	1220	6	X	X	X	X		12
SH1-MW01	Grab	GW	-	5/29/20	1050	6	X	X	X	X		13
SH1-MW02	Grab	GW	-	5/29/20	1025	6	X	X	X	X		14
SH1-MW03	Grab	GW	-	5/29/20	1130	6	X	X	X	X		15

Chain of Custody Page 2 of 2

Pace Analytical® National Center for Testing & Innovation

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

L # L1223798

Table #

Acctnum: **TERRALCO**

Template:

Prelogin:

TSR: **Chris Ward**

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 X FedEx __ Courier __ _____

Tracking # 1380 7996 1555

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	5/29/20	1600	FEDEX
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 1.3+0=1.3 °C (via A7) Bottles Received: 90

Date: 5-30-20 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

June 15, 2020

Terracon Consultants, Inc - Longmont, CO

Sample Delivery Group:	L1226465
Samples Received:	06/06/2020
Project Number:	22207002
Description:	COL 2020 Annual GW Monitoring

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

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

TABLE OF CONTENTS

CL1-MW01 L1226465-01 GW

Collected by: Charles A. Covington | Collected date/time: 06/02/20 10:00 | Received date/time: 06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1488482	1	06/09/20 15:35	06/09/20 17:11	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 15:37	06/12/20 15:37	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/12/20 22:31	06/12/20 22:31	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	5	06/12/20 22:42	06/12/20 22:42	GB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1491448	1	06/12/20 16:20	06/12/20 16:20	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 09:38	06/09/20 09:38	JCP	Mt. Juliet, TN

CL1-MW02 L1226465-02 GW

Collected by: Charles A. Covington | Collected date/time: 06/02/20 10:30 | Received date/time: 06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1488482	1	06/09/20 15:35	06/09/20 17:11	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 15:53	06/12/20 15:53	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/12/20 22:53	06/12/20 22:53	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	10	06/12/20 23:03	06/12/20 23:03	GB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1491448	1	06/12/20 16:22	06/12/20 16:22	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 10:01	06/09/20 10:01	JCP	Mt. Juliet, TN

CL1-MW03 L1226465-03 GW

Collected by: Charles A. Covington | Collected date/time: 06/02/20 09:30 | Received date/time: 06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1488482	1	06/09/20 15:35	06/09/20 17:11	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 16:00	06/12/20 16:00	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/12/20 23:14	06/12/20 23:14	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	5	06/12/20 23:25	06/12/20 23:25	GB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1491448	1	06/12/20 16:24	06/12/20 16:24	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 10:25	06/09/20 10:25	JCP	Mt. Juliet, TN

E6W-MW01 L1226465-04 GW

Collected by: Charles A. Covington | Collected date/time: 06/03/20 10:50 | Received date/time: 06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1489486	1	06/10/20 18:28	06/10/20 21:17	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 16:08	06/12/20 16:08	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/12/20 23:36	06/12/20 23:36	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	20	06/12/20 23:47	06/12/20 23:47	GB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1491448	1	06/12/20 16:26	06/12/20 16:26	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 10:49	06/09/20 10:49	JCP	Mt. Juliet, TN

E6W-MW02 L1226465-05 GW

Collected by: Charles A. Covington | Collected date/time: 06/03/20 10:10 | Received date/time: 06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1489486	1	06/10/20 18:28	06/10/20 21:17	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 16:16	06/12/20 16:16	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/13/20 00:19	06/13/20 00:19	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1492638	50	06/15/20 10:37	06/15/20 10:37	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1492107	1	06/13/20 13:03	06/13/20 13:03	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 11:13	06/09/20 11:13	JCP	Mt. Juliet, TN

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

E6W-MW03 L1226465-06 GW

Collected by: Charles A. Covington | Collected date/time: 06/03/20 11:30 | Received date/time: 06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1489486	1	06/10/20 18:28	06/10/20 21:17	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 16:24	06/12/20 16:24	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	20	06/13/20 00:52	06/13/20 00:52	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1492638	100	06/15/20 10:48	06/15/20 10:48	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1492107	1	06/13/20 13:05	06/13/20 13:05	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 11:36	06/09/20 11:36	JCP	Mt. Juliet, TN

TB7-MW01 L1226465-07 GW

Collected by: Charles A. Covington | Collected date/time: 06/03/20 16:00 | Received date/time: 06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1489486	1	06/10/20 18:28	06/10/20 21:17	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 16:29	06/12/20 16:29	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/13/20 01:03	06/13/20 01:03	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1492638	10	06/15/20 10:59	06/15/20 10:59	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1492107	1	06/13/20 13:08	06/13/20 13:08	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 12:00	06/09/20 12:00	JCP	Mt. Juliet, TN

TB7-MW02 L1226465-08 GW

Collected by: Charles A. Covington | Collected date/time: 06/03/20 15:00 | Received date/time: 06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1489486	1	06/10/20 18:28	06/10/20 21:17	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 16:46	06/12/20 16:46	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/13/20 01:35	06/13/20 01:35	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1492638	10	06/15/20 11:09	06/15/20 11:09	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1492107	1	06/13/20 13:22	06/13/20 13:22	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 12:24	06/09/20 12:24	JCP	Mt. Juliet, TN

TB7-MW03 L1226465-09 GW

Collected by: Charles A. Covington | Collected date/time: 06/03/20 14:00 | Received date/time: 06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1489486	1	06/10/20 18:28	06/10/20 21:17	MMF	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 16:54	06/12/20 16:54	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/13/20 01:57	06/13/20 01:57	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	5	06/13/20 02:30	06/13/20 02:30	GB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1492107	1	06/13/20 13:27	06/13/20 13:27	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 12:48	06/09/20 12:48	JCP	Mt. Juliet, TN

E6T-MW01 L1226465-10 GW

Collected by: Charles A. Covington | Collected date/time: 06/04/20 10:30 | Received date/time: 06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1489979	1	06/11/20 18:10	06/11/20 22:31	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 17:01	06/12/20 17:01	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/13/20 02:41	06/13/20 02:41	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	10	06/13/20 02:52	06/13/20 02:52	GB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1492107	1	06/13/20 13:29	06/13/20 13:29	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1490074	1	06/10/20 15:30	06/10/20 15:30	KMC	Mt. Juliet, TN

E6T-MW02 L1226465-11 GW

Collected by	Collected date/time	Received date/time
Charles A. Covington	06/04/20 09:40	06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1489979	1	06/11/20 18:10	06/11/20 22:31	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 17:09	06/12/20 17:09	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/13/20 03:02	06/13/20 03:02	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	20	06/13/20 03:13	06/13/20 03:13	GB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1492107	1	06/13/20 13:31	06/13/20 13:31	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 13:35	06/09/20 13:35	JCP	Mt. Juliet, TN

E6T-MW03 L1226465-12 GW

Collected by	Collected date/time	Received date/time
Charles A. Covington	06/04/20 11:30	06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1489979	1	06/11/20 18:10	06/11/20 22:31	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 17:16	06/12/20 17:16	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/13/20 03:24	06/13/20 03:24	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	10	06/13/20 03:46	06/13/20 03:46	GB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1492107	1	06/13/20 13:33	06/13/20 13:33	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 13:59	06/09/20 13:59	JCP	Mt. Juliet, TN

LM8-MW01 L1226465-13 GW

Collected by	Collected date/time	Received date/time
Charles A. Covington	06/04/20 14:40	06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1489979	1	06/11/20 18:10	06/11/20 22:31	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 17:24	06/12/20 17:24	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/13/20 04:08	06/13/20 04:08	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	100	06/13/20 04:40	06/13/20 04:40	GB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1492107	1	06/13/20 13:36	06/13/20 13:36	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 14:23	06/09/20 14:23	JCP	Mt. Juliet, TN

LM8-MW02 L1226465-14 GW

Collected by	Collected date/time	Received date/time
Charles A. Covington	06/04/20 13:50	06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1489979	1	06/11/20 18:10	06/11/20 22:31	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 17:30	06/12/20 17:30	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/13/20 04:51	06/13/20 04:51	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	100	06/13/20 05:02	06/13/20 05:02	GB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1492107	1	06/13/20 13:38	06/13/20 13:38	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 14:47	06/09/20 14:47	JCP	Mt. Juliet, TN

LM8-MW03 L1226465-15 GW

Collected by	Collected date/time	Received date/time
Charles A. Covington	06/04/20 15:50	06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1489979	1	06/11/20 18:10	06/11/20 22:31	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 17:36	06/12/20 17:36	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/13/20 05:13	06/13/20 05:13	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	100	06/13/20 05:24	06/13/20 05:24	GB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1491450	1	06/13/20 16:40	06/13/20 16:40	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 15:10	06/09/20 15:10	JCP	Mt. Juliet, TN

SH2-MW01 L1226465-16 GW

Collected by	Collected date/time	Received date/time
Charles A. Covington	06/05/20 10:00	06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1491306	1	06/12/20 20:00	06/12/20 23:16	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 17:41	06/12/20 17:41	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/13/20 05:34	06/13/20 05:34	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1492638	20	06/15/20 11:20	06/15/20 11:20	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1491450	1	06/13/20 16:42	06/13/20 16:42	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 15:34	06/09/20 15:34	JCP	Mt. Juliet, TN

SH2-MW02 L1226465-17 GW

Collected by	Collected date/time	Received date/time
Charles A. Covington	06/05/20 09:10	06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1491306	1	06/12/20 20:00	06/12/20 23:16	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 17:49	06/12/20 17:49	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/13/20 06:07	06/13/20 06:07	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	10	06/13/20 06:18	06/13/20 06:18	GB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1491450	1	06/13/20 16:45	06/13/20 16:45	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 15:58	06/09/20 15:58	JCP	Mt. Juliet, TN

SH2-MW03 L1226465-18 GW

Collected by	Collected date/time	Received date/time
Charles A. Covington	06/05/20 11:00	06/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1491306	1	06/12/20 20:00	06/12/20 23:16	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1491440	1	06/12/20 18:05	06/12/20 18:05	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1490880	1	06/13/20 06:50	06/13/20 06:50	GB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1492638	20	06/15/20 11:53	06/15/20 11:53	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1491450	1	06/13/20 16:47	06/13/20 16:47	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1489265	1	06/09/20 16:22	06/09/20 16:22	JCP	Mt. Juliet, TN

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	983		13.3	1	06/09/2020 17:11	WG1488482

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	06/12/2020 15:37	WG1491440

Sample Narrative:

L1226465-01 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	49.3		1.00	1	06/12/2020 22:31	WG1490880
Sulfate	302		25.0	5	06/12/2020 22:42	WG1490880

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	06/12/2020 16:20	WG1491448
Ethane	ND		0.0130	1	06/12/2020 16:20	WG1491448
Ethene	ND		0.0130	1	06/12/2020 16:20	WG1491448
Acetylene	ND		0.0208	1	06/12/2020 16:20	WG1491448

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	06/09/2020 09:38	WG1489265
Toluene	ND		0.00100	1	06/09/2020 09:38	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 09:38	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 09:38	WG1489265
(S) Toluene-d8	*117*		*80.0-120*		*06/09/2020 09:38*	WG1489265
(S) 4-Bromofluorobenzene	*97.4*		*77.0-126*		*06/09/2020 09:38*	WG1489265
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*06/09/2020 09:38*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	935		13.3	1	06/09/2020 17:11	WG1488482

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	06/12/2020 15:53	WG1491440

Sample Narrative:

L1226465-02 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	47.4		1.00	1	06/12/2020 22:53	WG1490880
Sulfate	266		50.0	10	06/12/2020 23:03	WG1490880

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	06/12/2020 16:22	WG1491448
Ethane	ND		0.0130	1	06/12/2020 16:22	WG1491448
Ethene	ND		0.0130	1	06/12/2020 16:22	WG1491448
Acetylene	ND		0.0208	1	06/12/2020 16:22	WG1491448

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	06/09/2020 10:01	WG1489265
Toluene	ND		0.00100	1	06/09/2020 10:01	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 10:01	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 10:01	WG1489265
(S) Toluene-d8	*118*		*80.0-120*		*06/09/2020 10:01*	WG1489265
(S) 4-Bromofluorobenzene	*96.6*		*77.0-126*		*06/09/2020 10:01*	WG1489265
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*06/09/2020 10:01*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	948		13.3	1	06/09/2020 17:11	WG1488482

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	06/12/2020 16:00	WG1491440

Sample Narrative:

L1226465-03 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	46.4		1.00	1	06/12/2020 23:14	WG1490880
Sulfate	280		25.0	5	06/12/2020 23:25	WG1490880

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	06/12/2020 16:24	WG1491448
Ethane	ND		0.0130	1	06/12/2020 16:24	WG1491448
Ethene	ND		0.0130	1	06/12/2020 16:24	WG1491448
Acetylene	ND		0.0208	1	06/12/2020 16:24	WG1491448

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	06/09/2020 10:25	WG1489265
Toluene	ND		0.00100	1	06/09/2020 10:25	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 10:25	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 10:25	WG1489265
(S) Toluene-d8	*118*		*80.0-120*		*06/09/2020 10:25*	WG1489265
(S) 4-Bromofluorobenzene	*95.9*		*77.0-126*		*06/09/2020 10:25*	WG1489265
(S) 1,2-Dichloroethane-d4	*123*		*70.0-130*		*06/09/2020 10:25*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2570		50.0	1	06/10/2020 21:17	WG1489486

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	06/12/2020 16:08	WG1491440

Sample Narrative:

L1226465-04 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	81.7		1.00	1	06/12/2020 23:36	WG1490880
Sulfate	1490		100	20	06/12/2020 23:47	WG1490880

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	06/12/2020 16:26	WG1491448
Ethane	ND		0.0130	1	06/12/2020 16:26	WG1491448
Ethene	ND		0.0130	1	06/12/2020 16:26	WG1491448
Acetylene	ND		0.0208	1	06/12/2020 16:26	WG1491448

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	06/09/2020 10:49	WG1489265
Toluene	ND		0.00100	1	06/09/2020 10:49	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 10:49	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 10:49	WG1489265
(S) Toluene-d8	*118*		*80.0-120*		*06/09/2020 10:49*	WG1489265
(S) 4-Bromofluorobenzene	*95.9*		*77.0-126*		*06/09/2020 10:49*	WG1489265
(S) 1,2-Dichloroethane-d4	*125*		*70.0-130*		*06/09/2020 10:49*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	4500		50.0	1	06/10/2020 21:17	WG1489486

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	06/12/2020 16:16	WG1491440

Sample Narrative:

L1226465-05 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	93.0		1.00	1	06/13/2020 00:19	WG1490880
Sulfate	2820		250	50	06/15/2020 10:37	WG1492638

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	06/13/2020 13:03	WG1492107
Ethane	ND		0.0130	1	06/13/2020 13:03	WG1492107
Ethene	ND		0.0130	1	06/13/2020 13:03	WG1492107
Acetylene	ND		0.0208	1	06/13/2020 13:03	WG1492107

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	06/09/2020 11:13	WG1489265
Toluene	ND		0.00100	1	06/09/2020 11:13	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 11:13	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 11:13	WG1489265
(S) Toluene-d8	*118*		*80.0-120*		*06/09/2020 11:13*	WG1489265
(S) 4-Bromofluorobenzene	*96.0*		*77.0-126*		*06/09/2020 11:13*	WG1489265
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*06/09/2020 11:13*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	10400		100	1	06/10/2020 21:17	WG1489486

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	117	T8	20.0	1	06/12/2020 16:24	WG1491440

Sample Narrative:

L1226465-06 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	188		20.0	20	06/13/2020 00:52	WG1490880
Sulfate	7080		500	100	06/15/2020 10:48	WG1492638

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	06/13/2020 13:05	WG1492107
Ethane	ND		0.0130	1	06/13/2020 13:05	WG1492107
Ethene	ND		0.0130	1	06/13/2020 13:05	WG1492107
Acetylene	ND		0.0208	1	06/13/2020 13:05	WG1492107

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	06/09/2020 11:36	WG1489265
Toluene	ND		0.00100	1	06/09/2020 11:36	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 11:36	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 11:36	WG1489265
(S) Toluene-d8	*119*		*80.0-120*		*06/09/2020 11:36*	WG1489265
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*06/09/2020 11:36*	WG1489265
(S) 1,2-Dichloroethane-d4	*118*		*70.0-130*		*06/09/2020 11:36*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1140		20.0	1	06/10/2020 21:17	WG1489486

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	06/12/2020 16:29	WG1491440

Sample Narrative:

L1226465-07 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	38.3		1.00	1	06/13/2020 01:03	WG1490880
Sulfate	452	E V	5.00	1	06/13/2020 01:03	WG1490880
Sulfate	445		50.0	10	06/15/2020 10:59	WG1492638

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	06/13/2020 13:08	WG1492107
Ethane	ND		0.0130	1	06/13/2020 13:08	WG1492107
Ethene	ND		0.0130	1	06/13/2020 13:08	WG1492107
Acetylene	ND		0.0208	1	06/13/2020 13:08	WG1492107

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	06/09/2020 12:00	WG1489265
Toluene	ND		0.00100	1	06/09/2020 12:00	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 12:00	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 12:00	WG1489265
(S) Toluene-d8	*115*		*80.0-120*		*06/09/2020 12:00*	WG1489265
(S) 4-Bromofluorobenzene	*98.3*		*77.0-126*		*06/09/2020 12:00*	WG1489265
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*06/09/2020 12:00*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1080		20.0	1	06/10/2020 21:17	WG1489486

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	06/12/2020 16:46	WG1491440

Sample Narrative:

L1226465-08 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	40.5		1.00	1	06/13/2020 01:35	WG1490880
Sulfate	422	E	5.00	1	06/13/2020 01:35	WG1490880
Sulfate	419		50.0	10	06/15/2020 11:09	WG1492638

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	06/13/2020 13:22	WG1492107
Ethane	ND		0.0130	1	06/13/2020 13:22	WG1492107
Ethene	ND		0.0130	1	06/13/2020 13:22	WG1492107
Acetylene	ND		0.0208	1	06/13/2020 13:22	WG1492107

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	06/09/2020 12:24	WG1489265
Toluene	ND		0.00100	1	06/09/2020 12:24	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 12:24	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 12:24	WG1489265
(S) Toluene-d8	*116*		*80.0-120*		*06/09/2020 12:24*	WG1489265
(S) 4-Bromofluorobenzene	*98.7*		*77.0-126*		*06/09/2020 12:24*	WG1489265
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*06/09/2020 12:24*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1140		20.0	1	06/10/2020 21:17	WG1489486

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	06/12/2020 16:54	WG1491440

Sample Narrative:

L1226465-09 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	42.3		1.00	1	06/13/2020 01:57	WG1490880
Sulfate	425		25.0	5	06/13/2020 02:30	WG1490880

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	06/13/2020 13:27	WG1492107
Ethane	ND		0.0130	1	06/13/2020 13:27	WG1492107
Ethene	ND		0.0130	1	06/13/2020 13:27	WG1492107
Acetylene	ND		0.0208	1	06/13/2020 13:27	WG1492107

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	06/09/2020 12:48	WG1489265
Toluene	ND		0.00100	1	06/09/2020 12:48	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 12:48	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 12:48	WG1489265
(S) Toluene-d8	*114*		*80.0-120*		*06/09/2020 12:48*	WG1489265
(S) 4-Bromofluorobenzene	*94.2*		*77.0-126*		*06/09/2020 12:48*	WG1489265
(S) 1,2-Dichloroethane-d4	*122*		*70.0-130*		*06/09/2020 12:48*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1580		20.0	1	06/11/2020 22:31	WG1489979

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	06/12/2020 17:01	WG1491440

Sample Narrative:

L1226465-10 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	38.1		1.00	1	06/13/2020 02:41	WG1490880
Sulfate	826		50.0	10	06/13/2020 02:52	WG1490880

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	06/13/2020 13:29	WG1492107
Ethane	ND		0.0130	1	06/13/2020 13:29	WG1492107
Ethene	ND		0.0130	1	06/13/2020 13:29	WG1492107
Acetylene	ND		0.0208	1	06/13/2020 13:29	WG1492107

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	06/10/2020 15:30	WG1490074
Toluene	ND		0.00100	1	06/10/2020 15:30	WG1490074
Ethylbenzene	ND		0.00100	1	06/10/2020 15:30	WG1490074
Total Xylenes	ND		0.00300	1	06/10/2020 15:30	WG1490074
(S) Toluene-d8	*111*		*80.0-120*		*06/10/2020 15:30*	WG1490074
(S) 4-Bromofluorobenzene	*103*		*77.0-126*		*06/10/2020 15:30*	WG1490074
(S) 1,2-Dichloroethane-d4	*102*		*70.0-130*		*06/10/2020 15:30*	WG1490074

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2070		25.0	1	06/11/2020 22:31	WG1489979

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	06/12/2020 17:09	WG1491440

Sample Narrative:

L1226465-11 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	40.5		1.00	1	06/13/2020 03:02	WG1490880
Sulfate	1210		100	20	06/13/2020 03:13	WG1490880

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	06/13/2020 13:31	WG1492107
Ethane	ND		0.0130	1	06/13/2020 13:31	WG1492107
Ethene	ND		0.0130	1	06/13/2020 13:31	WG1492107
Acetylene	ND		0.0208	1	06/13/2020 13:31	WG1492107

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	06/09/2020 13:35	WG1489265
Toluene	ND		0.00100	1	06/09/2020 13:35	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 13:35	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 13:35	WG1489265
(S) Toluene-d8	*117*		*80.0-120*		*06/09/2020 13:35*	WG1489265
(S) 4-Bromofluorobenzene	*95.8*		*77.0-126*		*06/09/2020 13:35*	WG1489265
(S) 1,2-Dichloroethane-d4	*125*		*70.0-130*		*06/09/2020 13:35*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1790		25.0	1	06/11/2020 22:31	WG1489979

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	06/12/2020 17:16	WG1491440

Sample Narrative:

L1226465-12 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	32.3		1.00	1	06/13/2020 03:24	WG1490880
Sulfate	968		50.0	10	06/13/2020 03:46	WG1490880

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	06/13/2020 13:33	WG1492107
Ethane	ND		0.0130	1	06/13/2020 13:33	WG1492107
Ethene	ND		0.0130	1	06/13/2020 13:33	WG1492107
Acetylene	ND		0.0208	1	06/13/2020 13:33	WG1492107

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	06/09/2020 13:59	WG1489265
Toluene	ND		0.00100	1	06/09/2020 13:59	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 13:59	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 13:59	WG1489265
(S) Toluene-d8	*117*		*80.0-120*		*06/09/2020 13:59*	WG1489265
(S) 4-Bromofluorobenzene	*97.2*		*77.0-126*		*06/09/2020 13:59*	WG1489265
(S) 1,2-Dichloroethane-d4	*122*		*70.0-130*		*06/09/2020 13:59*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	4040		50.0	1	06/11/2020 22:31	WG1489979

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	06/12/2020 17:24	WG1491440

Sample Narrative:

L1226465-13 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	38.6		1.00	1	06/13/2020 04:08	WG1490880
Sulfate	2600		500	100	06/13/2020 04:40	WG1490880

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	06/13/2020 13:36	WG1492107
Ethane	ND		0.0130	1	06/13/2020 13:36	WG1492107
Ethene	ND		0.0130	1	06/13/2020 13:36	WG1492107
Acetylene	ND		0.0208	1	06/13/2020 13:36	WG1492107

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	06/09/2020 14:23	WG1489265
Toluene	ND		0.00100	1	06/09/2020 14:23	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 14:23	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 14:23	WG1489265
(S) Toluene-d8	*119*		*80.0-120*		*06/09/2020 14:23*	WG1489265
(S) 4-Bromofluorobenzene	*97.9*		*77.0-126*		*06/09/2020 14:23*	WG1489265
(S) 1,2-Dichloroethane-d4	*122*		*70.0-130*		*06/09/2020 14:23*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	4090		50.0	1	06/11/2020 22:31	WG1489979

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	79.6	T8	20.0	1	06/12/2020 17:30	WG1491440

Sample Narrative:

L1226465-14 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	41.0		1.00	1	06/13/2020 04:51	WG1490880
Sulfate	2950		500	100	06/13/2020 05:02	WG1490880

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	06/13/2020 13:38	WG1492107
Ethane	ND		0.0130	1	06/13/2020 13:38	WG1492107
Ethene	ND		0.0130	1	06/13/2020 13:38	WG1492107
Acetylene	ND		0.0208	1	06/13/2020 13:38	WG1492107

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	06/09/2020 14:47	WG1489265
Toluene	ND		0.00100	1	06/09/2020 14:47	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 14:47	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 14:47	WG1489265
(S) Toluene-d8	*118*		*80.0-120*		*06/09/2020 14:47*	WG1489265
(S) 4-Bromofluorobenzene	*96.6*		*77.0-126*		*06/09/2020 14:47*	WG1489265
(S) 1,2-Dichloroethane-d4	*124*		*70.0-130*		*06/09/2020 14:47*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	4040		50.0	1	06/11/2020 22:31	WG1489979

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	65.6	T8	20.0	1	06/12/2020 17:36	WG1491440

Sample Narrative:

L1226465-15 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	43.8		1.00	1	06/13/2020 05:13	WG1490880
Sulfate	2840		500	100	06/13/2020 05:24	WG1490880

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	06/13/2020 16:40	WG1491450
Ethane	ND		0.0130	1	06/13/2020 16:40	WG1491450
Ethene	ND		0.0130	1	06/13/2020 16:40	WG1491450
Acetylene	ND		0.0208	1	06/13/2020 16:40	WG1491450

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	06/09/2020 15:10	WG1489265
Toluene	ND		0.00100	1	06/09/2020 15:10	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 15:10	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 15:10	WG1489265
(S) Toluene-d8	*118*		*80.0-120*		*06/09/2020 15:10*	WG1489265
(S) 4-Bromofluorobenzene	*97.6*		*77.0-126*		*06/09/2020 15:10*	WG1489265
(S) 1,2-Dichloroethane-d4	*122*		*70.0-130*		*06/09/2020 15:10*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1930		25.0	1	06/12/2020 23:16	WG1491306

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	06/12/2020 17:41	WG1491440

Sample Narrative:

L1226465-16 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	55.9		1.00	1	06/13/2020 05:34	WG1490880
Sulfate	971	E V	5.00	1	06/13/2020 05:34	WG1490880
Sulfate	977		100	20	06/15/2020 11:20	WG1492638

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	06/13/2020 16:42	WG1491450
Ethane	ND		0.0130	1	06/13/2020 16:42	WG1491450
Ethene	ND		0.0130	1	06/13/2020 16:42	WG1491450
Acetylene	ND		0.0208	1	06/13/2020 16:42	WG1491450

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	06/09/2020 15:34	WG1489265
Toluene	ND		0.00100	1	06/09/2020 15:34	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 15:34	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 15:34	WG1489265
(S) Toluene-d8	*119*		*80.0-120*		*06/09/2020 15:34*	WG1489265
(S) 4-Bromofluorobenzene	*95.9*		*77.0-126*		*06/09/2020 15:34*	WG1489265
(S) 1,2-Dichloroethane-d4	*120*		*70.0-130*		*06/09/2020 15:34*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1900		25.0	1	06/12/2020 23:16	WG1491306

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	06/12/2020 17:49	WG1491440

Sample Narrative:

L1226465-17 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	58.1		1.00	1	06/13/2020 06:07	WG1490880
Sulfate	983		50.0	10	06/13/2020 06:18	WG1490880

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	06/13/2020 16:45	WG1491450
Ethane	ND		0.0130	1	06/13/2020 16:45	WG1491450
Ethene	ND		0.0130	1	06/13/2020 16:45	WG1491450
Acetylene	ND		0.0208	1	06/13/2020 16:45	WG1491450

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	06/09/2020 15:58	WG1489265
Toluene	ND		0.00100	1	06/09/2020 15:58	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 15:58	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 15:58	WG1489265
(S) Toluene-d8	*116*		*80.0-120*		*06/09/2020 15:58*	WG1489265
(S) 4-Bromofluorobenzene	*94.0*		*77.0-126*		*06/09/2020 15:58*	WG1489265
(S) 1,2-Dichloroethane-d4	*122*		*70.0-130*		*06/09/2020 15:58*	WG1489265

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	2000		25.0	1	06/12/2020 23:16	WG1491306

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	06/12/2020 18:05	WG1491440

Sample Narrative:

L1226465-18 WG1491440: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	62.7		1.00	1	06/13/2020 06:50	WG1490880
Sulfate	995		100	20	06/15/2020 11:53	WG1492638

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	06/13/2020 16:47	WG1491450
Ethane	ND		0.0130	1	06/13/2020 16:47	WG1491450
Ethene	ND		0.0130	1	06/13/2020 16:47	WG1491450
Acetylene	ND		0.0208	1	06/13/2020 16:47	WG1491450

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	06/09/2020 16:22	WG1489265
Toluene	ND		0.00100	1	06/09/2020 16:22	WG1489265
Ethylbenzene	ND		0.00100	1	06/09/2020 16:22	WG1489265
Total Xylenes	ND		0.00300	1	06/09/2020 16:22	WG1489265
(S) Toluene-d8	*119*		*80.0-120*		*06/09/2020 16:22*	WG1489265
(S) 4-Bromofluorobenzene	*98.7*		*77.0-126*		*06/09/2020 16:22*	WG1489265
(S) 1,2-Dichloroethane-d4	*124*		*70.0-130*		*06/09/2020 16:22*	WG1489265

Method Blank (MB)

(MB) R3537078-1 06/09/20 17:11

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

Laboratory Control Sample (LCS)

(LCS) R3537078-2 06/09/20 17:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8670	98.5	85.0-115	

Method Blank (MB)

(MB) R3537767-1 06/10/20 21:17

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

L1226465-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1226465-09 06/10/20 21:17 • (DUP) R3537767-3 06/10/20 21:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1140	1140	1	0.351		5

Laboratory Control Sample (LCS)

(LCS) R3537767-2 06/10/20 21:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	7890	89.7	85.0-115	

Method Blank (MB)

(MB) R3538246-1 06/11/20 22:31

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

Laboratory Control Sample (LCS)

(LCS) R3538246-2 06/11/20 22:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8710	99.0	85.0-115	

Method Blank (MB)

(MB) R3538377-1 06/12/20 23:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

Laboratory Control Sample (LCS)

(LCS) R3538377-2 06/12/20 23:16

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8740	99.3	85.0-115	

Method Blank (MB)

(MB) R3538418-2 06/12/20 15:22

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

L1226465-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1226465-01 06/12/20 15:37 • (DUP) R3538418-4 06/12/20 15:45

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

DUP: Endpoint pH 4.5

L1226643-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1226643-01 06/12/20 18:12 • (DUP) R3538418-7 06/12/20 18:19

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

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3538522-1 06/12/20 21:58

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

L1226465-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1226465-08 06/13/20 01:35 • (DUP) R3538522-5 06/13/20 01:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	40.5	40.6	1	0.234		15
Sulfate	422	425	1	0.876	E	15

L1226465-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1226465-12 06/13/20 03:24 • (DUP) R3538522-6 06/13/20 03:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	32.3	32.3	1	0.138		15

L1226465-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1226465-12 06/13/20 03:46 • (DUP) R3538522-7 06/13/20 03:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	968	958	10	0.952		15

Laboratory Control Sample (LCS)

(LCS) R3538522-2 06/12/20 22:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.2	101	80.0-120	
Sulfate	40.0	38.8	97.1	80.0-120	

L1226465-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1226465-07 06/13/20 01:03 • (MS) R3538522-3 06/13/20 01:14 • (MSD) R3538522-4 06/13/20 01:25

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	38.3	86.2	88.0	95.9	99.5	1	80.0-120			2.05	15
Sulfate	50.0	452	480	485	54.9	66.2	1	80.0-120	E V	E V	1.17	15

L1226465-16 Original Sample (OS) • Matrix Spike (MS)

(OS) L1226465-16 06/13/20 05:34 • (MS) R3538522-8 06/13/20 05:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	55.9	104	95.6	1	80.0-120	E
Sulfate	50.0	971	992	41.8	1	80.0-120	E V

Method Blank (MB)

(MB) R3538889-1 06/15/20 08:58

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

Laboratory Control Sample (LCS)

(LCS) R3538889-2 06/15/20 09:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	38.8	97.0	80.0-120	

L1226503-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1226503-07 06/15/20 14:25 • (MS) R3538889-7 06/15/20 14:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50.0	81.7	130	95.7	1	80.0-120	E

Method Blank (MB)

(MB) R3538125-2 06/12/20 16:03

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

Laboratory Control Sample (LCS)

(LCS) R3538125-1 06/12/20 16:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Methane	0.0678	0.0690	102	85.0-115	
Ethane	0.129	0.133	103	85.0-115	
Ethene	0.127	0.127	100	85.0-115	
Acetylene	0.208	0.193	92.8	85.0-115	

Method Blank (MB)

(MB) R3538341-2 06/13/20 16:30

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

Laboratory Control Sample (LCS)

(LCS) R3538341-1 06/13/20 16:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Methane	0.0678	0.0754	111	85.0-115	
Ethane	0.129	0.141	109	85.0-115	
Ethene	0.127	0.134	106	85.0-115	
acetylene	0.208	0.201	96.6	85.0-115	

Method Blank (MB)

(MB) R3538317-2 06/13/20 11:50

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

L1226465-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1226465-08 06/13/20 13:22 • (DUP) R3538317-3 06/13/20 13:24

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)

(LCS) R3538317-1 06/13/20 11:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Methane	0.0678	0.0729	108	85.0-115	
Ethane	0.129	0.135	105	85.0-115	
Ethene	0.127	0.129	102	85.0-115	
Acetylene	0.208	0.192	92.3	85.0-115	

Method Blank (MB)

(MB) R3537725-2 06/09/20 08:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*118*			*80.0-120*
(S) 4-Bromofluorobenzene	*97.4*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*120*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3537725-1 06/09/20 08:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00542	108	70.0-123	
Ethylbenzene	0.00500	0.00506	101	79.0-123	
Toluene	0.00500	0.00521	104	79.0-120	
Xylenes, Total	0.0150	0.0143	95.3	79.0-123	
(S) Toluene-d8			*108*	*80.0-120*	
(S) 4-Bromofluorobenzene			*99.2*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*118*	*70.0-130*	

Method Blank (MB)

(MB) R3536944-2 06/10/20 09:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*112*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.2*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3536944-1 06/10/20 09:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00452	90.4	70.0-123	
Ethylbenzene	0.00500	0.00466	93.2	79.0-123	
Toluene	0.00500	0.00456	91.2	79.0-120	
Xylenes, Total	0.0150	0.0146	97.3	79.0-123	
(S) Toluene-d8			*109*	*80.0-120*	
(S) 4-Bromofluorobenzene			*102*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*104*	*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).
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

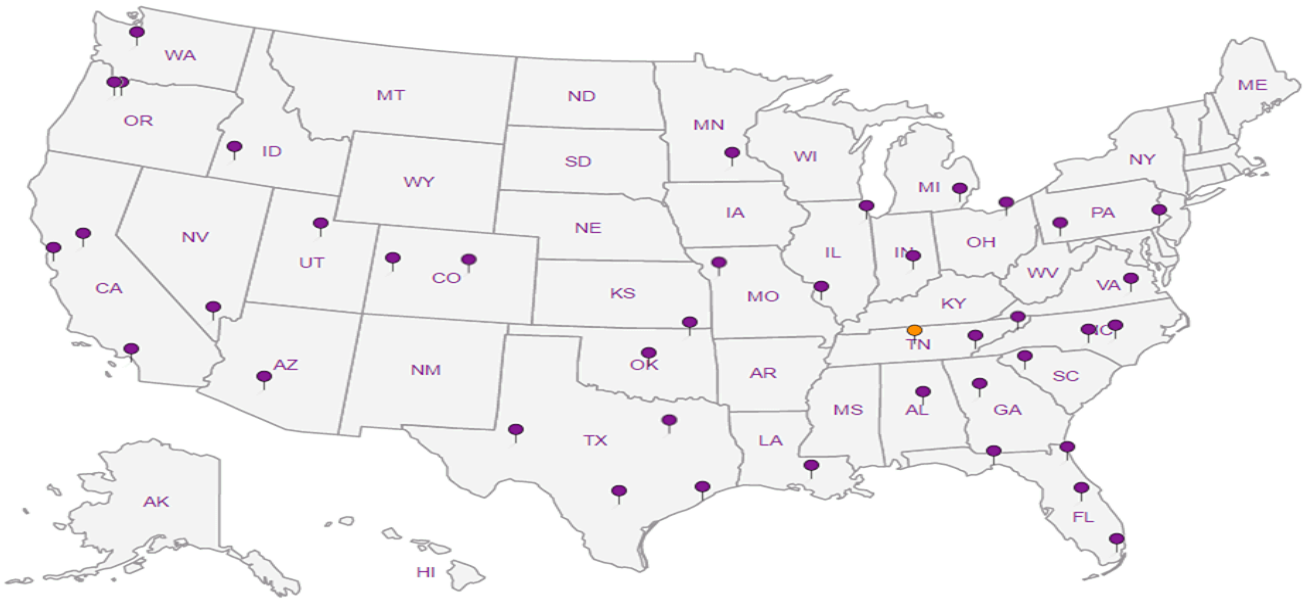
Third Party Federal Accreditations

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

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

Our Locations

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



Terracon - Longmont
1831 Lefthand Circle, Suite C
Longmont, CO 80501

Billing Information: **Same as Address**

Pres Chk

Report to: Mike Skridulis

Email To: mjskridulis@terracon.com

Project Description: **COL 2020 Annual GW Monitoring**

City/State Collected: Longmont, CO

Phone: **303-454-5249**
Fax: **970-484-0454**

Client Project # **22207002**

Lab Project #

Collected by (print): Charles A. Covington

Site/Facility ID #

P.O. #

Collected by (signature):

Quote #

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

Date Results Needed: STANDARD

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX8260 (2) 40ml Amber w/HCl	RSK-175 (2) 40ml Amber w/HCl	CO2 - 250ml HDPE No Pres	TDS, Cl, SO4 - 250ml HDPE No Pres
CL1-MW01	Grab	GW	-	6/2/20	1000	6	X	X	X	X
CL1-MW02	Grab	GW	-	6/2/20	1030	6	X	X	X	X
CL1-MW03	Grab	GW	-	6/2/20	0930	6	X	X	X	X
E6W-MW01	Grab	GW	-	6/3/20	1050	6	X	X	X	X
E6W-MW02	Grab	GW	-	6/3/20	1010	6	X	X	X	X
E6W-MW03	Grab	GW	-	6/3/20	1130	6	X	X	X	X
TB7-MW01	Grab	GW	-	6/3/20	1600	6	X	X	X	X
TB7-MW02	Grab	GW	-	6/3/20	1500	6	X	X	X	X
TB7-MW03	Grab	GW	-	6/3/20	1400	6	X	X	X	X

Invoice:
Customer : PNDCO
Phone : (615)758-5858 COD :
SAT Del : Y DV :
Date : 13Feb20
Weight : 10 LBS
0.00 Shipping :
Special :
Handling :
Total :
0.00
0.00
0.00
0.00
Svos: PRIORITY OVERNIGHT
TRCK: 1380 7996 1533

Chain of Custody Page 1 of 2

Pace Analytical® National Center for Testing & Innovation

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

L# L1226465

D066

Acctnum: **TERRALCO**
Template:
Prelogin:
TSR: **Chris Ward**
PB:
Shipped Via:

Remarks	Sample # (lab only)
	-01
	02
	03
	04
	05
	06
	07
	08
	09

* 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 # 1380 7996 1533

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Charles A. Covington	6/5/20	1600	FEDEX
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 4.6 °C Bottles Received: 108

Date: 6-6-20 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Terracon – Longmont
1831 Lefthand Circle, Suite C
Longmont, CO 80501

Billing Information: Same as Address

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

Pace Analytical® National Center for Testing & Innovation
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: Mike Skridulis
Email To: mjskridulis@terracon.com
Project Description: COL 2020 Annual GW Monitoring
City/State Collected: Longmont, CO
Phone: 303-454-5249
Fax: 970-484-0454
Client Project # 22207002
Lab Project #
L# L1226465
Collected by (print): Charles A. Covington
Site/Facility ID #
P.O. #
Table #
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
Acctnum: TERRALCO
Template:
Prelogin:
TSR: Chris Ward
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX8260 (2) 40ml Amber w/HCl	RSK-175 (2) 40ml Amber w/HCl	CO2 - 250ml HDPE No Pres	TDS, Cl, SO4 - 250ml HDPE No Pres	Remarks	Sample # (lab only)
E6T - MW01	Grab	GW	-	6/4/20	1030	6	X	X	X	X		-10
E6T - MW02	Grab	GW	-	6/4/20	0940	6	X	X	X	X		11
E6T - MW03	Grab	GW	-	6/4/20	1130	6	X	X	X	X		12
LM8 - MW01	Grab	GW	-	6/4/20	1440	6	X	X	X	X		13
LM8 - MW02	Grab	GW	-	6/4/20	1350	6	X	X	X	X		14
LM8 - MW03	Grab	GW	-	6/4/20	1550	6	X	X	X	X		15
SH2 - MW01	Grab	GW	-	6/5/20	1000	6	X	X	X	X		16
SH2 - MW02	Grab	GW	-	6/5/20	0910	6	X	X	X	X		17
SH2 - MW03	Grab	GW	-	6/5/20	1100	6	X	X	X	X		18

* 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 # 1380 7996 1533

Sample Receipt Checklist
COC Seal Present/Intact: __NP __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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
	6/5/20	1600	FEDEX		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.6, 4.7 °C Bottles Received: 18	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6.6.20 Time: 0845	Hold: Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

June 18, 2020

Terracon Consultants, Inc - Longmont, CO

Sample Delivery Group:	L1228240
Samples Received:	06/11/2020
Project Number:	22207002
Description:	COL 2020 Annual GW Monitoring

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

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

TABLE OF CONTENTS

DM1-MW01 L1228240-01 GW

Collected by: Charles A. Covington | Collected date/time: 06/08/20 11:40 | Received date/time: 06/11/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1492300	1	06/14/20 07:00	06/14/20 09:45	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1492988	1	06/17/20 15:17	06/17/20 15:17	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1493317	1	06/17/20 05:19	06/17/20 05:19	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1493317	5	06/17/20 05:32	06/17/20 05:32	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1493955	1	06/17/20 15:14	06/17/20 15:14	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1491938	1	06/13/20 10:16	06/13/20 10:16	JHH	Mt. Juliet, TN

DM1-MW02 L1228240-02 GW

Collected by: Charles A. Covington | Collected date/time: 06/08/20 11:00 | Received date/time: 06/11/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1492300	1	06/14/20 07:00	06/14/20 09:45	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1492988	1	06/17/20 15:24	06/17/20 15:24	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1493317	5	06/17/20 05:58	06/17/20 05:58	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1493955	1	06/17/20 15:23	06/17/20 15:23	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1491938	1	06/13/20 10:35	06/13/20 10:35	JHH	Mt. Juliet, TN

DM1-MW03 L1228240-03 GW

Collected by: Charles A. Covington | Collected date/time: 06/08/20 12:30 | Received date/time: 06/11/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1492300	1	06/14/20 07:00	06/14/20 09:45	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1492988	1	06/17/20 15:31	06/17/20 15:31	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1493317	1	06/17/20 06:10	06/17/20 06:10	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1493317	5	06/17/20 06:23	06/17/20 06:23	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1493955	1	06/17/20 15:25	06/17/20 15:25	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1491938	1	06/13/20 10:54	06/13/20 10:54	JHH	Mt. Juliet, TN

SGU-MW01 L1228240-04 GW

Collected by: Charles A. Covington | Collected date/time: 06/10/20 08:40 | Received date/time: 06/11/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1492300	1	06/14/20 07:00	06/14/20 09:45	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1492988	1	06/17/20 15:38	06/17/20 15:38	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1493317	1	06/17/20 06:36	06/17/20 06:36	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1493317	5	06/17/20 06:49	06/17/20 06:49	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1493955	1	06/17/20 15:38	06/17/20 15:38	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1491938	1	06/13/20 11:14	06/13/20 11:14	JHH	Mt. Juliet, TN

SGU-MW02 L1228240-05 GW

Collected by: Charles A. Covington | Collected date/time: 06/10/20 11:00 | Received date/time: 06/11/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1492300	1	06/14/20 07:00	06/14/20 09:45	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1492988	1	06/17/20 15:53	06/17/20 15:53	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1493317	1	06/17/20 07:01	06/17/20 07:01	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1493317	5	06/17/20 07:40	06/17/20 07:40	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1493955	1	06/17/20 15:40	06/17/20 15:40	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1491938	1	06/13/20 11:33	06/13/20 11:33	JHH	Mt. Juliet, TN

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

SGU-MW03 L1228240-06 GW

Collected by	Collected date/time	Received date/time
Charles A. Covington	06/10/20 10:20	06/11/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1492300	1	06/14/20 07:00	06/14/20 09:45	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1492988	1	06/17/20 16:08	06/17/20 16:08	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1493317	1	06/17/20 07:52	06/17/20 07:52	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1493317	5	06/17/20 08:05	06/17/20 08:05	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1493955	1	06/17/20 15:46	06/17/20 15:46	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1491938	1	06/13/20 11:53	06/13/20 11:53	JHH	Mt. Juliet, TN

SGU-MW06 L1228240-07 GW

Collected by	Collected date/time	Received date/time
Charles A. Covington	06/10/20 09:30	06/11/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1492300	1	06/14/20 07:00	06/14/20 09:45	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1492988	1	06/17/20 16:15	06/17/20 16:15	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1493317	1	06/17/20 08:18	06/17/20 08:18	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1493317	5	06/17/20 08:31	06/17/20 08:31	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1493955	1	06/17/20 15:48	06/17/20 15:48	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1491938	1	06/13/20 12:12	06/13/20 12:12	JHH	Mt. Juliet, TN

SGU-MW07 L1228240-08 GW

Collected by	Collected date/time	Received date/time
Charles A. Covington	06/10/20 11:40	06/11/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1492300	1	06/14/20 07:00	06/14/20 09:45	TH	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1492988	1	06/17/20 16:22	06/17/20 16:22	DGR	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1493317	1	06/17/20 08:43	06/17/20 08:43	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1493955	1	06/17/20 15:52	06/17/20 15:52	JAL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1491941	1	06/13/20 07:45	06/13/20 07:45	JCP	Mt. Juliet, TN

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	793		13.3	1	06/14/2020 09:45	WG1492300

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	06/17/2020 15:17	WG1492988

Sample Narrative:

L1228240-01 WG1492988: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	96.3		1.00	1	06/17/2020 05:19	WG1493317
Sulfate	219		25.0	5	06/17/2020 05:32	WG1493317

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Methane	0.0438		0.0100	1	06/17/2020 15:14	WG1493955
Ethane	ND		0.0130	1	06/17/2020 15:14	WG1493955
Ethene	ND		0.0130	1	06/17/2020 15:14	WG1493955
Acetylene	ND	J0	0.0208	1	06/17/2020 15:14	WG1493955

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	06/13/2020 10:16	WG1491938
Toluene	ND		0.00100	1	06/13/2020 10:16	WG1491938
Ethylbenzene	ND		0.00100	1	06/13/2020 10:16	WG1491938
Total Xylenes	ND		0.00300	1	06/13/2020 10:16	WG1491938
(S) Toluene-d8	*113*		*80.0-120*		*06/13/2020 10:16*	WG1491938
(S) 4-Bromofluorobenzene	*103*		*77.0-126*		*06/13/2020 10:16*	WG1491938
(S) 1,2-Dichloroethane-d4	*98.7*		*70.0-130*		*06/13/2020 10:16*	WG1491938

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	858		20.0	1	06/14/2020 09:45	WG1492300

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	29.9	T8	20.0	1	06/17/2020 15:24	WG1492988

Sample Narrative:

L1228240-02 WG1492988: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	106		5.00	5	06/17/2020 05:58	WG1493317
Sulfate	271		25.0	5	06/17/2020 05:58	WG1493317

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	06/17/2020 15:23	WG1493955
Ethane	ND		0.0130	1	06/17/2020 15:23	WG1493955
Ethene	ND		0.0130	1	06/17/2020 15:23	WG1493955
Acetylene	ND	J0	0.0208	1	06/17/2020 15:23	WG1493955

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	06/13/2020 10:35	WG1491938
Toluene	ND		0.00100	1	06/13/2020 10:35	WG1491938
Ethylbenzene	ND		0.00100	1	06/13/2020 10:35	WG1491938
Total Xylenes	ND		0.00300	1	06/13/2020 10:35	WG1491938
(S) Toluene-d8	*112*		*80.0-120*		*06/13/2020 10:35*	WG1491938
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*06/13/2020 10:35*	WG1491938
(S) 1,2-Dichloroethane-d4	*97.7*		*70.0-130*		*06/13/2020 10:35*	WG1491938

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	637		13.3	1	06/14/2020 09:45	WG1492300

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	06/17/2020 15:31	WG1492988

Sample Narrative:

L1228240-03 WG1492988: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	98.7		1.00	1	06/17/2020 06:10	WG1493317
Sulfate	248		25.0	5	06/17/2020 06:23	WG1493317

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	06/17/2020 15:25	WG1493955
Ethane	ND		0.0130	1	06/17/2020 15:25	WG1493955
Ethene	ND		0.0130	1	06/17/2020 15:25	WG1493955
Acetylene	ND	J0	0.0208	1	06/17/2020 15:25	WG1493955

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	06/13/2020 10:54	WG1491938
Toluene	ND		0.00100	1	06/13/2020 10:54	WG1491938
Ethylbenzene	ND		0.00100	1	06/13/2020 10:54	WG1491938
Total Xylenes	ND		0.00300	1	06/13/2020 10:54	WG1491938
(S) Toluene-d8	*112*		*80.0-120*		*06/13/2020 10:54*	WG1491938
(S) 4-Bromofluorobenzene	*103*		*77.0-126*		*06/13/2020 10:54*	WG1491938
(S) 1,2-Dichloroethane-d4	*99.2*		*70.0-130*		*06/13/2020 10:54*	WG1491938

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	496		10.0	1	06/14/2020 09:45	WG1492300

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	06/17/2020 15:38	WG1492988

Sample Narrative:

L1228240-04 WG1492988: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	39.1		1.00	1	06/17/2020 06:36	WG1493317
Sulfate	176		25.0	5	06/17/2020 06:49	WG1493317

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	06/17/2020 15:38	WG1493955
Ethane	ND		0.0130	1	06/17/2020 15:38	WG1493955
Ethene	ND		0.0130	1	06/17/2020 15:38	WG1493955
Acetylene	ND	J0	0.0208	1	06/17/2020 15:38	WG1493955

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	06/13/2020 11:14	WG1491938
Toluene	ND		0.00100	1	06/13/2020 11:14	WG1491938
Ethylbenzene	ND		0.00100	1	06/13/2020 11:14	WG1491938
Total Xylenes	ND		0.00300	1	06/13/2020 11:14	WG1491938
(S) Toluene-d8	*113*		*80.0-120*		*06/13/2020 11:14*	WG1491938
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*06/13/2020 11:14*	WG1491938
(S) 1,2-Dichloroethane-d4	*99.4*		*70.0-130*		*06/13/2020 11:14*	WG1491938

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	649		10.0	1	06/14/2020 09:45	WG1492300

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	06/17/2020 15:53	WG1492988

Sample Narrative:

L1228240-05 WG1492988: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	37.5		1.00	1	06/17/2020 07:01	WG1493317
Sulfate	156		25.0	5	06/17/2020 07:40	WG1493317

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	06/17/2020 15:40	WG1493955
Ethane	ND		0.0130	1	06/17/2020 15:40	WG1493955
Ethene	ND		0.0130	1	06/17/2020 15:40	WG1493955
Acetylene	ND	J0	0.0208	1	06/17/2020 15:40	WG1493955

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	06/13/2020 11:33	WG1491938
Toluene	ND		0.00100	1	06/13/2020 11:33	WG1491938
Ethylbenzene	ND		0.00100	1	06/13/2020 11:33	WG1491938
Total Xylenes	ND		0.00300	1	06/13/2020 11:33	WG1491938
(S) Toluene-d8	*113*		*80.0-120*		*06/13/2020 11:33*	WG1491938
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*06/13/2020 11:33*	WG1491938
(S) 1,2-Dichloroethane-d4	*99.8*		*70.0-130*		*06/13/2020 11:33*	WG1491938

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	06/14/2020 09:45	WG1492300

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	06/17/2020 16:08	WG1492988

Sample Narrative:

L1228240-06 WG1492988: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	46.1		1.00	1	06/17/2020 07:52	WG1493317
Sulfate	222		25.0	5	06/17/2020 08:05	WG1493317

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	06/17/2020 15:46	WG1493955
Ethane	ND		0.0130	1	06/17/2020 15:46	WG1493955
Ethene	ND		0.0130	1	06/17/2020 15:46	WG1493955
Acetylene	ND	J0	0.0208	1	06/17/2020 15:46	WG1493955

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	06/13/2020 11:53	WG1491938
Toluene	ND		0.00100	1	06/13/2020 11:53	WG1491938
Ethylbenzene	ND		0.00100	1	06/13/2020 11:53	WG1491938
Total Xylenes	ND		0.00300	1	06/13/2020 11:53	WG1491938
(S) Toluene-d8	*115*		*80.0-120*		*06/13/2020 11:53*	WG1491938
(S) 4-Bromofluorobenzene	*104*		*77.0-126*		*06/13/2020 11:53*	WG1491938
(S) 1,2-Dichloroethane-d4	*102*		*70.0-130*		*06/13/2020 11:53*	WG1491938

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	725		13.3	1	06/14/2020 09:45	WG1492300

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	06/17/2020 16:15	WG1492988

Sample Narrative:

L1228240-07 WG1492988: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	41.5		1.00	1	06/17/2020 08:18	WG1493317
Sulfate	208		25.0	5	06/17/2020 08:31	WG1493317

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	06/17/2020 15:48	WG1493955
Ethane	ND		0.0130	1	06/17/2020 15:48	WG1493955
Ethene	ND		0.0130	1	06/17/2020 15:48	WG1493955
Acetylene	ND	J0	0.0208	1	06/17/2020 15:48	WG1493955

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	06/13/2020 12:12	WG1491938
Toluene	ND		0.00100	1	06/13/2020 12:12	WG1491938
Ethylbenzene	ND		0.00100	1	06/13/2020 12:12	WG1491938
Total Xylenes	ND		0.00300	1	06/13/2020 12:12	WG1491938
(S) Toluene-d8	*113*		*80.0-120*		*06/13/2020 12:12*	WG1491938
(S) 4-Bromofluorobenzene	*100*		*77.0-126*		*06/13/2020 12:12*	WG1491938
(S) 1,2-Dichloroethane-d4	*99.9*		*70.0-130*		*06/13/2020 12:12*	WG1491938

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	327		10.0	1	06/14/2020 09:45	WG1492300

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	06/17/2020 16:22	WG1492988

Sample Narrative:

L1228240-08 WG1492988: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	41.9		1.00	1	06/17/2020 08:43	WG1493317
Sulfate	60.9		5.00	1	06/17/2020 08:43	WG1493317

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Methane	0.0224		0.0100	1	06/17/2020 15:52	WG1493955
Ethane	ND		0.0130	1	06/17/2020 15:52	WG1493955
Ethene	ND		0.0130	1	06/17/2020 15:52	WG1493955
Acetylene	ND	J0	0.0208	1	06/17/2020 15:52	WG1493955

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	06/13/2020 07:45	WG1491941
Toluene	ND		0.00100	1	06/13/2020 07:45	WG1491941
Ethylbenzene	ND		0.00100	1	06/13/2020 07:45	WG1491941
Total Xylenes	ND		0.00300	1	06/13/2020 07:45	WG1491941
(S) Toluene-d8	*107*		*80.0-120*		*06/13/2020 07:45*	WG1491941
(S) 4-Bromofluorobenzene	*99.2*		*77.0-126*		*06/13/2020 07:45*	WG1491941
(S) 1,2-Dichloroethane-d4	*129*		*70.0-130*		*06/13/2020 07:45*	WG1491941

Method Blank (MB)

(MB) R3538885-1 06/14/20 09:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

L1228240-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1228240-01 06/14/20 09:45 • (DUP) R3538885-3 06/14/20 09:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	793	819	1	3.14		5

Laboratory Control Sample (LCS)

(LCS) R3538885-2 06/14/20 09:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8010	91.0	85.0-115	

Method Blank (MB)

(MB) R3539901-2 06/17/20 12:33

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

L1227909-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1227909-01 06/17/20 13:04 • (DUP) R3539901-4 06/17/20 13:12

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

DUP: Endpoint pH 4.5

L1228240-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1228240-04 06/17/20 15:38 • (DUP) R3539901-7 06/17/20 15:46

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

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3539751-1 06/16/20 22:49

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

L1227992-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1227992-01 06/17/20 00:51 • (DUP) R3539751-3 06/17/20 01:04

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	ND	1	0.000		15
Sulfate	ND	ND	1	0.000		15

L1227992-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1227992-11 06/17/20 04:03 • (DUP) R3539751-6 06/17/20 04:16

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	1.08	1	10.4		15
Sulfate	19.1	19.2	1	0.497		15

Laboratory Control Sample (LCS)

(LCS) R3539751-2 06/16/20 23:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.0	100	80.0-120	
Sulfate	40.0	41.1	103	80.0-120	

L1227992-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1227992-01 06/17/20 00:51 • (MS) R3539751-4 06/17/20 01:17 • (MSD) R3539751-5 06/17/20 01:30

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	51.7	53.8	101	106	1	80.0-120			4.03	15
Sulfate	50.0	ND	55.2	57.4	104	108	1	80.0-120			3.94	15

L1227992-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L1227992-11 06/17/20 04:03 • (MS) R3539751-7 06/17/20 04:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	ND	53.7	106	1	80.0-120	
Sulfate	50.0	19.1	72.5	107	1	80.0-120	

Method Blank (MB)

(MB) R3539780-2 06/17/20 14:19

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

L1228462-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1228462-01 06/17/20 14:31 • (DUP) R3539780-3 06/17/20 15:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	0.0144	0.0161	1	11.1		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)

(LCS) R3539780-1 06/17/20 14:14

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Methane	0.0678	0.0687	101	85.0-115	
Ethane	0.129	0.121	93.8	85.0-115	
Ethene	0.127	0.115	90.6	85.0-115	
Acetylene	0.208	0.186	89.4	85.0-115	

Method Blank (MB)

(MB) R3539182-2 06/13/20 05:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*113*			*80.0-120*
(S) 4-Bromofluorobenzene	*107*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*97.1*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3539182-1 06/13/20 04:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00465	93.0	70.0-123	
Ethylbenzene	0.00500	0.00475	95.0	79.0-123	
Toluene	0.00500	0.00498	99.6	79.0-120	
Xylenes, Total	0.0150	0.0143	95.3	79.0-123	
(S) Toluene-d8			*115*	*80.0-120*	
(S) 4-Bromofluorobenzene			*108*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*96.3*	*70.0-130*	

Method Blank (MB)

(MB) R3539857-2 06/13/20 05:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*104*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.1*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*121*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3539857-1 06/13/20 04:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00556	111	70.0-123	
Ethylbenzene	0.00500	0.00514	103	79.0-123	
Toluene	0.00500	0.00515	103	79.0-120	
Xylenes, Total	0.0150	0.0162	108	79.0-123	
(S) Toluene-d8			*108*	*80.0-120*	
(S) 4-Bromofluorobenzene			*100*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*129*	*70.0-130*	

L1228274-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1228274-07 06/13/20 13:06 • (MS) R3539857-3 06/13/20 13:26 • (MSD) R3539857-4 06/13/20 13:46

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 %
Benzene	0.00500	ND	0.00463	0.00436	92.6	87.2	1	17.0-158			6.01	27
Ethylbenzene	0.00500	ND	0.00449	0.00441	89.8	88.2	1	30.0-155			1.80	27
Toluene	0.00500	ND	0.00439	0.00428	87.8	85.6	1	26.0-154			2.54	28
Xylenes, Total	0.0150	ND	0.0139	0.0131	92.7	87.3	1	29.0-154			5.93	28
(S) Toluene-d8					*108*	*106*		*80.0-120*				
(S) 4-Bromofluorobenzene					*105*	*104*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*129*	*130*		*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

Qualifier	Description
J0	J0: The identification of the analyte is acceptable, but the reported concentration is an estimate. The calibration met method criteria.
T8	Sample(s) received past/too close to holding time expiration.

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

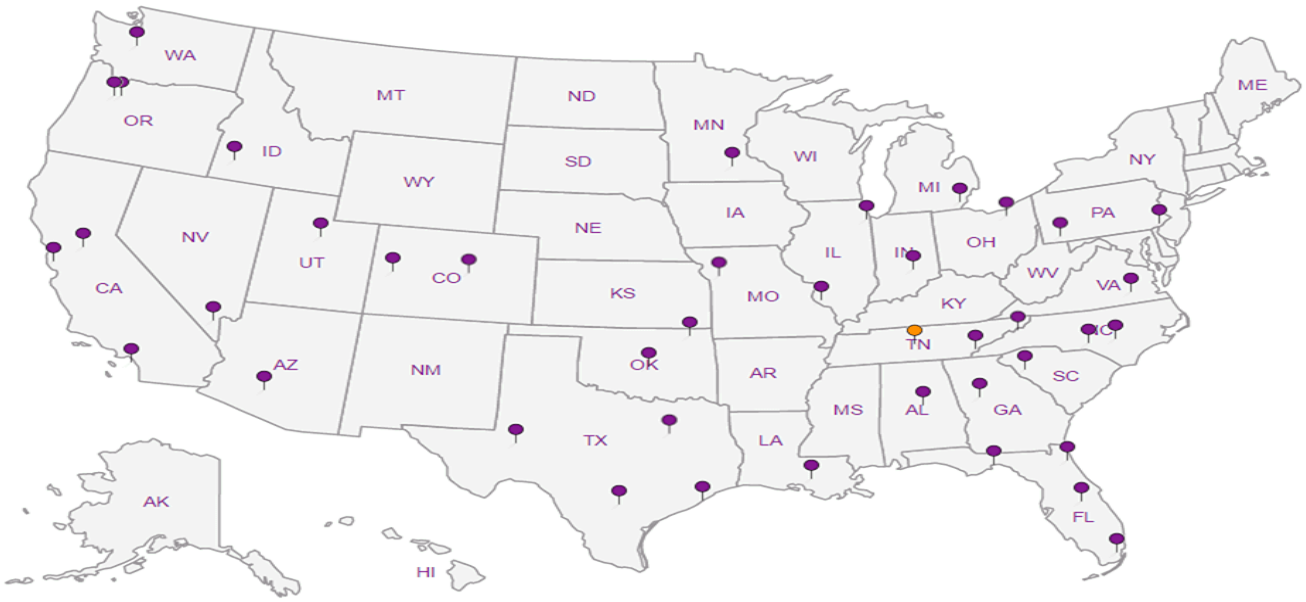
Third Party Federal Accreditations

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

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

Our Locations

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



Terracon - Longmont
1831 Lefthand Circle, Suite C
Longmont, CO 80501

Billing Information: **Same as Address**

Pres Chk

Report to: Mike Skridulis

Email To: MjSkridulis@terracon.com

Project Description: **COL 2020 Annual GW Monitoring**

City/State Collected: Longmont, CO

Phone: **303-454-5249**
Fax: **970-484-0454**

Client Project # **22207002**

Lab Project #

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	BTEX8260 (2) 40ml Amber w/HCl	RSK-175 (2) 40ml Amber w/HCl	CO2 - 250ml HDPE No Pres	TDS, Cl, SO4 - 250ml HDPE No Pres					Remarks	Sample # (lab only)
DM1-MW01	Grab	GW	-	6/8/20	1140	6	X	X	X	X						-01
DM1-MW02	Grab	GW	-	6/8/20	1100	6	X	X	X	X						02
DM1-MW03	Grab	GW	-	6/8/20	1230	6	X	X	X	X						03
																0
SGU-MW01	Grab	GW	-	6/10/20	0840	6	X	X	X	X						04
SGU-MW02	Grab	GW	-	6/10/20	1100	6	X	X	X	X						05
SGU-MW03	Grab	GW	-	6/10/20	1020	6	X	X	X	X						06
SGU-MW06	Grab	GW	-	6/10/20	0930	6	X	X	X	X						07
SGU-MW07	Grab	GW	-	6/10/20	1140	6	X	X	X	X						08

Invoice:
Customer : PNDCO
Phone : (615)758-5858 COD :
Sat Del : N DV :
Svce: STANDARD OVERNIGHT
TRCK: 1790 3018 8754
Date : 21Apr20
Weight : 10 LBS
0.00
Shipping : 0.00
Special : 0.00
Handling : 0.00
Total : 0.00

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

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

L# L1228240
A108

Acctnum: **TERRALCO**
Template:
Prelogin:
TSR: **Chris Ward**
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 X FedEx ___ Courier ___

Tracking # 1790 3018 8754

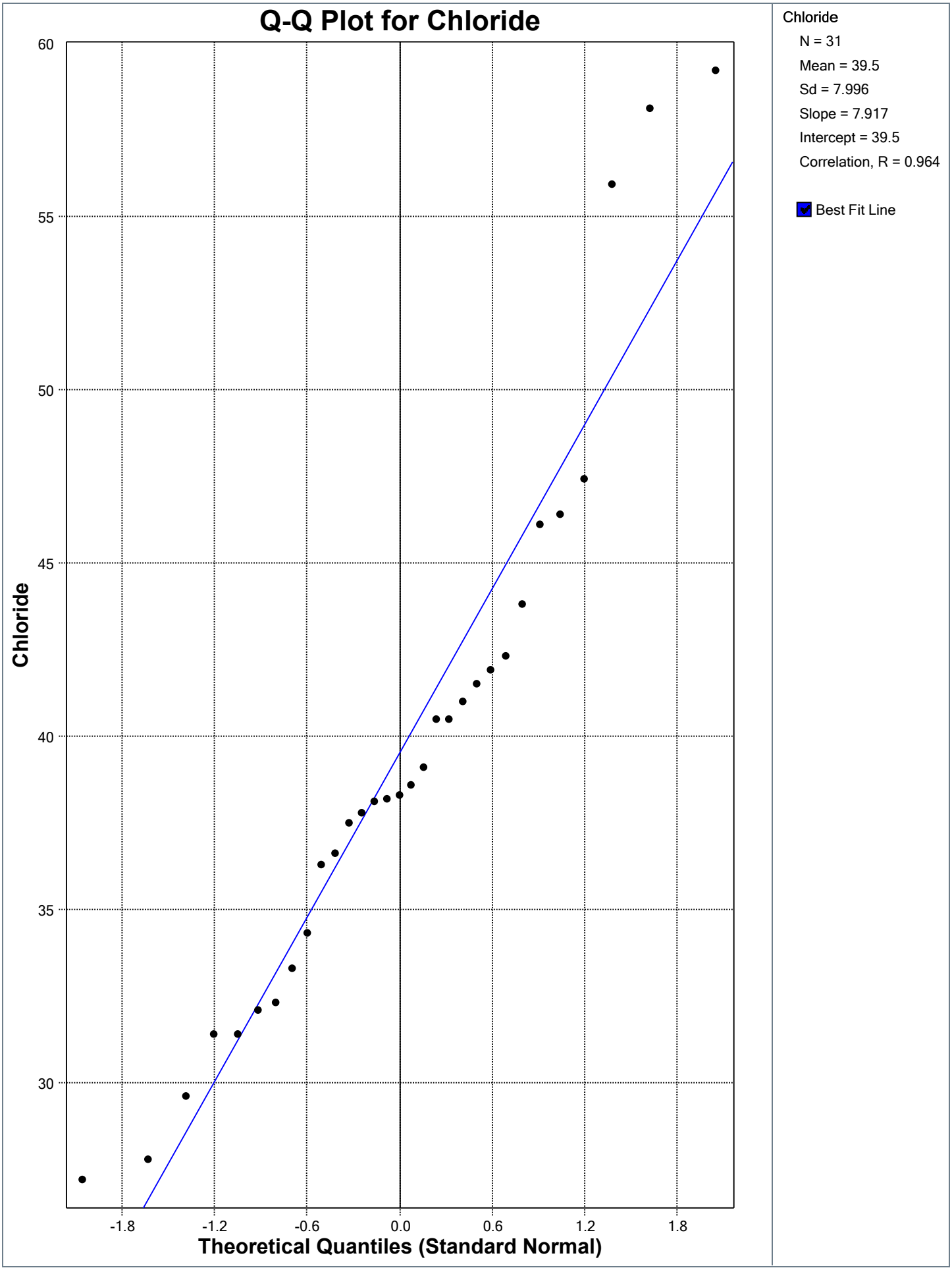
Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

RAD SCREEN: <0.5 mR/hr

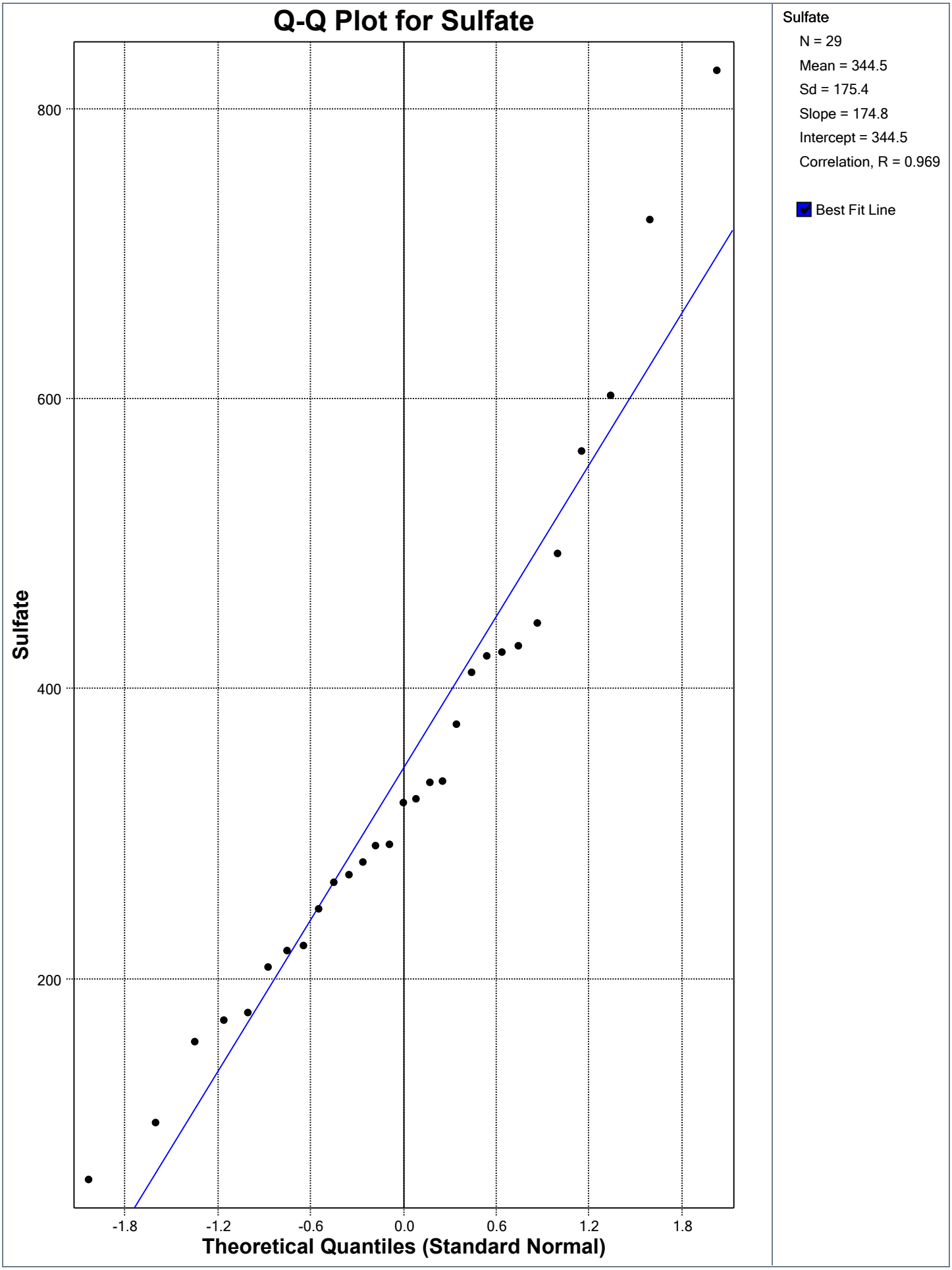
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.9-2=-7 °C Bottles Received: 48	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6-11-20 Time: 0900	Hold: Condition: NCF / OK

FEDEX

APPENDIX C – ProUCL STATISTICAL ANALYSIS OUTPUTS


Q-Q Plot for Chloride
Chloride
60
55
50
45
40
35
30
-1.8
-1.2
-0.6
0.0
0.6
1.2
1.8
Theoretical Quantiles (Standard Normal)
Chloride
N = 31
Mean = 39.5
Sd = 7.996
Slope = 7.917
Intercept = 39.5
Correlation, R = 0.964
Best Fit Line

1	Normal UCL Statistics for Uncensored Full Data Sets										
2											
3	User Selected Options										
4	Date/Time of Computation	ProUCL 5.17/24/2020 8:34:45 AM									
5	From File	WorkSheet.xls									
6	Full Precision	OFF									
7	Confidence Coefficient	95%									
8											
9											
10	C0										
11											
12	General Statistics										
13	Total Number of Observations	31				Number of Distinct Observations	29				
14						Number of Missing Observations	2				
15	Minimum	27.2				Mean	39.5				
16	Maximum	59.2				Median	38.3				
17	SD	7.996				SD of logged Data	0.194				
18	Coefficient of Variation	0.202				Skewness	0.906				
19											
20	Normal GOF Test										
21	Shapiro Wilk Test Statistic	0.924				Shapiro Wilk GOF Test					
22	5% Shapiro Wilk Critical Value	0.929				Data Not Normal at 5% Significance Level					
23	Lilliefors Test Statistic	0.137				Lilliefors GOF Test					
24	5% Lilliefors Critical Value	0.156				Data appear Normal at 5% Significance Level					
25	Data appear Approximate Normal at 5% Significance Level										
26											
27	Assuming Normal Distribution										
28	95% Normal UCL					95% UCLs (Adjusted for Skewness)					
29	95% Student's-t UCL	41.94				95% Adjusted-CLT UCL (Chen-1995)	42.11				
30						95% Modified-t UCL (Johnson-1978)	41.98				
31											
32	Suggested UCL to Use										
33	95% Student's-t UCL	41.94									
34											
35	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test										
36	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL										
37											
38	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.										
39	Recommendations are based upon data size, data distribution, and skewness.										
40	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).										
41	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.										
42											


Q-Q Plot for Sulfate
Sulfate
800
600
400
200
-1.8
-1.2
-0.6
0.0
0.6
1.2
1.8
Theoretical Quantiles (Standard Normal)
Sulfate
N = 29
Mean = 344.5
Sd = 175.4
Slope = 174.8
Intercept = 344.5
Correlation, R = 0.969
Best Fit Line

Normal UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.17/24/2020 8:40:21 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%

Sulfate

General Statistics

Total Number of Observations	29	Number of Distinct Observations	29
		Number of Missing Observations	2
Minimum	61	Mean	344.5
Maximum	826	Median	321
SD	175.4	SD of logged Data	0.56
Coefficient of Variation	0.509	Skewness	0.971

Normal GOF Test

Shapiro Wilk Test Statistic	0.941	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.926	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.14	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.161	Data appear Normal at 5% Significance Level	

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	399.9	95% Adjusted-CLT UCL (Chen-1995)	404.4
		95% Modified-t UCL (Johnson-1978)	400.9

Suggested UCL to Use

95% Student's-t UCL	399.9		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.