ANNUAL 2016 MONITORING REPORT

Groundwater and Air Quality Monitoring Program
Oil and Gas Well Sites
Longmont, Colorado

August 31, 2016
Terracon Project No. 25167304

Prepared for:
City of Longmont
Longmont, Colorado

Prepared by:
Terracon Consultants, Inc.
Wheat Ridge, Colorado

August 31, 2016

City of Longmont
7 South Sunset Street
Longmont, Colorado 80501

Attn: Mr. Dan Wolford
P: (303) 774-4691
Dan.Wolford@ci.longmont.co.us

Re: Annual 2016 Monitoring Report
Groundwater Quality Monitoring Program
Oil and Gas Well Sites
Longmont, Colorado
Terracon Project No. 25167304

Dear Mr. Wolford:

Terracon Consultants, Inc. (Terracon) is pleased to submit our report of the Annual 2016 Groundwater Quality Monitoring Program activities completed at 10 active oil and gas (O&G) well sites and 1 plugged and abandoned O&G well site located in the City of Longmont, Colorado between County Road 1 and County Road 7. The report presents data from recent field activities that included the collection of groundwater samples for laboratory analysis and methane air monitoring. The activities were completed to address the findings presented in Terracon's *2012 Annual Oil & Gas Wellhead Reconnaissance Report* dated August 21, 2012, the *First Quarter 2013 Monitoring Report* dated May 31, 2013, the *Third Quarter 2013 Monitoring Report* dated December 31, 2013, the *First Semi-Annual 2014 Monitoring Report*, dated October 16, 2014, and the *First Semi-Annual & Biennial 2015 Monitoring Report*, dated July 9, 2015. Terracon conducted the monitoring in general accordance with our proposals (P25167304-R1 and P25167373) dated May 24, 2016 and May 31, 2016 respectively, and the Sampling and Analysis Plan dated February 1, 2013.

Terracon appreciates this opportunity to provide environmental services to the City of Longmont. Should you have any questions or require additional information, please do not hesitate to contact Ms. Otterstetter at 303-575-6045.

Sincerely,
Terracon Consultants, Inc.

Heather Otterstetter, P.E.
Senior Environmental Engineer

Mark White, P.G.,
Senior Associate/Environmental Department Manager

Terracon

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1.0 SITE DESCRIPTION

This project consists of sampling monitoring wells associated with nine active oil and gas (O&G) well sites, one plugged and abandoned O&G well site, and five associated tank batteries located within the City of Longmont, Colorado (the City) between County Road 1 and County Road 7 (Exhibit 1). The 2016 monitoring event analyzed potential impacts to groundwater and air quality, in accordance with Terracon Proposal Number P25167304-R1 and P25167373, at the following sites:

- City of Longmont #1
- Domenico #1;
- Evans #6 Wellhead;
- Evans #6 Tank Battery;
- Longmont #8-10K;
- Powell #1;
- Serafini Gas Unit;
- Rider #1;
- Sherwood #1;
- Sherwood #2; and,
- Stamp 31-2C.

The 2016 monitoring event well site locations are shown on Exhibit 1.

2.0 SCOPE OF SERVICES

The annual 2016 groundwater quality monitoring services described below, and outlined in Terracon Proposal Number P25167304-R1, were completed 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: three monitoring wells to sample;
- Evans #6 Tank Battery: three monitoring wells to sample;

- Evans #6 Well Site: three monitoring wells to sample;
- Stamp 31-2C: six monitoring wells to sample;
- Rider #1 : six monitoring wells to sample;
- City of Longmont #1: three monitoring wells to sample;
- Longmont #8-10K: three monitoring wells to sample;
- Powell #1: three monitoring wells to sample;
- Serafini Gas Unit: three monitoring wells to sample;
- Sherwood #1: three monitoring wells to sample; and,
- Sherwood #2: three monitoring wells to sample.

Terracon attempted to sample a total of 39 groundwater monitoring wells for the analytical suite listed in the table below. Section 3.1 discusses monitoring wells that could not be sampled. A total of 32 groundwater monitoring wells were samples during this monitoring event.

Groundwater Sample Constituents

Parameters	Analytical Method
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	EPA Method 8260
Dissolved Gasses: Methane, Ethane and Ethylene	RSK 175
Major Cations – Dissolved (Calcium, Magnesium, Sodium, Iron, and Potassium)	EPA Method 6010B
Nitrate and Nitrite	EPA Method 300.0
Bromide	EPA Method 300.0
Chloride	EPA Method 300.0
Sulfate	EPA Method 300.0
Alkalinity	SM 2320B
Strontium	EPA Method 6020

Additionally, temperature, pH, specific conductivity, dissolved oxygen and oxygen reducing potential measurements were collected in the field during groundwater sampling.

At the direction of the City, the 10 O&G well sites and five associated tank batteries were also monitored for methane in the field using a hand-held 6-gas meter as outlined in Terracon Proposal Number P25167373.

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, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of

laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work (SOW) agreed with you, our client, as reflected in our proposal.

2.2 Additional Scope Limitations

Findings, conclusions, and recommendations resulting from the services provided are based upon information derived from the on-site activities and other services performed under this SOW; 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 sites contain no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during monitoring well construction and groundwater sampling. 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 this time and within the scope of the services provided.

2.3 Reliance

This report has been prepared for the exclusive use of the City, 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 and Terracon. Any unauthorized distribution or reuse is at the City's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, this report, and service agreement for the project.

3.0 PREVIOUS INVESTIGATIONS

3.1 Terracon Limited Site Investigation

Terracon conducted a Limited Site Investigation (LSI) for the City dated January 11, 2011. Thirteen soil borings were advanced throughout the project area to help assess and evaluate potential environmental soil and groundwater impact. Fine grain sand, silty sand, and sandy gravel over lying claystone and sandstone bedrock were observed in the soil borings during the LSI. The LSI borings were advanced at depths ranging from approximately 7.5 feet to 29 feet bgs. Gray staining and petroleum odors were observed in soil samples collected from borings B9, B10, B11, and B13. Indications of potential environmental impact (chemical odors, staining, or elevated photoionization detector [PID] measurements) were not observed in the remaining LSI borings. Depth to groundwater was measured in LSI borings ranging from approximately 4 feet bgs (boring B7) to approximately 23.25 feet bgs (boring B1). Thirteen soil samples and 10

groundwater samples were collected and submitted for laboratory analyses. The analytical results are summarized below:

- Total petroleum hydrocarbon (TPH) was reported in soil sample B9-6 (collected near the Serafini tank battery) and soil sample B13-8 (collected near the Stamp #2 well head) to be above the guidance value of 500 mg/kg established by Colorado Oil and Gas Conservation Commission (COGCC). TPH concentrations in remaining LSI soil sample were either below laboratory reporting limits or below guidance concentrations.
- PAHs in soil samples B9-6 (collected near the Serafini tank battery) and B13-8 (collected near the Stamp #2 well head) were reported as either below laboratory reporting limits or below their respective guidance concentrations.
- Benzene was reported in soil sample B9-6 (collected near the Serafini tank battery) above the guidance concentration. BTEX in remaining soil samples were either below laboratory reporting limits or below guidance concentrations Benzene was reported in groundwater sample B9 (collected near the Serafini tank battery) above regulatory guidance concentrations. BTEX in remaining groundwater samples were either below laboratory reporting limits or below regulatory concentrations.

Terracon recommended that the City should contact Top Operating to pursue remedial activities of the petroleum-impacted soil and groundwater above regulatory standards observed near the well heads of the two locations (Serafini and Stamp #2 wells).

3.2 Olsson Limited Site Investigation Stamp #2 Battery

Olsson conducted a LSI for Top Operating, which included the installation of six groundwater monitoring wells on May 8, 2012, to assess the nature and extent of soil and groundwater impacts. Groundwater samples were collected and analyzed for BTEX quarterly in May, August, and October 2012.

The analytical results for groundwater samples from monitoring wells MW-1, MW-3, MW-4, and MW-6 show that benzene, toluene, ethylbenzene, and total xylenes were not detected at or above the laboratory reporting limits.

Benzene was reported at 0.130 mg/L in the MW-5 groundwater sample during the May 2012 groundwater monitoring event but was not detected in subsequent sampling events. Benzene is the only compound of concern that was detected in the MW-2 groundwater sample above the COGCC Table 910-1 concentration level of 0.005 mg/L for benzene. Benzene was reported in the MW-2 groundwater sample at a concentration of 0.470 mg/L and in the MW-3 groundwater sample at a concentration of 0.013 mg/L during the August 2012 groundwater monitoring event. Groundwater analytical results for the sample collected from monitoring well MW-2 during the

October 30, 2012 monitoring event reported benzene at a concentration of 1.6 mg/L, which is above the COGCC concentration level of 0.005 mg/L. Monitoring well MW-2 is located down gradient of the tank berm, and up gradient of the former reserve pit and of the Stamp #2 wellhead. The benzene concentration observed in this groundwater sample may be the result of impacted soils within the former reserve pit that is believed to have been located to the north of the Stamp #2 wellhead. Monitoring well MW-3 is located in close proximity to the O&G wellhead and impacts in this monitoring well may have been attributed to releases from the wellhead. Monitoring well MW-5 is located downgradient of the O&G wellhead and impacts in this monitoring well may have been attributed to releases from the wellhead

Benzene was reported at 0.130 mg/L in the MW-5 groundwater sample during the May 2012 groundwater monitoring event, but was not detected in any of the other five monitoring well samples.

A comparison of groundwater level measurements in the monitoring wells across the site from August and October 2012 groundwater data show a decrease of two feet to three feet as compared to groundwater levels measured during the August 2012 monitoring event. Monitoring well MW-1 was an exception where groundwater levels only declined by 0.17 feet. The decrease in groundwater levels, due to drought conditions, may be the reason that benzene was not reported in the other monitoring wells onsite. The onsite groundwater represents a shallow perched groundwater table on top of shale and claystone bedrock. The drop in groundwater levels may have declined below this impacted interval within the former reserve pit and the hydrocarbon smear zone.

3.3 Olsson Limited Site Investigation and Remediation – Serafini Gas Unit Tank Battery

On July 6, 2012, Olsson performed a LSI of the Serafini Gas Unit Tank Battery to further assess the soil impacts identified by Terracon during a previous LSI. The Olsson report stated, “The Serafini Gas Unit 1-18 well was drilled and completed in 1982. There was an unlined earthen pit located at the site that was used for produced water storage that Top Operating Permitted with the COGCC in early 1990. The pit is identified in the COGCC records as facility number 103527. The pit is not shown to have been closed; however, the tank battery has two produced water sumps located on the west and southwest end of the tank berm. The pit was shown to be located to the southwest of the tank battery, and southeast of the separators. The former pit may be the source of the impacts.”

Using a John Deere Turbo 4x4 Powershift 310 SG backhoe, a total of five test pits were excavated to the north and east (downgradient) of the centralized tank battery. Black stained gravel and soils were encountered in test pit TP-1, located near Terracon soil boring B9, at five to six feet bgs and the soil had a PID reading of 1,101 ppm. No evidence of staining or odor was found in the other four test pits and the PID readings ranged from 3 to 5 ppm.

The laboratory analytical results showed that concentrations of benzene, toluene, ethylbenzene, and total xylenes, GRO, and DRO were not detected at or above the laboratory reporting limit in soil sample IDs TP-2 @ 5 feet, TP-3 @ 5 feet, TP-4 @ 5 feet, or TP-5 @ 5 feet. Analytical results for the soil sample collected from TP-1 include benzene at 0.020 mg/kg, ethylbenzene at 0.034 mg/kg, and total xylenes at 7.0 mg/kg, which are below the COGCC Table 910-1 cleanup levels. Toluene was not detected. The TPH-gasoline range organics (GRO) result was 780 mg/kg which is above the COGCC Table 910-1 cleanup level of 500 mg/kg. The TPH-diesel range organics (DRO) concentration was reported at 100 mg/kg, which is below the COGCC Table 910-1 cleanup level.

Top Operating and Olsson installed an infiltration gallery within test pit TP-1 consisting of a 4-inch diameter polyvinyl chloride (PVC) riser pipe, a 90° PVC elbow, and a length of 4-inch diameter 0.020 factory slotted pipe into test pit TP-1 approximately a foot from the base of the trench. The trench was filled with clean ¾ inch diameter gravel up to approximately one foot bgs, and the surface was completed with clean excavated overburden soils that had been segregated and set off to one side. The impacted soils were hauled offsite. The PVC riser pipe was completed at the surface with a PVC slip cap, and was covered with a 10-inch diameter flush mount well cover that was grouted in place within the center of the access driveway. The purpose of the infiltration gallery pipe was to pump out groundwater using a 1-inch diameter PVC stinger pipe and a vacuum truck to conduct soil washing and remove the petroleum hydrocarbons from the subsurface. This design allowed for remediation of the site without disrupting the production operations for the central tank battery. On August 8, 2012, grab groundwater samples were collected from the infiltration gallery and the laboratory analytical results did not detect concentrations of BTEX. Olsson recommended that a vacuum truck with a dedicated PVC stinger pipe be used to remove groundwater from the trench on a quarterly basis for up to one year.

4.0 FIELD INVESTIGATION

Terracon conducted the groundwater and air sampling activities under a site-specific Health and Safety Plan (HASP) developed for this project. Work was performed using Occupational Safety and Health Administration (OSHA) Level D work attire consisting of hard hats, safety glasses, protective gloves, and protective boots.

Terracon developed a site-specific SAP, which included the following:

- Location of proposed boreholes/monitoring wells at each well site as agreed to by the City's representative, (Mr. Dan Wolford [Natural Resources Division, Manager of Open Space]);
- Types of samples to be collected and collection methods;
- Sample tests/analyses and methods; and,

- Quality control and quality assurance measures.

This monitoring event was conducted in general accordance to the SAP with modifications (the removal of sampling well sites from the sampling event, as described above).

4.1 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 "Terracon Field Methods for Petroleum Storage Tank Assessment, Remediation and Emergency Response", November 2013. After groundwater parameters of pH, temperature, and specific conductivity had stabilized, a groundwater sample was collected from each of the monitoring wells. The groundwater samples were placed in a laboratory provided, pre-cleaned containers and stored in a cooler with ice at 4° (± 2°) Celsius during delivery to the laboratory. The samples were submitted under chain-of-custody protocol and analyzed for the parameters summarized in Section 2.0 in a standard turn-around time and according to the appropriate United States Environmental Protection Agency (USEPA) analytical method.

The groundwater sample naming convention used is as follows:

- [Site Abbreviation]-[Well Designation]-[6 Digit Date: YYMMDD].
- Example: SH2-MW01-160621 is the groundwater sample collected from Sherwood #2 well site, monitoring well MW01 on June 21, 2016.
- Note: In laboratory reports, monitoring wells are identified without the 6 digit date and Rider #1 well site samples are identified with the site abbreviation "R".

The groundwater samples were submitted to ESC Lab Sciences (ESC) in Mount Juliet, Tennessee. ESC 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.

4.2 Monitoring Wells Not Sampled

During Terracon's site visit on June 21, 2016, Terracon observed monitoring wells SH1-MW01 and SH1-MW03 at Sherwood #1 well site to be destroyed, and CL1-MW01 at City of Longmont #1 to be visibly damaged. The aluminum collar around the well casing was bent and the concrete surface completion was found separated but the PVC casing was not damaged and the well was sampled. The bentonite seal may be compromised; however, the analytical data does not indicate that the well is compromised.

On June 22, 2016, Terracon observed that monitoring well PL-1MW03 at the Powell #1 well site was destroyed and LG8-MW01 through LG8-MW03 at the Longmont #8-10K site to be dry. On June 23, 2016, monitoring well S31-MW02 at Stamp 31-2C well site was observed to be filled with sediment. The cause of the sediment in monitoring well S31-MW02 is unknown. Due to the observed conditions, Terracon was unable to collect a groundwater samples from seven the aforementioned monitoring wells.

4.3 Methane Air Monitoring

Terracon conducted ambient air monitoring on-site at each of the 10 O&G well heads and 5 associated tank batteries. A hand-held 6-gas monitor, which displays reading from 0-99% lower explosive limit (LEL) of methane, was used to scan around the well heads and tank batteries. No readings above 0% LEL for methane was detected at any of the sites included in the annual 2016 groundwater and air quality monitoring program.

5.0 RESULTS OF THE FIELD INVESTIGATION

5.1 Hydrogeology

Groundwater was encountered from 1.80 feet below top of casing (BTOC) as observed in monitoring well CL1-MW02 (City of Longmont #1) to 13.04 feet BTOC as observed in PL1-MW03 (Powell #1). Groundwater elevations were observed ranging from 4,846.22 feet above mean sea level (amsl) in monitoring well DM1-MW03 (Domenico #1) to 4,954.70 feet amsl in monitoring well S31-MW02 (Stamp 31-2C). Depth to groundwater and groundwater elevation data are summarized in Table 1.

Depth to groundwater and groundwater elevation data were used to generate potentiometric surface maps and estimated groundwater flow direction. Figures 2 and 3 illustrate potentiometric surfaces based on the groundwater elevations as measured in June (Note: Figure 2 includes all the well sites except Stamp 31-2C and Rider #1, which is on Figures 3 and 4, respectively). Monitoring well elevation data was not available for the Rider #1 Well site; therefore a potentiometric surface map was not generated for this site. However, a well location map was generated.

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: northeast towards the St. Vrain Creek;
- Evans #6: east-southeast towards the St. Vrain Creek;
- Evans #6 Tank Battery: east-southeast towards the St. Vrain and Boulder Creeks;
- Domenico #1: north-northwest towards the St. Vrain Creek; and,
- Stamp 31-2C: southeast towards Union Reservoir.

6.0 ANALYTICAL RESULTS

The laboratory analytical report and chain-of-custody record are included in Appendix B. The groundwater analytical results are summarized in Table 2. 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 30, 2011). The Colorado Department of Public Health and Environment's (CDPHE) Basic Standards for Groundwater (January 31, 2013) are included for reference only as the groundwater samples were not collected from a drinking water source. A summary of constituent concentrations exceeding these standards in the groundwater samples is included in Table 2.

Groundwater samples were collected from the following sites: Sherwood #1 Wellhead (1 monitoring well), Sherwood #2 Wellhead (3 monitoring wells), City of Longmont #1 Wellhead (3 monitoring wells), Serafini Gas Unit (3 monitoring wells), Powell #1 Wellhead (2 monitoring wells), Evans #6 Wellhead (3 monitoring wells), Evans #6 Tank Battery (3 monitoring wells), Domenico #1 Well site (3 monitoring wells), Stamp 31-2C Well site (5 monitoring wells), and Rider #1 Well site (6 monitoring wells); for a total of 32 samples. The groundwater analytical results for detected concentrations are discussed in the following sections. BTEX or methane constituents were not detected in groundwater samples above the method reporting limits at the remaining sites during this sampling event.

6.1 Organic Compounds

BTEX compounds and dissolved methane and ethane were detected above their respective laboratory reporting limits at the following sites. Dissolved ethene was not detected above the laboratory reporting limit in any of the samples collected.

6.1.1 Serafini Gas Unit

BTEX compounds were detected, for the first time, in one groundwater sample at concentrations above the laboratory reporting limits at the Serafini Gas Unit well site.

- Sample SGU-MW02 was reported with a benzene concentration of 0.0589 milligrams per liter (mg/L), above the COGCC and CDPHE standard of 0.005 mg/L.
- Methane was reported in sample SGU-MW02 at a concentration of 0.238 mg/L.
- Ethane was reported in sample SGU-MW02 at a concentration of 0.0159 mg/L.

6.1.2 Powell #1

- Methane was reported in sample PL-MW02 at a concentration of 0.012 mg/L.

6.1.3 Evans #6 Tank Battery

- Methane was reported in sample E6T-MW01 at a concentration of 0.0122 mg/L.

6.1.4 Domenico #1

- Methane was reported in sample DM1-MW02 at a concentration of 0.0433 mg/L.

6.1.5 Stamp 31-2C

BTEX compounds were detected in one groundwater sample at concentrations above the laboratory reporting limits at the Stamp 31-2C well site.

- Sample ST-MW03 was reported with a benzene concentration of 0.00115 mg/L, below the COGCC and CDPHE standard of 0.005 mg/L.

- Methane was reported in samples ST-MW01 and ST-MW03 at concentrations of 0.262 mg/L and 0.171 mg/L, respectively.

- Ethane was reported in samples ST-MW01 and ST-MW03 at concentrations of 0.0245 mg/L and 0.016 mg/L, respectively.

6.1.6 Rider #1

BTEX compounds were detected in two groundwater samples at concentrations above the laboratory reporting limits at the Rider #1 Well site.

- Samples R-MW3R and R-MW04 had a reported concentration of ethylbenzene at 0.0377 mg/L and 0.081 mg/L respectively, below the COGCC and CDPHE standard of 0.7 mg/L.

- Sample R-MW3R and R-MW04 had a reported concentration of total xylenes at 0.0182 mg/L and 1.12 mg/L, below the COGCC and CDPHE standard of 1.4 to 10 mg/L

- Methane was reported in samples R-MW02, R-MW3R, R-MW04, and R-MW05 at concentrations of 0.119 mg/L, 0.457 mg/L, 0.571 mg/L, and 1.12 mg/L, respectively.

Groundwater sample R-MW05 at Rider #1 was reported with a detection of methane of 1.12 mg/L exceeding 1.0 mg/L. 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).

6.2 Inorganics in Groundwater

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

The COGCC has defined the groundwater standard exceedance concentrations for chloride and sulfate to be a regional background concentration with a multiplier of 1.25. Terracon utilized current and historical data for chloride and sulfate from the Sherwood #1 Wellhead, Sherwood #2 Wellhead, City of Longmont #1 Wellhead, Evans #6 Wellhead, and Longmont 8-10K Wellhead sites (totaling 40 data points) to calculate respective regional background concentrations. Split sampling and re-sample data from 2013 were not used. October 2013 data after the flood was also not used because the data is not representative of normal conditions. Only monitoring wells with no detections of BTEX, methane, ethane and ethane were selected to calculate 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 (outlier test – Appendix C) and if the data set adhered to a normal distribution (normal Q-Q Plot – Appendix C). One sulfate analytical result was removed from the data set based on the results of the initial outlier test. Only the final outlier test showing no outliers is included in Appendix C. The outlier test does state that there is a potential outlier. However, based on a 1% and 5% significance level, there were no potential outliers; therefore no additional analytical results were removed from the data set. A normal Q-Q plot was then generated to evaluate if the data set for chloride and sulfate adhered to a normal distribution. The normal Q-Q plot, included in Appendix C, illustrates that both data sets are normal. The mean and standard deviation were also calculated using ProUCL.

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

Statistical Analysis	Chloride	Sulfate
Mean (from background well data)	41.06	745.94
COGCC cleanup goal (1.25 x background)	51.32	886.8
Standard Deviation	5.88	353.89
Sample Size	40	35

6.2.1 Serafini Gas Unit

The Serafini Gas Unit Well Site inorganic analyte concentrations increased at monitoring well MW02 during the 2016 sampling event. Exceedances are discussed below.

- The chloride concentration detected in monitoring well SGU-MW02 exceeded the COGCC statistical regional background concentration standard of 51.32 mg/L with a measured concentration of 119 mg/L.
- None of the remaining parameters were in exceedance of either the CDPHE or COGCC thresholds.

6.2.2 Powell #1

The Powell #1 Well Site inorganic analyte concentrations increased in monitoring well MW01 during the 2016 sampling event. Exceedances are discussed below.

- The chloride concentration detected in monitoring well PL1-MW01 exceeded the COGCC statistical regional background concentration standard of 51.32 mg/L with a measured concentration of 86.0 mg/L.
- The concentration of sulfate was detected at 1,270 mg/L, an exceedance of the COGCC statistical regional background standard and CDPHE groundwater standard of 886.8 mg/L and 250 mg/L, respectively.
- The increased chloride and sulfate concentrations correspond to an increase in measured specific conductance and slow recharge of the well which causes increases in turbidity (sediment in the groundwater from clay in the formation) and inorganic compounds.
- None of the remaining parameters were in exceedance of either the CDPHE or COGCC thresholds.

6.2.3 Evans #6 Tank Battery Inorganics in Groundwater

The Evans #6 Tank Battery inorganic analyte concentration trends appear to be inconsistent with what was observed at nearby sites; namely the Evans #6 Wellhead, due to low recharge capabilities of the wells. The inorganic analytes with reported increases in concentration during the October 2013 sampling event may be attributed to the historic flood event. During the 2016 sampling event, monitoring wells that exhibited increases in inorganic analyte concentrations generally returned to pre-October 2013 concentrations. The analytical results are summarized below.

Upgradient monitoring well, E6T-MW01:

- The groundwater sample from E6T-MW01 is consistent with results from the 2014 and 2015 sampling event. The measured concentrations of inorganic analytes in the upgradient well have returned to concentrations consistent with the pre-flood condition.

- The concentration of chloride was detected at 86.1 mg/L, an exceedance of the COGCC statistical regional background standard of 51.32 mg/L. Historic concentrations of chloride have fluctuated 30% relative to the current value, with a maximum concentration of 112 mg/L measured in March 2013. Concentrations of chloride have decreased since 2013.

- The concentration of sulfate was detected at 2,190 mg/L, an exceedance of the COGCC statistical regional background standard and CDPHE groundwater standard of 886.8 mg/L and 250 mg/L, respectively. Historic concentrations of sulfate have fluctuated 40% relative to the current value, with a maximum concentration of 3,190 mg/L measured in October 2013. Concentrations of sulfate have decreased since 2013.

- None of the remaining parameters were in exceedance of either the CDPHE or COGCC thresholds.

Cross-gradient monitoring well, E6T-MW03:

- Groundwater sample from E6T-MW03, was reported with a decrease in inorganic compound concentrations from 2015 and have returned to the pre-flood condition.

- The chloride concentration of 88.1 mg/L is in exceedance of the COGCC statistical regional background concentration standard of 51.32 mg/L.

- The sulfate concentration of 2,930 mg/L is in exceedance of the COGCC statistical regional background standard and the CDPHE domestic supply drinking water standard of 886.8 mg/L and 250 mg/L, respectively.

- None of the remaining parameters were in exceedance of either the CDPHE or COGCC thresholds.

Downgradient monitoring well, E6T-MW02:

- Groundwater sample from E6T-MW02, was reported with a general increase of inorganic parameters with the exception of dissolved potassium and alkalinity. This increase in concentrations corresponds to an increase in measured specific conductance and slow recharge of the well which causes increases in turbidity (sediment in the groundwater) and inorganic compounds.

- The largest observed relative increases in concentration since the July 2014 sampling event were dissolved sodium, dissolved magnesium, and strontium; respectively.

- The chloride concentration of 218 mg/L is in exceedance of the COGCC statistical regional background concentration standard of 51.32 mg/L.

- The sulfate concentration of 7,560 mg/L is in exceedance of the COGCC statistical regional background standard and the CDPHE domestic supply drinking water standard of 886.80 mg/L and 250 mg/L, respectively.

- None of the remaining parameters were in exceedance of either the CDPHE or COGCC thresholds.

6.2.4 Domenico #1 Well Site Inorganics in Groundwater

The Domenico #1 Well Site inorganic analyte concentrations generally stabilized during the 2016 sampling event. However, monitoring well specific exceedances are discussed below.

Cross-gradient monitoring well, DM1-MW02:

- The chloride concentration of 61.1 mg/L is in exceedance of the COGCC statistical regional background concentration standard of 51.32 mg/L.

- None of the remaining parameters were in exceedance of either the CDPHE or COGCC thresholds.

Downgradient monitoring well, DM1-MW03:

- The chloride concentration of 110 mg/L is in exceedance of the COGCC statistical regional background concentration standard of 51.32 mg/L.
- The sulfate concentration of 604 mg/L is in exceedance of the CDPHE domestic supply drinking water standard of 250 mg/L.
- None of the remaining parameters were in exceedance of either the CDPHE or COGCC thresholds.

6.2.5 Stamp 31-2C Well Site Inorganics in Groundwater

The Stamp 31-2C Well site is not located within the Saint Vrain or Boulder Creek floodplains and did not experience the same flooding issues in 2013 as other monitoring wells in the project area. The analytical results for the Stamp 31-2C Well site are summarized below.

- The chloride concentrations detected in monitoring wells S31-MW03 through S31-MW06 exceeded the COGCC statistical regional background concentration standard of 51.32 mg/L with measured concentrations between 106 mg/L and 147 mg/L. The chloride concentration detected in MW01 exceeded both the COGCC statistical regional background concentration standard and the CDPHE domestic drinking water supply standard of 51.32 mg/L and 250 mg/L, respectively, with a measured concentration of 699 mg/L.
- The sulfate concentration in all the sampled wells exceeded the COGCC statistical region background standard and the CDPHE domestic drinking water supply standard of 886.8 mg/L and 250 mg/L, respectively, with measured concentrations between 6,870 mg/L and 11,200 mg/L.
- The increases in chloride and sulfate concentrations correspond to an increase in measured specific conductance and slow recharge of the well which causes increases in turbidity (sediment in the groundwater from clay in the formation) and inorganic compounds.
- None of the remaining parameters were in exceedance of either the CDPHE or COGCC thresholds.

6.3 General Groundwater Parameters

Specific conductance was reported in the groundwater samples ranging from 801 to 15,456 micro Siemens per centimeter (µmhos/cm). Relatively higher concentrations of specific conductance were reported in groundwater samples with higher concentrations of alkalinity, bromide, chloride, nitrate, nitrite, sulfate and sulfide. Higher concentrations of specific conductance general corresponds to more turbid samples which have more sediment and subsequently more inorganics from the sediment. This occurs when monitoring wells do not recharge well during purging and the formation contains clays.

Groundwater samples were reported to have a neutral pH (i.e. near 7.0); pH values measured during purging were reported in a range from 6.98 to 7.60, which is within the range of CDPHE's drinking water standard for pH of 6.5 to 8.5.

7.0 CONCLUSIONS

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

- Benzene was detected (0.0589 mg/L) for the first time at the Serafini Gas Unit SGU-MW02 monitoring well. The concentration exceeds the CDPHE and COGCC cleanup standard of 0.005 mg/L. Methane concentrations (0.238 mg/L) in this well have also increased but are below 1 mg/L. In addition, ethane was detected (0.0159) in groundwater for this first time. Based on the Terracon and Olsson LSIs, BTEX compounds were detected above soil cleanup levels in soil boring B9 and test pit 1 which was located near SGU-MW02. Increased concentrations of methane and ethane may result from natural biodegradation occurring on site. Chloride and sodium concentrations have also increased an order of magnitude in this well. The impacts to groundwater may be the result of former or existing leaks from separator lines, the former produced water pit, and loading and unloading activities.

- Monitoring well PL1-MW02 at the Powell #1 site and monitoring well E6T-MW01 at the Evans #6 Tank Battery had methane detections (0.012 mg/L and 0.0122 mg/L, respectively) for the first time; however the concentrations are below 1 mg/L.

- At the Stamp 31-2C Well site, benzene was only detected in monitoring well S31-MW03; the concentration is below the COGCC standard but has increased compared to previous analytical results. No other BTEX compounds were detected in 2016. Dissolved methane and ethane were detected in S31-MW01

and S31-MW03 but the concentrations remain stable compared to previous analytical results.

- At the Rider #1 Well site, BTEX compounds were not detected at concentrations above the COGCC standards, however, ethylbenzene and total xylenes were measured above the laboratory detection limit in monitoring well RD1-MW03R and RD1-MW04. Additionally, dissolved methane was detected above the laboratory detection limit in monitoring wells RD1-MW02, RD1-MW03R, RD1-MW04, and RD1-MW05. Methane was detected above 1 mg/L at RD1-MW05 (1.12 mg/L) for the first time.

- 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. Inorganics attach to sediment (e.g. clays).

8.0 RECOMMENDATIONS

Terracon recommends the continued monitoring of the Evans #6 Wellhead, Evans #6 Tank Battery, Stamp 31-2C Wellhead, Rider #1 Wellhead, Sherwood #1 Wellhead, Sherwood #2 Wellhead, City of Longmont #1 Wellhead, Serafini Gas Unit, Powell #1 Wellhead, and the City of Longmont #8-10K Wellhead 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 continuously assess the extent groundwater impacts present, track trends in the groundwater quality, and/or if sites shall be added or removed from the annual sampling list.

The Domenico #1 Wellhead was plugged and abandoned by Noble Energy, Inc. on September 30, 2013. All equipment has been removed. Terracon recommends discontinuing groundwater sampling at this site. Analytical results do not indicate and environmental impacts from BTEX compounds to groundwater at this site. Although there are concentrations of chloride and sulfate in DM1-MW02 and DM1-MW03, respectively, above the COGCC standards, chloride concentrations are lower than historical concentrations and the increase in sulfate concentrations corresponds to increases in specific conductance and low recharge capability of DM1-MW03.

Terracon recommends that the groundwater at monitoring well RD1-MW-05 for the Rider #1 wellhead be sampled and analyzed for gas compositional and stable isotope analysis in 2017 if methane continues to be detected at concentrations greater than 1 mg/kg. This is a specialized laboratory analysis and can be conducted by the Dolan Integration Group (DIG) located in Westminster, Colorado.

Terracon recommends that the City of Longmont contact Top Operating to conduct additional site investigation at the Serafini Gas Unit including the south of the tank battery and between the separators and the tank battery, if possible due to the presence of high pressure underground pipe lines, to assess the source of petroleum hydrocarbon subsurface impacts.

Terracon does not recommend re-installing the destroyed monitoring wells (SH1-MW01 and SH1-MW03) for the Sherwood #1 site because there has been no impacts to the groundwater at this site to date. If impacts to groundwater are observed in the remaining monitoring well (SH1-M02), which is located downgradient from the Sherwood #1 O&G wellhead, then the monitoring wells should be installed. Bollards should be placed around the wells to prevent them from being destroyed by farming equipment and the weeds should be regularly mowed to ensure that the wells are visible.

Terracon does not recommend re-installing the destroyed monitoring well for the Powell # 1 (PL1-MW03) because there has been no impacts to the groundwater at this site to date. If BTEX impacts to groundwater are observed in the remaining monitoring wells (PL1-MW01 and PL1-MW02), then the monitoring wells should be installed.

Terracon does not recommend repairing of the City of Longmont #1 CL-MW01 monitoring well unless analytical results indicate that the bentonite seal is compromised. Terracon also does not recommend reinstalling monitoring well S31-MW02 at the Stamp 31-2C Wellsite because four downgradient wells (S31-MW03 through S31-MW06) remain and are sufficient to monitor the site.

Terracon recommends surveying the monitoring wells at the Rider #1 tank battery. This would allow Terracon to evaluate the groundwater flow direction at the site and create a potentiometric map for the site.

9.0 REFERENCES

American Water Works Association 2014. The Potential Regulatory Implications of Strontium, March 2014.

Terracon 2012. 2012 Annual Oil & Gas Wellhead Reconnaissance Report, City of Longmont, Parks and Forestry Division, Longmont, Colorado, Terracon Project Number 25127040, August 21, 2012.

Terracon 2013a. Sampling and Analysis Plan, Groundwater Quality Monitoring Program, City of Longmont, Terracon Project Number 25127127, February 1, 2013.

Terracon 2013b. First Quarter 2013 Monitoring Report, Groundwater Quality Monitoring Program, Active Oil and Gas Well Sites, City of Longmont, Terracon Project Number 25127127, May 31, 2013.

Terracon 2013c. Third Quarter 2013 Monitoring Report, Groundwater Quality Monitoring Program, Active Oil and Gas Well Sites, City of Longmont, Terracon Project Number 25127127, December 31, 2013.

Terracon 2014. First Semi-Annual 2014 Monitoring Report, Groundwater Quality Monitoring Program, Active Oil and Gas Well Sites, City of Longmont, Terracon Project Number 25147063, October 16, 2014.

Terracon 2015. First Semi-Annual & Biennial 2015 Monitoring Report, Groundwater Quality Monitoring Program, Active Oil and Gas Well Sites, City of Longmont, Terracon Project Number 25147063, July 9, 2015.

APPENDIX A
TABLES AND FIGURES

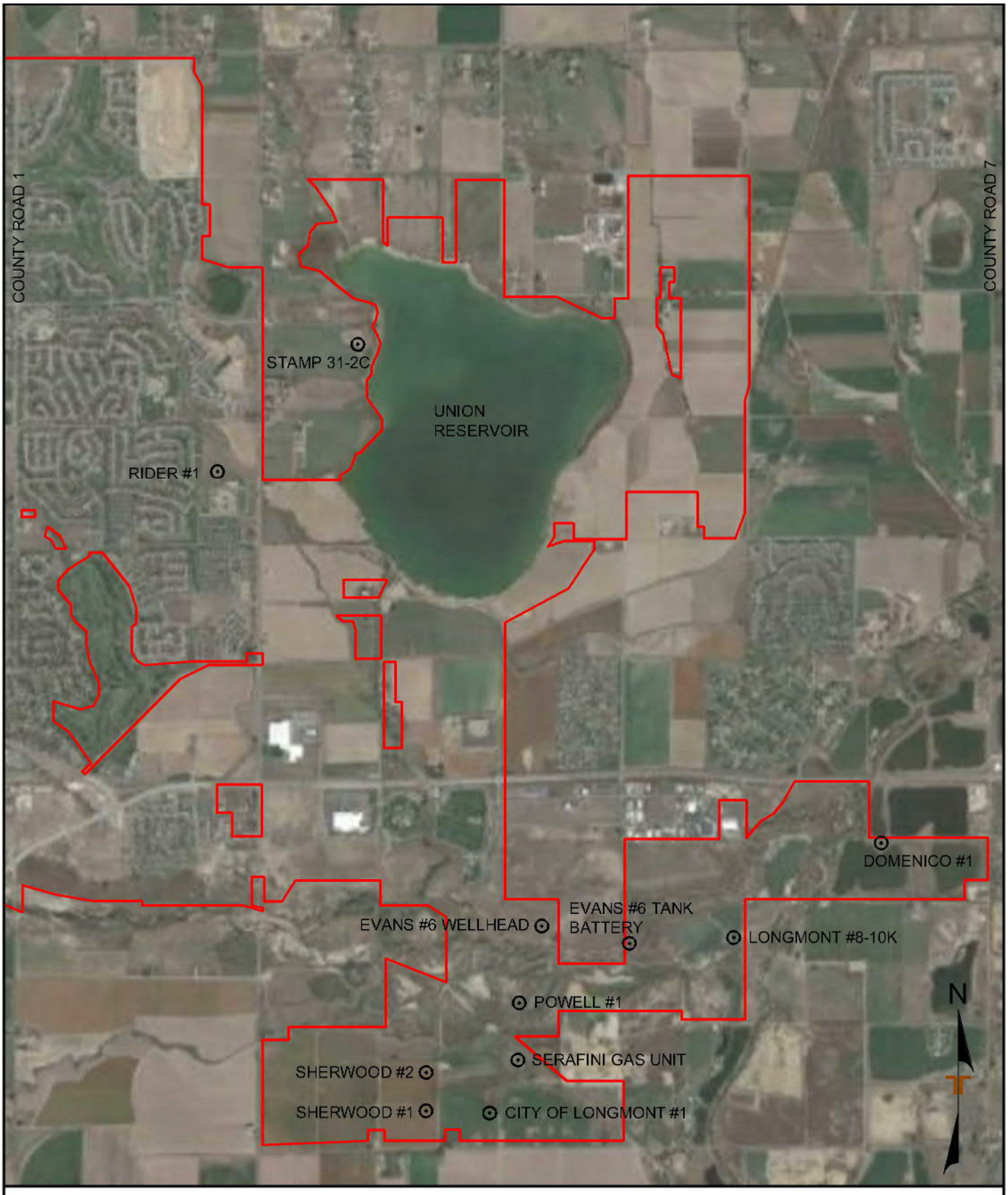


DIAGRAM IS INTENDED FOR GENERAL USE ONLY, AND IS NOT FOR CONSTRUCTION PURPOSES. LOCATIONS ARE APPROXIMATE.

0 1750' 3500' 7000'

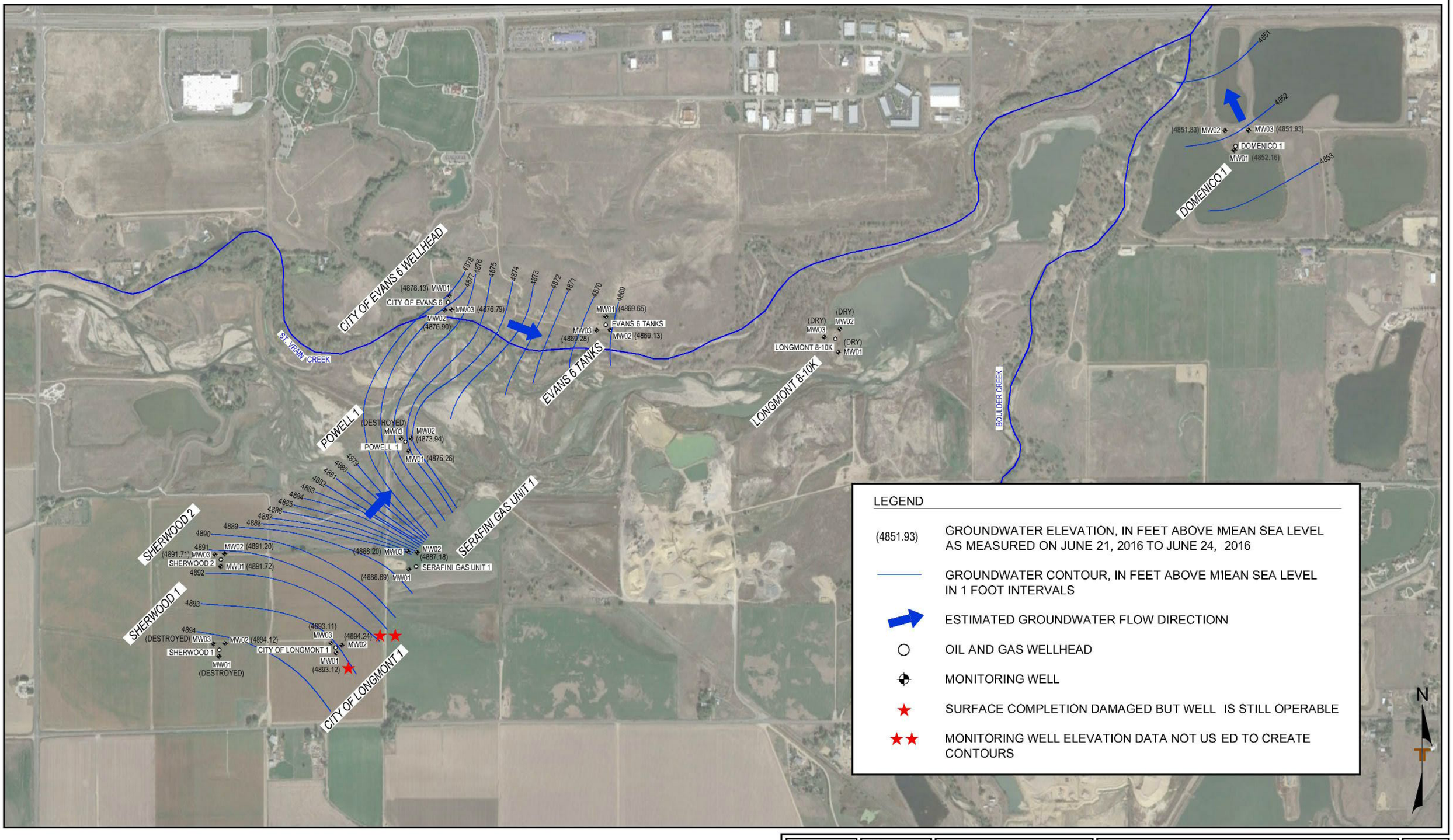
Project Mngr:	HNO
Drawn By:	CPD
Checked By:	HNO
Approved By:	MEW
Project No.	25167304
Scale:	AS-SHOWN
File No:	25167304.DWG
Date:	08.30.2016

Terracon
Consulting Engineers and Scientists
10625 W I-70 FRONTAGE RD N., SUITE 3 WHEAT RIDGE, CO 80033
PH. (303) 423-3300 FAX. (303) 423-3353

WELL SITE LOCATIONS MAP

GROUNDWATER QUALITY MONITORING
CITY OF LONGMONT
LONGMONT, COLORADO

EXHIBIT No. 1



LEGEND

(4851.93)	GROUNDWATER ELEVATION, IN FEET ABOVE MEAN SEA LEVEL AS MEASURED ON JUNE 21, 2016 TO JUNE 24, 2016
	GROUNDWATER CONTOUR, IN FEET ABOVE MIEAN SEA LEVEL IN 1 FOOT INTERVALS
	ESTIMATED GROUNDWATER FLOW DIRECTIONN
○	OIL AND GAS WELLHEAD
⊕	MONITORING WELL
★	SURFACE COMPLETION DAMAGED BUT WELL IS STILL OPERABLE
★★	MONITORING WELL ELEVATION DATA NOT US ED TO CREATE CONTOURS

N

0 500' 1000' 2000'

DIAGRAM IS INTENDED FOR GENERAL USE ONLY, AND IS NOT FOR CONSTRUCTION PURPOSES. LOCATIONS ARE APPROXIMATE.

Project Mngr:	HNO
Drawn By:	CPD
Checked By:	HNO
Approved By:	MEW
Project No.	25167304
Scale:	AS-SHOWN
File No.	25167304.DWG
Date:	08.30.2016

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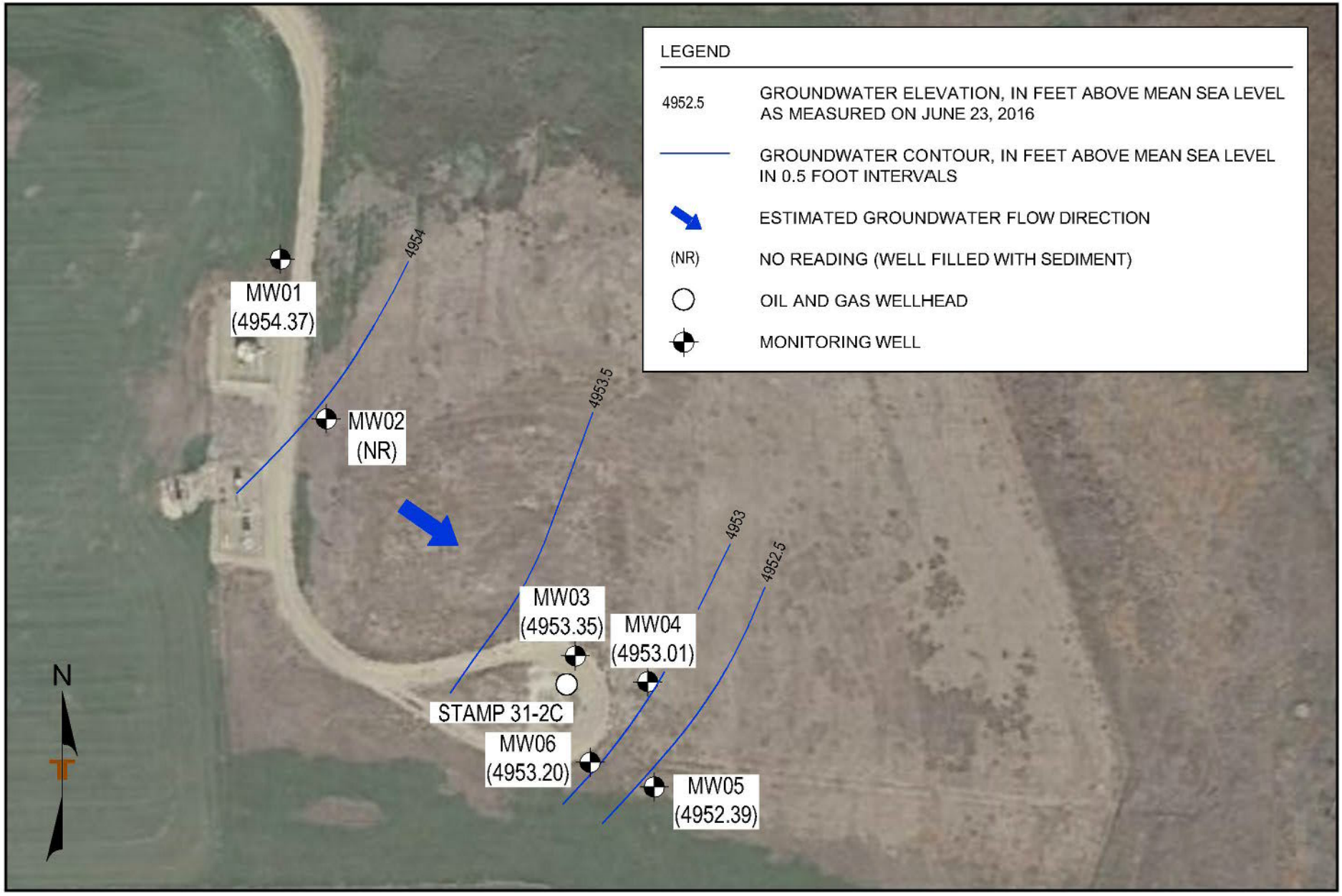
POTENTIOMETRIC SURFACE MAP - VARIOUS WELL SITES

GROUNDWATER QUALITY MONITORING
CITY OF LONGMONT
LONGMONT, COLORADO

EXHIBIT No. 2



0 40' 80' 160'

DIAGRAM IS INTENDED FOR GENERAL USE ONLY, AND IS NOT FOR CONSTRUCTION PURPOSES. LOCATIONS ARE APPROXIMATE.

Project Mngr: HNO	Project No. 25167304
Drawn By: CPD	Scale: AS-SHOWN
Checked By: HNO	File No. 25167304.DWG
Approved By: MEW	Date: 08.30.2016

Terracon
Consulting Engineers and Scientists
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POTENTIOMETRIC SURFACE MAP - STAMP 31-2C

GROUNDWATER QUALITY MONITORING
CITY OF LONGMONT
LONGMONT, COLORADO

EXHIBIT No. 3

LEGEND:

R1-MW01 — APPROXIMATE LOCATION OF MONITORING WELL. WELLS HAVE NOT BEEN SURVEYED. A HAND-HELD GPS WAS USED TO PROVIDE LOCATIONS FOR THIS FIGURE.

0 30' 60' 120'

DIAGRAM IS INTENDED FOR GENERAL USE ONLY, AND IS NOT FOR CONSTRUCTION PURPOSES. LOCATIONS ARE APPROXIMATE.

Project Mngr: HNO	Project No. 25167304
Drawn By: CPD	Scale: AS-SHOWN
Checked By: HNO	File No. 25167304.DWG
Approved By: MEW	Date: 08.03.2016

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Consulting Engineers and Scientists
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RIDER #1 WELL LOCATIONS MAP

GROUNDWATER QUALITY MONITORING
CITY OF LONGMONT
LONGMONT, COLORADO

EXHIBIT No. 4

Table 1 - Groundwater Elevation Data
City of Longmont - Groundwater Quality Monitoring
Project Number 25127127

Well ID	Top of Casing Elevation[1]	Date Measured	Total Depth[2]	Depth to Groundwater[2]	Groundwater Elevation[3]
Sherwood #1 Wellhead					
SH1-MW01[4]	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		Well Destroyed	
SH1-MW02	4900.99	3/18/2013	13.89	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
SH1-MW03[4]	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		Well Destroyed	
Sherwood #2 Wellhead					
SH2-MW01	4896.76	3/18/2013	10.61	5.20	4891.56
		7/28/2014		NR	
		3/30/2015		4.59	4892.17
		6/21/2016		5.04	4891.72
SH2-MW02	4896.15	3/18/2013	9.71	5.71	4890.44
		7/28/2014		NR	
		3/30/2015		4.96	4891.19
		6/21/2016		4.95	4891.20
SH2-MW03	4896.32	3/18/2013	12.37	5.11	4891.21
		7/28/2014		NR	
		3/30/2015		4.59	4891.73
		6/21/2016		4.61	4891.71
City of Longmont #1 Wellhead					
CL1-MW01[5]	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
CL1-MW02	4896.04	3/20/2013	13.26	5.75	4890.29
		7/28/2014		NR	
		3/30/2015		5.79	4890.25
		6/22/2016		1.80	4894.24
CL1-MW03	4896.33	3/20/2013	13.22	5.86	4890.47
		7/28/2014		NR	
		3/30/2015		5.86	4890.47
		6/21/2016		3.22	4893.11
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
SGU-MW02	4891.42	3/21/2013	11.64	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
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

Table 1 - Groundwater Elevation Data
City of Longmont - Groundwater Quality Monitoring
Project Number 25127127

Well ID	Top of Casing Elevation[1]	Date Measured	Total Depth[2]	Depth to Groundwater[2]	Groundwater Elevation[3]
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
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
PL1-MW03[4]	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	
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
E6W-MW02	4882.45	3/22/2013	11.62	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
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
Evans #6 Tank Battery					
E6T-MW01	4879.08	3/22/2013	19.64	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
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
E6T-MW03	4878.03	3/22/2013	12.71	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

Table 1 - Groundwater Elevation Data
City of Longmont - Groundwater Quality Monitoring
Project Number 25127127

Well ID	Top of Casing Elevation[1]	Date Measured	Total Depth[2]	Depth to Groundwater[2]	Groundwater Elevation[3]
Longmont #8-10K Wellhead					
LG8-MW01	4868.80	3/22/2013	9.39	3.64	4865.16
		7/28/2014		NR	
		3/31/2015		Dry	
		6/22/2016		Dry	
LG8-MW02	4869.03	3/22/2013	9.74	4.32	4864.71
		7/28/2014		NR	
		3/31/2015		Dry	
		6/22/2016		Dry	
LG8-MW03	4869.11	3/22/2013	9.42	3.21	4865.90
		7/28/2014		NR	
		3/31/2015		Dry	
		6/22/2016		Dry	
Domenico #1 Wellsite					
DM1-MW01	4857.64	3/19/2013	13.40	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
DM1-MW02	4854.17	3/19/2013	12.95	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
DM1-MW03	4855.27	3/19/2013	13.05	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
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
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			
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
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
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
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

Table 1 - Groundwater Elevation Data
City of Longmont - Groundwater Quality Monitoring
Project Number 25127127

Well ID	Top of Casing Elevation[1]	Date Measured	Total Depth[2]	Depth to Groundwater[2]	Groundwater Elevation[3]
Rider #1 Wellsite					
RD1-MW01	No Survey Information Available	7/30/2014	12.59	7.62	No Survey Information Available
		4/1/2015		8.52	
		6/23/2016		7.89	
RD1-MW02		7/30/2014	12.73	7.72	
		4/1/2015		8.61	
		6/23/2016		8.05	
RD1-MW03R		7/30/2014	14.38	7.22	
		4/1/2015		8.18	
		6/23/2016		7.65	
RD1-MW04		7/30/2014	14.52	7.70	
		4/1/2015		8.58	
		6/23/2016		7.99	
RD1-MW05		7/30/2014	14.65	7.95	
		4/1/2015		8.71	
		6/23/2016		8.12	
RD1-MW06		7/30/2014	14.34	4.75	
		4/1/2015		5.91	
		6/23/2016		5.35	

[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] Wells were observed to be destroyed. Unable to measure depths to water.
[5] The aluminum collar around the well casing was bent and the concrete surface completion was found separated but the PVC casing was not damaged and the well was sampled.
[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 25147063

CAS #	Parameter	COGCC Table 910-1	CDPHE Basic Standards for Groundwater	Wellsite	Sherwood #1 Wellhead										Sherwood #2 Wellhead		
				Sample ID	SH1-MW01[1]			SH1-MW02				SH1-MW03[1]			SH2-MW01		
				Date	3/18/2013	10/23/2013	3/30/2015	3/18/2013	10/23/2013	3/30/2015	6/21/2016	3/18/2013	10/23/2013	3/30/2015	3/18/2013	3/30/2015	6/21/2016
Volatile Organic Compounds																	
71-43-2	Benzene	0.005	0.005	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
108-88-3	Toluene	0.56 to 1	0.56 to 1[M]	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)
100-41-4	Ethylbenzene	0.7	0.7	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
1330-20-7	Xylenes (Total)	1.4 to 10	1.4 to 10[M]	mg/L	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Other Organic Compounds																	
74-82-8	Methane	---	---	mg/L	ND (0.0066)	ND (0.0066)	ND (0.0066)	**0.0091**	ND (0.0066)	ND (0.0066)	ND (0.010)	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.010)
74-84-0	Ethane	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)
74-85-1	Ethene	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)
Inorganic Parameters																	
7440-70-2	Calcium, Dissolved	---	---	mg/L	**92.1**	**82.8**	**98.4**	**101**	**91.1**	**92.5**	**125**	**92.8**	**84.2**	**91.6**	**189**	**169**	**186**
7439-89-6	Iron, Dissolved	---	0.3 to 5[M]	mg/L	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.010)
7439-95-4	Magnesium, Dissolved	---	---	mg/L	**110**	**107**	**137**	**99.7**	**96.4**	**122**	**126**	**107**	**106**	**126**	**121**	**107**	**107**
7440-09-7	Potassium, Dissolved	---	---	mg/L	**2.57**	**1.63**	**1.43**	**3.06**	**1.85**	**1.37**	**2.16**	**2.26**	**1.68**	**1.42**	**3.86**	**1.21**	**1.91**
7440-23-5	Sodium, Dissolved	---	---	mg/L	**118**	**110**	**152**	**117**	**111**	**139**	**143**	**115**	**107**	**136**	**102**	**108**	**108**
7440-24-6	Strontium	---	---	mg/L	**5.91**	**4.56**	**2.92**	**3.47**	**2.74**	**2.38**	**3.43**	**2.83**	**2.51**	**2.54**	**3.44**	**3.72**	**3.26**
	Alkalinity, Carbonate (CaCO3)	---	---	mg/L	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)
	Alkalinity, Bicarbonate (CaCO3)	---	---	mg/L	**345**	**388**	**422**	**365**	**388**	**393**	**401**	**349**	**370**	**376**	**345**	**386**	**371**
	Alkalinity, Total as CaCO3	---	---	mg/L	**345**	**388**	**422**	**365**	**388**	**393**	**401**	**349**	**370**	**376**	**345**	**386**	**371**
24959-67-9	Bromide	---	---	mg/L	ND (1.0)	**1.20**	**1.80**	ND (1.0)	**1.20**	**1.50**	ND (1.0)	ND (1.0)	**1.10**	**1.40**	ND (1.0)	ND (1.0)	ND (1.0)
16887-00-6	Chloride	51.32[3]	250	mg/L	**37.5**	**35.7**	**50.6**	**37.5**	**45.2**	**44.4**	**55.3**	**36.6**	**35.8**	**43.9**	**40.2**	**33.6**	**41.5**
	Nitrogen as Nitrate	---	10	mg/L	**8.30**	**8.60**	**11.2**	**7.90**	**10.6**	**10.5**	**9.76**	**5.70**	**7.80**	**9.80**	**11.4**	**11.0**	**16.3**
	Nitrogen as Nitrite	---	1	mg/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (1.0)	ND (0.50)	ND (0.10)	ND (0.50)	ND (0.50)	ND (0.50)	**0.63**	ND (0.50)	ND (0.10)
	Nitrogen as Nitrate and Nitrite	---	10	mg/L	**8.40**	**8.60**	**11.2**	**8.00**	**10.6**	**10.5**	**9.76**	**5.80**	**7.80**	**9.80**	**12.0**	**11.0**	**16.3**
14808-79-8	Sulfate	886.8[3]	250	mg/L	**486**	**415**	**621**	**431**	**428**	**545**	**592**	**452**	**425**	**568**	**799**	**712**	**613**
18496-25-8	Sulfide, Total	---	---	mg/L	ND (0.050)	ND (0.050)	NS	ND (0.050)	ND (0.050)	NS	NS	ND (0.050)	ND (0.050)	NS	NS	NS	NS
General Parameters																	
	Specific Conductance	---	---	umhos/cm	**1,590**	**1450**	**1,923**	**1,570**	**1500**	**1,730**	**1,878**	**1,600**	**1440**	**1,788**	**1,940**	**1,935**	**1,853**
	pH	---	6.5 - 8.5	Std. Units	**7.6**	**7.0**	**7.52**	**7.5**	**7.0**	**7.58**	**7.3**	**7.6**	**7.0**	**7.56**	**7.5**	**7.47**	**7.3**

[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 but the PVC casing was not damaged and the well was 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.
[5] Samples 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
Gray shading indicates constituents detected above their respective standards
Green shading indicates the most recent analytical results.
umhos/cm - microsiemens per centimeter
M - Drinking water maximum contaminant level
NS - Not Sampled
Bkg - Background
--- indicates no regulatory standard

Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 25147063

CAS #	Parameter	COGCC Table 910-1	CDPHE Basic Standards for Groundwater	Wellsite	Sherwood #2 Wellhead						City of Longmont #1 Wellhead					
				Sample ID	SH2-MW02			SH2-MW03			CL1-MW01[2]			CL1-MW02		
				Date	3/18/2013	3/30/2015	6/21/2016	3/18/2013	3/30/2015	6/21/2016	3/20/2013	3/30/2015	6/21/2016	3/20/2013	3/30/2015	6/22/2016
Volatile Organic Compounds																
71-43-2	Benzene	0.005	0.005	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
108-88-3	Toluene	0.56 to 1	0.56 to 1[M]	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0050)
100-41-4	Ethylbenzene	0.7	0.7	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
1330-20-7	Xylenes (Total)	1.4 to 10	1.4 to 10[M]	mg/L	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Other Organic Compounds																
74-82-8	Methane	---	---	mg/L	ND (0.0066)	ND (0.0066)	ND (0.010)	ND (0.0066)	ND (0.0066)	ND (0.010)	ND (0.0066)	ND (0.0066)	ND (0.010)	ND (0.0066)	ND (0.0066)	ND (0.010)
74-84-0	Ethane	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.013)
74-85-1	Ethene	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.013)
Inorganic Parameters																
7440-70-2	Calcium, Dissolved	---	---	mg/L	**225**	**183**	**208**	**220**	**192**	**212**	**81.3**	**92.2**	**104**	**77**	**77**	**102**
7439-89-6	Iron, Dissolved	---	0.3 to 5[M]	mg/L	ND (0.050)	ND (0.050)	ND (0.010)	ND (0.050)	ND (0.050)	ND (0.010)	ND (0.050)	ND (0.050)	ND (0.010)	ND (0.050)	ND (0.050)	ND (0.010)
7439-95-4	Magnesium, Dissolved	---	---	mg/L	**121**	**105**	**108**	**115**	**93.9**	**97.2**	**72.2**	**85.5**	**83**	**67.4**	**67.4**	**85.5**
7440-09-7	Potassium, Dissolved	---	---	mg/L	**5.72**	**3.61**	**4.36**	**4.69**	**5.74**	**7.09**	**2.83**	**1.45**	**1.94**	**2.1**	**2.1**	**1.98**
7440-23-5	Sodium, Dissolved	---	---	mg/L	**111**	**110**	**107**	**104**	**109**	**105**	**61.7**	**91.8**	**91**	**60.4**	**60.4**	**93.3**
7440-24-6	Strontium	---	---	mg/L	**3.87**	**4.18**	**3.71**	**4.52**	**4.46**	**3.85**	**2.38**	**2.53**	**2.77**	**4.26**	**4.26**	**3.22**
	Alkalinity, Carbonate (CaCO3)	---	---	mg/L	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)
	Alkalinity, Bicarbonate (CaCO3)	---	---	mg/L	**315**	**367**	**377**	**324**	**367**	**371**	**377**	**427**	**393**	**354**	**354**	**372**
	Alkalinity, Total as CaCO3	---	---	mg/L	**315**	**367**	**377**	**324**	**367**	**371**	**377**	**427**	**393**	**354**	**354**	**372**
24959-67-9	Bromide	---	---	mg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	1.4	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
16887-00-6	Chloride	51.32[3]	250	mg/L	**43.8**	**37.8**	**41.8**	**44.8**	**37.6**	**41.5**	**34.1**	**43.5**	**42.7**	**32.7**	**32.7**	**46.7**
	Nitrogen as Nitrate	---	10	mg/L	**13.6**	**11.8**	**15.5**	**13**	**11.4**	**16.9**	**13.9**	**16.7**	**12.2**	**2.6**	**2.6**	**13**
	Nitrogen as Nitrite	---	1	mg/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.50)	ND (1.0)	ND (0.10)	ND (0.20)	ND (0.20)	ND (0.10)
	Nitrogen as Nitrate and Nitrite	---	10	mg/L	**13.8**	**11.8**	**15.5**	**13.1**	**11.4**	**16.9**	**13.9**	**16.7**	**12.2**	**2.6**	**2.6**	**13**
14808-79-8	Sulfate	886.8[3]	250	mg/L	**824**	**749**	**654**	**847**	**802**	**624**	**182**	**254**	**247**	**171**	**171**	**246**
18496-25-8	Sulfide, Total	---	---	mg/L	ND (0.050)	NS	NS	ND (0.050)	NS	NS	ND (0.050)	NS	NS	ND (0.050)	ND (0.050)	NS
General Parameters																
	Specific Conductance	---	---	umhos/cm	**2,060**	**2,029**	**1,918**	**2,080**	**2,007**	**1,905**	**1,160**	**1,390**	**1,410**	**1,090**	**1,090**	**1,402**
	pH	---	6.5 - 8.5	Std. Units	**7.4**	**7.43**	**7.4**	**7.4**	**7.36**	**7.3**	**7.9**	**7.51**	**7.6**	**7.9**	**7.9**	**7.3**

[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 fo
The bentonite seal may be compromised; however, the analytical data does not indicate that the w
[3] The COGCC cleanup standard for chloride and sulfate is 1.25 x background. Background concent
[4] Filled with sediment. No water present.
[5] Samples had to be recollected for nitrite and nitrate analysis due to a shipping delay resulting in th
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
Gray shading indicates constituents detected above their respective standards
Green shading indicates the most recent analytical results.
umhos/cm - microsiemens per centimeter
M - Drinking water maximum contaminant level
NS - Not Sampled
Bkg - Background
--- indicates no regulatory standard

Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 25147063

CAS #	Parameter	COGCC Table 910-1	CDPHE Basic Standards for Groundwater	Wellsite	City of Longmont #1 Wellhead			Serafini Gas Unit							
				Sample ID	CL1-MW03			SGU-MW01				SGU-MW02			
				Date	3/21/2013	3/30/2015	6/21/2016	3/20/2013	10/22/2013	3/30/2015	6/21/2016	3/21/2013	10/22/2013	03/30/2015	6/21/2016
Volatile Organic Compounds															
71-43-2	Benzene	0.005	0.005	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0589**
108-88-3	Toluene	0.56 to 1	0.56 to 1[M]	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)
100-41-4	Ethylbenzene	0.7	0.7	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
1330-20-7	Xylenes (Total)	1.4 to 10	1.4 to 10[M]	mg/L	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Other Organic Compounds															
74-82-8	Methane	---	---	mg/L	ND (0.0066)	ND (0.0066)	ND (0.010)	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.010)	**0.0087**	ND (0.0066)	ND (0.0066)	**0.238**
74-84-0	Ethane	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	**0.0159**
74-85-1	Ethene	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)
Inorganic Parameters															
7440-70-2	Calcium, Dissolved	---	---	mg/L	**85.5**	**85.5**	**105**	**81.4**	**77.2**	**97.7**	**109**	**92.6**	**88.5**	**98.0**	**110**
7439-89-6	Iron, Dissolved	---	0.3 to 5[M]	mg/L	ND (0.050)	ND (0.050)	ND (0.010)	ND (0.050)	**0.208**	ND (0.050)	ND (0.010)	ND (0.050)	**0.381**	ND (0.050)	ND (0.010)
7439-95-4	Magnesium, Dissolved	---	---	mg/L	**75.1**	**75.1**	**82.9**	**53.7**	**54.7**	**63.8**	**61.9**	**57.8**	**54.5**	**63.7**	**63.5**
7440-09-7	Potassium, Dissolved	---	---	mg/L	**2.83**	**2.83**	**1.91**	**3.59**	**2.88**	**2.46**	**2.67**	**3.39**	**2.63**	**2.23**	**2.98**
7440-23-5	Sodium, Dissolved	---	---	mg/L	**63.6**	**63.6**	**94.7**	**67.2**	**62.5**	**76.8**	**69.9**	**78.6**	**53.3**	**59.3**	**158**
7440-24-6	Strontium	---	---	mg/L	**3.45**	**3.45**	**2.41**	**2.96**	**2.32**	**2.77**	**2.02**	**1.72**	**3.12**	**2.31**	**2.82**
	Alkalinity, Carbonate (CaCO3)	---	---	mg/L	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)
	Alkalinity, Bicarbonate (CaCO3)	---	---	mg/L	**389**	**389**	**380**	**328**	**345**	**392**	**364**	**359**	**364**	**420**	**401**
	Alkalinity, Total as CaCO3	---	---	mg/L	**389**	**389**	**380**	**328**	**345**	**392**	**364**	**359**	**364**	**420**	**401**
24959-67-9	Bromide	---	---	mg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
16887-00-6	Chloride	51.32[3]	250	mg/L	**35.3**	**35.3**	**45.7**	**29.8**	**30.3**	**32.8**	**37.8**	**34.2**	**33.2**	**31.9**	**119**
	Nitrogen as Nitrate	---	10	mg/L	**14.8**	**14.8**	**13.3**	**5.9**	**7.4**	**8.4**	**7.37**	**7.2**	**8.4**	**8.0**	**6.42**
	Nitrogen as Nitrite	---	1	mg/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.20)	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.20)	ND (0.50)	ND (0.50)	ND (0.10)
	Nitrogen as Nitrate and Nitrite	---	10	mg/L	**14.9**	**14.9**	**13.3**	**5.9**	**7.4**	**8.4**	**7.37**	**7.3**	**8.4**	**8.0**	**6.42**
14808-79-8	Sulfate	886.8[3]	250	mg/L	**189**	**189**	**254**	**191**	**292**	**263**	**205**	**228**	**243**	**258**	**201**
18496-25-8	Sulfide, Total	---	---	mg/L	ND (0.050)	ND (0.050)	NS	ND (0.050)	ND (0.050)	NS	NS	ND (0.050)	ND (0.050)	NS	NS
General Parameters															
	Specific Conductance	---	---	umhos/cm	**1,130**	**1,130**	**1,394**	**1,060**	**1190**	**1,322**	**1,170**	**1,100**	**1150**	**1,135**	**1,654**
	pH	---	6.5 - 8.5	Std. Units	**7.7**	**7.7**	**7.4**	**7.8**	**7.3**	**7.51**	**7.5**	**7.9**	**7.3**	**7.59**	**7.3**

[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 fo
The bentonite seal may be compromised; however, the analytical data does not indicate that the w
[3] The COGCC cleanup standard for chloride and sulfate is 1.25 x background. Background concent
[4] Filled with sediment. No water present.
[5] Samples had to be recollected for nitrite and nitrate analysis due to a shipping delay resulting in th
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
Gray shading indicates constituents detected above their respective standards
Green shading indicates the most recent analytical results.
umhos/cm - microsiemens per centimeter
M - Drinking water maximum contaminant level
NS - Not Sampled
Bkg - Background
--- indicates no regulatory standard

Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 25147063

CAS #	Parameter	COGCC Table 910-1	CDPHE Basic Standards for Groundwater	Wellsite	Serafini Gas Unit				Powell #1 Wellhead						
				Sample ID	SGU-MW03				PL1-MW01			PL1-MW02			PL1-MW03[1]
				Date	3/21/2013	10/22/2013	3/30/2015	6/21/2016	3/20/2013	03/31/2015	6/22/2016	3/19/2013	03/31/2015	6/22/2016	3/19/2013
Volatile Organic Compounds															
71-43-2	Benzene	0.005	0.005	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
108-88-3	Toluene	0.56 to 1	0.56 to 1[M]	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)
100-41-4	Ethylbenzene	0.7	0.7	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
1330-20-7	Xylenes (Total)	1.4 to 10	1.4 to 10[M]	mg/L	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Other Organic Compounds															
74-82-8	Methane	---	---	mg/L	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.010)	ND (0.0066)	ND (0.0066)	ND (0.010)	ND (0.0066)	ND (0.0066)	**0.012**	ND (0.0066)
74-84-0	Ethane	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)
74-85-1	Ethene	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)
Inorganic Parameters															
7440-70-2	Calcium, Dissolved	---	---	mg/L	**88.2**	**96.1**	**112**	**142**	**95.3**	**92.1**	**284**	**106**	**129**	**131**	**86**
7439-89-6	Iron, Dissolved	---	0.3 to 5[M]	mg/L	ND (0.050)	**0.076**	ND (0.050)	ND (0.010)	ND (0.050)	ND (0.050)	ND (0.010)	ND (0.050)	**0.393**	ND (0.010)	ND (0.050)
7439-95-4	Magnesium, Dissolved	---	---	mg/L	**49**	**50.5**	**59.1**	**67.4**	**73.2**	**71.8**	**195**	**75.9**	**95.9**	**91.1**	**63**
7440-09-7	Potassium, Dissolved	---	---	mg/L	**3.94**	**1.91**	**1.74**	**2.22**	**2.28**	**1.25**	**2.25**	**2.33**	**2.25**	**2.53**	**3.02**
7440-23-5	Sodium, Dissolved	---	---	mg/L	**47.7**	**50.3**	**64**	**69.2**	**65.3**	**63.5**	**114**	**115**	**119**	**134**	**58.6**
7440-24-6	Strontium	---	---	mg/L	**4.07**	**2.47**	**2.83**	**2.33**	**1.82**	**1.78**	**4.88**	**1.83**	**2.12**	**2.12**	**1.9**
	Alkalinity, Carbonate (CaCO3)	---	---	mg/L	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)
	Alkalinity, Bicarbonate (CaCO3)	---	---	mg/L	**632**	**365**	**416**	**375**	**295**	**259**	**198**	**311**	**318**	**304**	**296**
	Alkalinity, Total as CaCO3	---	---	mg/L	**632**	**365**	**416**	**375**	**295**	**259**	**198**	**311**	**318**	**304**	**296**
24959-67-9	Bromide	---	---	mg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	**1.1**	ND (1.0)	ND (1.0)
16887-00-6	Chloride	51.32[3]	250	mg/L	**28.3**	**34.5**	**33.9**	**43.7**	**31.8**	**38.9**	**86.0**	**32.8**	**39.6**	**36.7**	**32.3**
	Nitrogen as Nitrate	---	10	mg/L	**4.4**	**10.1**	**8.6**	**9.91**	**5.9**	**10.0**	**11.2**	ND (0.10)	ND (0.10)	ND (0.10)	**0.58**
	Nitrogen as Nitrite	---	1	mg/L	ND (0.10)	ND (1.0)	ND (1.0)	ND (0.10)	ND (0.20)	ND (1.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
	Nitrogen as Nitrate and Nitrite	---	10	mg/L	**4.4**	**10.1**	**8.6**	**9.91**	**5.9**	**10.0**	**11.2**	ND (0.10)	ND (0.10)	ND (0.10)	**0.57**
14808-79-8	Sulfate	886.8[3]	250	mg/L	**152**	**252**	**259**	**261**	**369**	**427**	**1,270**	**484**	**633**	**616**	**265**
18496-25-8	Sulfide, Total	---	---	mg/L	ND (0.050)	ND (0.050)	ND (0.050)	NS	ND (0.050)	**NS**	NS	ND (0.050)	NS	NS	ND (0.050)
General Parameters															
	Specific Conductance	---	---	umhos/cm	**917**	**1160**	**1,139**	**1,346**	**1,280**	**1,315**	**2,583**	**1,480**	**1,707**	**1,638**	**1,090**
	pH	---	6.5 - 8.5	Std. Units	**7.6**	**7.3**	**7.57**	**7.4**	**7.9**	**7.1**	**6.98**	**7.4**	**7.19**	**7.2**	**7.4**

[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 fo
The bentonite seal may be compromised; however, the analytical data does not indicate that the w
[3] The COGCC cleanup standard for chloride and sulfate is 1.25 x background. Background concent
[4] Filled with sediment. No water present.
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Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 25147063

CAS #	Parameter	COGCC Table 910-1	CDPHE Basic Standards for Groundwater	Wellsite	Evans #6 Wellhead									
				Sample ID	E6W-MW01					E6W-MW02				
				Date	3/22/2013	10/23/2013	07/28/2014	03/31/2015	6/22/2016	3/22/2013	10/23/2013	7/28/2014	03/31/2015	6/22/2016
Volatile Organic Compounds														
71-43-2	Benzene	0.005	0.005	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
108-88-3	Toluene	0.56 to 1	0.56 to 1[M]	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)
100-41-4	Ethylbenzene	0.7	0.7	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
1330-20-7	Xylenes (Total)	1.4 to 10	1.4 to 10[M]	mg/L	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Other Organic Compounds														
74-82-8	Methane	---	---	mg/L	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.010)	**0.0278**	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.010)
74-84-0	Ethane	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)
74-85-1	Ethene	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)
Inorganic Parameters														
7440-70-2	Calcium, Dissolved	---	---	mg/L	**183**	**281**	**206**	**207**	**187**	**207**	**329**	**187**	**181**	**226**
7439-89-6	Iron, Dissolved	---	0.3 to 5[M]	mg/L	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.010)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.010)
7439-95-4	Magnesium, Dissolved	---	---	mg/L	**126**	**182**	**133**	**136**	**115**	**175**	**279**	**139**	**150**	**182**
7440-09-7	Potassium, Dissolved	---	---	mg/L	**6.52**	**7.58**	**6.41**	**4.36**	**4.59**	**10.6**	**42.4**	**22.7**	**15.3**	**19.8**
7440-23-5	Sodium, Dissolved	---	---	mg/L	**157**	**236**	**181**	**172**	**164**	**212**	**419**	**189**	**188**	**235**
7440-24-6	Strontium	---	---	mg/L	**4.04**	**5.52**	**4.19**	**4.29**	**4.06**	**5.94**	**7.28**	**4.48**	**4.02**	**7.6**
	Alkalinity, Carbonate (CaCO3)	---	---	mg/L	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)
	Alkalinity, Bicarbonate (CaCO3)	---	---	mg/L	**307**	**381**	**326**	**351**	**268**	**312**	**426**	**309**	**307**	**304**
	Alkalinity, Total as CaCO3	---	---	mg/L	**307**	**381**	**326**	**351**	**268**	**321**	**426**	**309**	**307**	**304**
24959-67-9	Bromide	---	---	mg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	**1.5**	**1**	ND (1.0)	ND (1.0)	ND (1.0)
16887-00-6	Chloride	51.32[3]	250	mg/L	**32.7**	**72.2**	**50.0**	**42.9**	**42.6**	**34.4**	**110**	**38.4**	**35.4**	**50.3**
	Nitrogen as Nitrate	---	10	mg/L	**0.44**	**5.0**	**0.84**	**0.83**	**0.351**	ND (0.10)	**14.5**	**2.6**	**0.58**	**2.94**
	Nitrogen as Nitrite	---	1	mg/L	ND (0.10)	ND (0.20)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1.0)	ND (0.10)	ND (0.10)	ND (0.10)
	Nitrogen as Nitrate and Nitrite	---	10	mg/L	**0.44**	**5.0**	**0.84**	**0.83**	**0.351**	ND (0.10)	**14.5**	**2.6**	**0.58**	**2.94**
14808-79-8	Sulfate	886.8[3]	250	mg/L	**987**	**1,710**	**1,130**	**1,090**	**915**	**1,380**	**2,630**	**1,350**	**1,160**	**1,430**
18496-25-8	Sulfide, Total	---	---	mg/L	ND (0.050)	ND (0.050)	NS	NS	NS	ND (0.050)	ND (0.050)	NS	NS	NS
General Parameters														
	Specific Conductance	---	---	umhos/cm	**2,070**	**4960**	**2,074**	**2,397**	**2,090**	**2,200**	**7000**	**2,358**	**2,472**	**2,821**
	pH	---	6.5 - 8.5	Std. Units	**7.6**	**6.0**	**7.2**	**7.27**	**7.2**	**7.8**	**6.0**	**7.27**	**7.47**	**7.3**

[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 fo
The bentonite seal may be compromised; however, the analytical data does not indicate that the w
[3] The COGCC cleanup standard for chloride and sulfate is 1.25 x background. Background concent
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mg/L - milligrams per liter
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Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 25147063

CAS #	Parameter	COGCC Table 910-1	CDPHE Basic Standards for Groundwater	Wellsite	Evans #6 Wellhead					Evans #6 Tank Battery				
				Sample ID	E6W-MW03					E6T-MW01				
				Date	3/22/2013	10/23/2013	07/28/2014	03/31/2015	6/22/2016	3/22/2013	10/23/2013	07/28/2014	03/31/2015	6/22/2016
Volatile Organic Compounds														
71-43-2	Benzene	0.005	0.005	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
108-88-3	Toluene	0.56 to 1	0.56 to 1[M]	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)
100-41-4	Ethylbenzene	0.7	0.7	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
1330-20-7	Xylenes (Total)	1.4 to 10	1.4 to 10[M]	mg/L	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Other Organic Compounds														
74-82-8	Methane	---	---	mg/L	**0.0141**	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.010)	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.0066)	**0.0122**
74-84-0	Ethane	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)
74-85-1	Ethene	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)
Inorganic Parameters														
7440-70-2	Calcium, Dissolved	---	---	mg/L	**192**	**363**	**264**	**200**	**262**	**326**	**306**	**280**	**258**	**251**
7439-89-6	Iron, Dissolved	---	0.3 to 5[M]	mg/L	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.010)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.010)
7439-95-4	Magnesium, Dissolved	---	---	mg/L	**150**	**255**	**167**	**133**	**156**	**285**	**256**	**215**	**205**	**168**
7440-09-7	Potassium, Dissolved	---	---	mg/L	**9.22**	**31.1**	**13.1**	**8.49**	**9.13**	**12.1**	**6.61**	**5.8**	**4.81**	**5.15**
7440-23-5	Sodium, Dissolved	---	---	mg/L	**184**	**333**	**217**	**178**	**196**	**593**	**666**	**446**	**608**	**587**
7440-24-6	Strontium	---	---	mg/L	**5.73**	**7.09**	**5.34**	**4.02**	**6.61**	**6.14**	**4.03**	**4.54**	**4.05**	**4.85**
	Alkalinity, Carbonate (CaCO3)	---	---	mg/L	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)
	Alkalinity, Bicarbonate (CaCO3)	---	---	mg/L	**312**	**367**	**315**	**327**	**325**	**334**	**401**	**340**	**324**	**291**
	Alkalinity, Total as CaCO3	---	---	mg/L	**312**	**367**	**315**	**327**	**325**	**334**	**401**	**340**	**324**	**291**
24959-67-9	Bromide	---	---	mg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	**1.2**	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
16887-00-6	Chloride	51.32[3]	250	mg/L	**31.1**	**96.2**	**52.4**	**40.8**	**49.0**	**112**	**111**	**104**	**96.5**	**86.1**
	Nitrogen as Nitrate	---	10	mg/L	**0.11**	**6.2**	**1.9**	**1.4**	**3.38**	**0.93**	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
	Nitrogen as Nitrite	---	1	mg/L	ND (0.10)	ND (0.20)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
	Nitrogen as Nitrate and Nitrite	---	10	mg/L	**0.12**	**6.2**	**1.9**	**1.4**	**3.38**	**0.93**	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
14808-79-8	Sulfate	886.8[3]	250	mg/L	**1,130**	**2,420**	**1,550**	**1,180**	**1,280**	**3,060**	**3,190**	**2,840**	**2,590**	**2,190**
18496-25-8	Sulfide, Total	---	---	mg/L	ND (0.050)	ND (0.050)	NS	NS	NS	ND (0.050)	ND (0.050)	NS	NS	NS
General Parameters														
	Specific Conductance	---	---	umhos/cm	**2,280**	**6320**	**2,635**	**2,481**	**2,678**	**5,030**	**8280**	**4,100**	**4,706**	**4,225**
	pH	---	6.5 - 8.5	Std. Units	**7.6**	**6.0**	**7.15**	**7.34**	**7.2**	**7.8**	**7.0**	**7.47**	**7.42**	**7.46**

[1] Wells were observed to be destroyed. Unable to measure depths to water.
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The bentonite seal may be compromised; however, the analytical data does not indicate that the w
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[4] Filled with sediment. No water present.
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Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 25147063

CAS #	Parameter	COGCC Table 910-1	CDPHE Basic Standards for Groundwater	Wellsite	Evans #6 Tank Battery										Longmont 8-10K Wellhead		
				Sample ID	E6T-MW02					E6T-MW03					LG8-MW01	LG8-MW02	LG8-MW03
				Date	3/22/2013	10/23/2013	07/28/2014	03/31/2015	6/22/2016	3/22/2013	10/23/2013	07/28/2014	03/31/2015	6/22/2016	3/22/2013	3/22/2013	3/22/2013
Volatile Organic Compounds																	
71-43-2	Benzene	0.005	0.005	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
108-88-3	Toluene	0.56 to 1	0.56 to 1[M]	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0010)
100-41-4	Ethylbenzene	0.7	0.7	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
1330-20-7	Xylenes (Total)	1.4 to 10	1.4 to 10[M]	mg/L	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Other Organic Compounds																	
74-82-8	Methane	---	---	mg/L	**0.0076**	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.010)	**0.0068**	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.010)	ND (0.0066)	ND (0.0066)	ND (0.0066)
74-84-0	Ethane	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)
74-85-1	Ethene	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)
Inorganic Parameters																	
7440-70-2	Calcium, Dissolved	---	---	mg/L	**238**	**271**	**393**	**430**	**551**	**354**	**516**	**530**	**432**	**392**	**74.5**	**85.1**	**87**
7439-89-6	Iron, Dissolved	---	0.3 to 5[M]	mg/L	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.010)	ND (0.050)	**0.212**	ND (0.050)	**9.73**	ND (0.010)	ND (0.050)	ND (0.050)	ND (0.050)
7439-95-4	Magnesium, Dissolved	---	---	mg/L	**181**	**210**	**297**	**392**	**810**	**350**	**644**	**680**	**543**	**295**	**79.1**	**88.6**	**94.1**
7440-09-7	Potassium, Dissolved	---	---	mg/L	**7.41**	**6.58**	**7.56**	**7.24**	**8.74**	**11**	**8.43**	**7.48**	**6.25**	**6.65**	**5.87**	**5.39**	**5.65**
7440-23-5	Sodium, Dissolved	---	---	mg/L	**247**	**334**	**356**	**563**	**1,060**	**500**	**992**	**1,010**	**840**	**490**	**106**	**131**	**122**
7440-24-6	Strontium	---	---	mg/L	**4.52**	**4.45**	**7.04**	**8.27**	**29.3**	**7.86**	**10.1**	**2.51**	**9.29**	**7.44**	**3.03**	**1.97**	**2.87**
	Alkalinity, Carbonate (CaCO3)	---	---	mg/L	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)
	Alkalinity, Bicarbonate (CaCO3)	---	---	mg/L	**346**	**391**	**346**	**277**	**141**	**524**	**732**	**468**	**301**	**245**	**204**	**234**	**244**
	Alkalinity, Total as CaCO3	---	---	mg/L	**346**	**391**	**346**	**277**	**141**	**524**	**732**	**468**	**301**	**245**	**204**	**234**	**244**
24959-67-9	Bromide	---	---	mg/L	**1.2**	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	**1.3**	**1.2**	**1.1**	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
16887-00-6	Chloride	51.32[3]	250	mg/L	**63.9**	**68.6**	**113**	**129**	**218**	**103**	**249**	**254**	**165**	**88.1**	**40.1**	**42.9**	**42.1**
	Nitrogen as Nitrate	---	10	mg/L	ND (0.10)	**16.6**	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	**4.41**	**0.23**	**0.28**	ND (0.10)
	Nitrogen as Nitrite	---	1	mg/L	ND (0.10)	ND (1.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
	Nitrogen as Nitrate and Nitrite	---	10	mg/L	ND (0.10)	**17**	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	**4.41**	**0.24**	**0.29**	ND (0.10)
14808-79-8	Sulfate	886.8[3]	250	mg/L	**1,560**	**1,770**	**3,080**	**3,610**	**7,560**	**2,650**	**5,200**	**6,240**	**4,970**	**2,930**	**496**	**548**	**530**
18496-25-8	Sulfide, Total	---	---	mg/L	ND (0.050)	ND (0.050)	NS	NS	NS	ND (0.050)	ND (0.050)	NS	NS	NS	ND (0.050)	ND (0.050)	ND (0.050)
General Parameters																	
	Specific Conductance	---	---	umhos/cm	**2,960**	**5,640**	**3,968**	**5,745**	**9,390**	**4,830**	**13200**	**7,162**	**7,557**	**4,748**	**1,350**	**1,540**	**1,530**
	pH	---	6.5 - 8.5	Std. Units	**7.6**	**6.0**	**7.44**	**7.28**	**7.04**	**7.4**	**6**	**7.35**	**7.16**	**7.38**	**7.5**	**7.6**	**7.4**

[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 fo
The bentonite seal may be compromised; however, the analytical data does not indicate that the w
[3] The COGCC cleanup standard for chloride and sulfate is 1.25 x background. Background concent
[4] Filled with sediment. No water present.
[5] Samples had to be recollected for nitrite and nitrate analysis due to a shipping delay resulting in th
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
Gray shading indicates constituents detected above their respective standards
Green shading indicates the most recent analytical results.
umhos/cm - microsiemens per centimeter
M - Drinking water maximum contaminant level
NS - Not Sampled
Bkg - Background
--- indicates no regulatory standard

Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 25147063

CAS #	Parameter	COGCC Table 910-1	CDPHE Basic Standards for Groundwater	Wellsite	Domenico #1 Wellsite												
				Sample ID	DM1-MW01					DM1-MW02				DM1-MW03			
				Date	3/19/2013	3/19/2013	07/29/2014	03/31/2015	6/24/2016	3/19/2013	07/29/2014	04/01/2015	6/24/2016	3/19/2013	07/29/2014	04/01/2015	6/24/2016
Volatile Organic Compounds																	
71-43-2	Benzene	0.005	0.005	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
108-88-3	Toluene	0.56 to 1	0.56 to 1[M]	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)
100-41-4	Ethylbenzene	0.7	0.7	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
1330-20-7	Xylenes (Total)	1.4 to 10	1.4 to 10[M]	mg/L	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Other Organic Compounds																	
74-82-8	Methane	---	---	mg/L	**0.0253**	**0.051**	ND (0.0066)	**0.0625**	ND (0.010)	**0.0071**	**0.0291**	ND (0.0066)	**0.0433**	ND (0.0066)	**0.0119**	ND (0.0066)	ND (0.010)
74-84-0	Ethane	---	---	mg/L	ND (0.0062)	ND (0.0217)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)
74-85-1	Ethene	---	---	mg/L	ND (0.0062)	ND (0.0287)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)
Inorganic Parameters																	
7440-70-2	Calcium, Dissolved	---	---	mg/L	**86**	**87**	**52.7**	**33.8**	**33.1**	**57.7**	**114**	**82.9**	**68**	**99.2**	**88.7**	**116**	**160**
7439-89-6	Iron, Dissolved	---	0.3 to 5[M]	mg/L	ND (0.050)	ND (0.2)	ND (0.050)	ND (0.050)	ND (0.010)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.010)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.010)
7439-95-4	Magnesium, Dissolved	---	---	mg/L	**93.1**	**94.8**	**56.9**	**53.0**	**41.1**	**84.8**	**93.2**	**68.6**	**58**	**55.1**	**51.5**	**70.3**	**86**
7440-09-7	Potassium, Dissolved	---	---	mg/L	**3.4**	**3.23**	**1.64**	**1.72**	**1.9**	**6.21**	**6.46**	**4.67**	**5.67**	**3.18**	**1.76**	**1.96**	**2.4**
7440-23-5	Sodium, Dissolved	---	---	mg/L	**254**	**250**	**175**	**145**	**78.7**	**214**	**276**	**215**	**119**	**161**	**145**	**167**	**203**
7440-24-6	Strontium	---	---	mg/L	**1.83**	**1.02**	**0.853**	**0.710**	**0.713**	**0.965**	**1.59**	**0.986**	**1.12**	**2.14**	**1.11**	**1.12**	**1.8**
	Alkalinity, Carbonate (CaCO3)	---	---	mg/L	ND (20.0)	NS	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)
	Alkalinity, Bicarbonate (CaCO3)	---	---	mg/L	**484**	NS	**305**	**351**	**209**	**307**	**525**	**529**	**330**	**284**	**275**	**287**	**288**
	Alkalinity, Total as CaCO3	---	---	mg/L	**484**	**516**	**305**	**351**	**209**	**307**	**525**	**529**	**330**	**284**	**275**	**287**	**288**
24959-67-9	Bromide	---	---	mg/L	**4.8**	**6.28**	**3**	**2.1**	ND (1.0)	**3.4**	**4.6**	**4.1**	**1.25**	**2.2**	**2.7**	**2.8**	**2.06**
16887-00-6	Chloride	51.32[3]	250	mg/L	**136**	**155**	**92.0**	**72.2**	**48.1**	**123.0**	**157.0**	**112**	**61.1**	**91.5**	**91.1**	**108**	**110**
	Nitrogen as Nitrate	---	10	mg/L	ND (0.10)	**0.0452**	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	**1.4**	ND (0.10)	ND (0.10)	**0.27**	**2.8**	**3.5**	**4.38**
	Nitrogen as Nitrite	---	1	mg/L	ND (0.10)	**0.0169**	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	**0.13**	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.20)	ND (0.10)
	Nitrogen as Nitrate and Nitrite	---	10	mg/L	ND (0.10)	NS	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	**1.6**	ND (0.10)	ND (0.10)	**0.3**	**2.8**	**3.5**	**4.38**
14808-79-8	Sulfate	886.8[3]	250	mg/L	**494**	**531**	**373**	**183**	**122**	**492**	**685**	**339**	**185**	**448**	**423**	**577**	**604**
18496-25-8	Sulfide, Total	---	---	mg/L	ND (0.050)	NS	NS	NS	NS	ND (0.050)	NS	NS	NS	ND (0.050)	NS	NS	NS
General Parameters																	
	Specific Conductance	---	---	umhos/cm	**1,970**	**2,240**	**1,023**	**1,189**	**801**	**1,720**	**2,215**	**1,750**	**1,176**	**1,640**	**1,293**	**1,722**	**2,031**
	pH	---	6.5 - 8.5	Std. Units	**7.5**	**7.53**	**7.36**	**7.52**	**7.27**	**7.5**	**7.13**	**7.32**	**7.01**	**7.4**	**7.09**	**7.11**	**7.21**

[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 fo
The bentonite seal may be compromised; however, the analytical data does not indicate that the w
[3] The COGCC cleanup standard for chloride and sulfate is 1.25 x background. Background concent
[4] Filled with sediment. No water present.
[5] Samples had to be recollected for nitrite and nitrate analysis due to a shipping delay resulting in th
COGCC - Colorado Oil and Gas Conservation Commission
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mg/L - milligrams per liter
ND - Parameter not detected above the laboratory detection limit (Detection Limit)
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umhos/cm - microsiemens per centimeter
M - Drinking water maximum contaminant level
NS - Not Sampled
Bkg - Background
--- indicates no regulatory standard

Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 25147063

CAS #	Parameter	COGCC Table 910-1	CDPHE Basic Standards for Groundwater	Wellsite	Stamp 31-2C Wellsite										
				Sample ID	S31-MW01					S31-MW02[4]		S31-MW03			
				Date	3/22/2013	10/24/2013	07/29/2014	04/01/2015	6/23/2016	3/22/2013	10/24/2013	10/24/2013	07/29/2014	04/01/2015	6/23/2016
Volatile Organic Compounds															
71-43-2	Benzene	0.005	0.005	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0014**	ND (0.0010)	**0.0946**	**0.0549**	**0.0062**	**0.0018**	ND (0.0010)	**0.00115**
108-88-3	Toluene	0.56 to 1	0.56 to 1[M]	mg/L	ND (0.0010)	**0.0022**	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	**0.0102**	**0.0013**	ND (0.0010)	ND (0.0010)	ND (0.0050)
100-41-4	Ethylbenzene	0.7	0.7	mg/L	ND (0.0010)	ND (0.0010)	**0.011**	**0.186**	ND (0.0010)	**0.0232**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0012**	ND (0.0010)
1330-20-7	Xylenes (Total)	1.4 to 10	1.4 to 10[M]	mg/L	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Other Organic Compounds															
74-82-8	Methane	---	---	mg/L	**0.0137**	**0.101**	**0.142**	**0.372**	**0.262**	**0.0323**	**0.0506**	**0.0485**	**0.111**	**0.104**	**0.171**
74-84-0	Ethane	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	**0.0094**	**0.0245**	**0.0119**	**0.0169**	**0.0076**	**0.0236**	**0.0228**	**0.016**
74-85-1	Ethene	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)
Inorganic Parameters															
7440-70-2	Calcium, Dissolved	---	---	mg/L	**365**	**340**	**356**	**318**	**434**	**377**	**352**	**362**	**383**	**405**	**466**
7439-89-6	Iron, Dissolved	---	0.3 to 5[M]	mg/L	ND (0.050)	**0.196**	**0.192**	ND (0.050)	ND (0.010)	ND (0.050)	ND (0.050)	**0.204**	ND (0.050)	ND (0.050)	ND (0.010)
7439-95-4	Magnesium, Dissolved	---	---	mg/L	**1,400**	**814**	**986**	**687**	**1,270**	**872**	**655**	**814**	**750**	**711**	**858**
7440-09-7	Potassium, Dissolved	---	---	mg/L	**26.5**	**14.5**	**16.2**	**10.4**	**13.8**	**18.4**	**12.3**	**7.83**	**8.72**	**9.83**	**8.44**
7440-23-5	Sodium, Dissolved	---	---	mg/L	**2,850**	**2,060**	**2,680**	**2,260**	**2,900**	**1,940**	**1,600**	**1,860**	**1,520**	**1,490**	**1,720**
7440-24-6	Strontium	---	---	mg/L	**9.7**	**8.01**	**8.99**	**11.9**	**16.4**	**7.99**	**6.28**	**11.5**	**9.85**	**9.15**	**12.1**
	Alkalinity, Carbonate (CaCO3)	---	---	mg/L	ND (20.0)	ND (20.0)	ND (20.0)	ND (40.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (40.0)	ND (40.0)	ND (40.0)	ND (20.0)
	Alkalinity, Bicarbonate (CaCO3)	---	---	mg/L	**606**	**642**	**829**	**1,120**	**762**	**860**	**771**	**1,340**	**1,410**	**1,790**	**1,360**
	Alkalinity, Total as CaCO3	---	---	mg/L	**606**	**642**	**829**	**1,120**	**762**	**860**	**771**	**1,340**	**1,410**	**1,790**	**1,360**
24959-67-9	Bromide	---	---	mg/L	**1.8**	**3.6**	**3.1**	**8.0**	ND (1.0)	**1.5**	**2.4**	**2.3**	**1.8**	**1.7**	ND (1.0)
16887-00-6	Chloride	51.32[3]	250	mg/L	**381**	**369**	**725**	**762**	**699**	**150**	**181**	**253**	**176**	**162**	**147**
	Nitrogen as Nitrate	---	10	mg/L	**2.8**	**1.5**	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
	Nitrogen as Nitrite	---	1	mg/L	**0.32**	**0.16**	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
	Nitrogen as Nitrate and Nitrite	---	10	mg/L	**3.1**	**1.6**	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
14808-79-8	Sulfate	886.8[3]	250	mg/L	**13,200**	**8,340**	**8,930**	**7,340**	**11,200**	**9,110**	**6,330**	**7,050**	**6,480**	**5,860**	**6,870**
18496-25-8	Sulfide, Total	---	---	mg/L	ND (0.050)	ND (0.050)	NS	NS	NS	ND (0.050)	ND (0.050)	ND (0.050)	NS	NS	NS
General Parameters															
	Specific Conductance	---	---	umhos/cm	**17,200**	**5,670**	**11,866**	**12,985**	**15,456**	**12,500**	**4,060**	**4,760**	**8,796**	**10,227**	**10,812**
	pH	---	6.5 - 8.5	Std. Units	**7.5**	**7.2**	**7.13**	**7.21**	**7.04**	**7.2**	**7**	**7.1**	**7.09**	**7.01**	**7.15**

[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 fo
The bentonite seal may be compromised; however, the analytical data does not indicate that the w
[3] The COGCC cleanup standard for chloride and sulfate is 1.25 x background. Background concent
[4] Filled with sediment. No water present.
[5] Samples had to be recollected for nitrite and nitrate analysis due to a shipping delay resulting in th
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
Gray shading indicates constituents detected above their respective standards
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umhos/cm - microsiemens per centimeter
M - Drinking water maximum contaminant level
NS - Not Sampled
Bkg - Background
--- indicates no regulatory standard

Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 25147063

CAS #	Parameter	COGCC Table 910-1	CDPHE Basic Standards for Groundwater	Wellsite	Stamp 31-2C Wellsite										
				Sample ID	S31-MW04						S31-MW05				
				Date	3/22/2013	10/24/2013	07/29/2014	07/31/2014	04/01/2015	6/23/2016	10/24/2013	07/29/2014	07/30/2014	04/01/2015	6/23/2016
Volatile Organic Compounds															
71-43-2	Benzene	0.005	0.005	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	NS	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	NS	ND (0.0010)	ND (0.0010)
108-88-3	Toluene	0.56 to 1	0.56 to 1[M]	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	NS	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	NS	ND (0.0010)	ND (0.0050)
100-41-4	Ethylbenzene	0.7	0.7	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	NS	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	NS	ND (0.0010)	ND (0.0010)
1330-20-7	Xylenes (Total)	1.4 to 10	1.4 to 10[M]	mg/L	ND (0.0030)	ND (0.0030)	ND (0.0030)	NS	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	NS	ND (0.0030)	ND (0.0030)
Other Organic Compounds															
74-82-8	Methane	---	---	mg/L	ND (0.0066)	ND (0.0066)	ND (0.0066)	NS	ND (0.0066)	ND (0.010)	ND (0.0066)	ND (0.0066)	NS	ND (0.0066)	ND (0.010)
74-84-0	Ethane	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	NS	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	NS	ND (0.0062)	ND (0.013)
74-85-1	Ethene	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	NS	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	NS	ND (0.0062)	ND (0.013)
Inorganic Parameters															
7440-70-2	Calcium, Dissolved	---	---	mg/L	**383**	**345**	NS	**382**	**382**	**437**	**361**	NS	**362**	**381**	**422**
7439-89-6	Iron, Dissolved	---	0.3 to 5[M]	mg/L	ND (0.050)	**0.216**	NS	ND (0.050)	ND (0.050)	ND (0.010)	**0.0794**	NS	ND (0.050)	ND (0.050)	ND (0.010)
7439-95-4	Magnesium, Dissolved	---	---	mg/L	**759**	**710**	NS	**796**	**776**	**888**	**627**	NS	**554**	**570**	**922**
7440-09-7	Potassium, Dissolved	---	---	mg/L	**19.6**	**13.4**	NS	**10.6**	**12.2**	**10.3**	**12**	NS	**9.36**	**10.7**	**8.95**
7440-23-5	Sodium, Dissolved	---	---	mg/L	**1,380**	**1,660**	NS	**1,560**	**1,530**	**1,660**	**1,250**	NS	**1,030**	**1,020**	**1,670**
7440-24-6	Strontium	---	---	mg/L	**9.55**	**7.7**	NS	**8.43**	**9.03**	**10.7**	**6.94**	NS	**7.14**	**7.12**	**9.55**
	Alkalinity, Carbonate (CaCO3)	---	---	mg/L	ND (20.0)	ND (20.0)	ND (20.0)	NS	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	NS	ND (20.0)	ND (20.0)
	Alkalinity, Bicarbonate (CaCO3)	---	---	mg/L	**480**	**497**	**480**	NS	**528**	**485**	**464**	**434**	NS	**468**	**535**
	Alkalinity, Total as CaCO3	---	---	mg/L	**480**	**497**	**480**	NS	**528**	**485**	**464**	**434**	NS	**468**	**535**
24959-67-9	Bromide	---	---	mg/L	**4.4**	**1.5**	**2.4**	NS	**2.8**	ND (1.0)	**1.1**	**1.4**	NS	**1.4**	ND (1.0)
16887-00-6	Chloride	51.32[3]	250	mg/L	**85.2**	**75.1**	**105**	NS	**119**	**127**	**60.4**	**59.4**	NS	**64.8**	**106**
	Nitrogen as Nitrate	---	10	mg/L	**1.9**	**0.46**	**0.75**	NS	**1.3**	**3.12**	**0.17**	**0.23**	NS	**0.43**	**0.177**
	Nitrogen as Nitrite	---	1	mg/L	**0.21**	ND (0.10)	ND (0.10)	NS	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NS	ND (0.10)	ND (0.10)
	Nitrogen as Nitrate and Nitrite	---	10	mg/L	**2.1**	**0.46**	**0.75**	NS	**1.3**	**3.12**	**0.17**	**0.23**	NS	**0.44**	**0.177**
14808-79-8	Sulfate	886.8[3]	250	mg/L	**7,180**	**6,710**	**6,960**	NS	**7,100**	**8,050**	**6,060**	**5,740**	NS	**5,250**	**9,090**
18496-25-8	Sulfide, Total	---	---	mg/L	ND (0.050)	ND (0.050)	NS	NS	NS	NS	ND (0.050)	NS	NS	NS	NS
General Parameters															
	Specific Conductance	---	---	umhos/cm	**9,980**	**4,250**	**8,258**	**10,164**	**10,363**	**10,789**	**3,770**	**6,148**	NS	**7,915**	**11,864**
	pH	---	6.5 - 8.5	Std. Units	**7.5**	**7.3**	**7.42**	**7.49**	**7.36**	**7.28**	**7.2**	**7.37**	NS	**7.29**	**7.26**

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The bentonite seal may be compromised; however, the analytical data does not indicate that the w
[3] The COGCC cleanup standard for chloride and sulfate is 1.25 x background. Background concent
[4] Filled with sediment. No water present.
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COGCC - Colorado Oil and Gas Conservation Commission
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mg/L - milligrams per liter
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NS - Not Sampled
Bkg - Background
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Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 25147063

CAS #	Parameter	COGCC Table 910-1	CDPHE Basic Standards for Groundwater	Wellsite	Stamp 31-2C Wellsite				Rider #1 Wellsite							
				Sample ID	S31-MW06				RD1-MW01				RD1-MW02			
				Date	10/24/2013	07/29/2014	04/01/2015	6/23/2016	07/30/2014	04/01/2015	6/23/2016	7/8/2016[5]	07/30/2014	04/01/2015	6/23/2016	7/8/2016[5]
Volatile Organic Compounds																
71-43-2	Benzene	0.005	0.005	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	NS	ND (0.0010)	ND (0.0010)	ND (0.0010)	NS
108-88-3	Toluene	0.56 to 1	0.56 to 1[M]	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.0010)	ND (0.0010)	ND (0.0050)	NS	ND (0.0010)	ND (0.0010)	ND (0.0050)	NS
100-41-4	Ethylbenzene	0.7	0.7	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	NS	ND (0.0010)	ND (0.0010)	ND (0.0010)	NS
1330-20-7	Xylenes (Total)	1.4 to 10	1.4 to 10[M]	mg/L	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	NS	ND (0.0030)	ND (0.0030)	ND (0.0030)	NS
Other Organic Compounds																
74-82-8	Methane	---	---	mg/L	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.010)	ND (0.0066)	ND (0.0066)	ND (0.010)	NS	**0.0094**	**0.0392**	**0.119**	NS
74-84-0	Ethane	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.013)	NS	ND (0.0062)	ND (0.0062)	ND (0.013)	NS
74-85-1	Ethene	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.013)	NS	ND (0.0062)	ND (0.0062)	ND (0.013)	NS
Inorganic Parameters																
7440-70-2	Calcium, Dissolved	---	---	mg/L	**366**	**386**	**372**	**454**	**86.9**	**93.7**	**107**	NS	**88**	**88.7**	**105**	NS
7439-89-6	Iron, Dissolved	---	0.3 to 5[M]	mg/L	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.010)	ND (0.050)	ND (0.050)	ND (0.010)	NS	ND (0.050)	ND (0.050)	ND (0.010)	NS
7439-95-4	Magnesium, Dissolved	---	---	mg/L	**497**	**554**	**605**	**870**	**74.8**	**80.0**	**82.6**	NS	**80.8**	**80.6**	**85.6**	NS
7440-09-7	Potassium, Dissolved	---	---	mg/L	**11.1**	**9.16**	**11.0**	**9.61**	**2.78**	**1.90**	**2.57**	NS	**1.89**	**1.73**	**1.99**	NS
7440-23-5	Sodium, Dissolved	---	---	mg/L	**1,120**	**1,010**	**1,110**	**1,430**	**127**	**120**	**129**	NS	**104**	**104**	**109**	NS
7440-24-6	Strontium	---	---	mg/L	**6.74**	**7.13**	**8.28**	**11.8**	**3.18**	**3.07**	**4.81**	NS	**3.06**	**2.67**	**3.69**	NS
	Alkalinity, Carbonate (CaCO3)	---	---	mg/L	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	NS	ND (20.0)	ND (20.0)	ND (20.0)	NS
	Alkalinity, Bicarbonate (CaCO3)	---	---	mg/L	**485**	**465**	**494**	**527**	**407**	**430**	**389**	NS	**471**	**437**	**504**	NS
	Alkalinity, Total as CaCO3	---	---	mg/L	**485**	**465**	**494**	**527**	**407**	**430**	**389**	NS	**471**	**437**	**504**	NS
24959-67-9	Bromide	---	---	mg/L	**1**	**1.5**	**1.5**	**ND (1.0)**	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
16887-00-6	Chloride	51.32[3]	250	mg/L	**56.5**	**66.7**	**77.6**	**131**	**34.5**	**32.0**	**36.2**	**36.9**	**31.8**	**34.5**	**41.1**	**42.0**
	Nitrogen as Nitrate	---	10	mg/L	ND (0.10)	ND (0.10)	**0.60**	**0.621**	**4.8**	**4.9**	NS	**5.02**	**3.8**	**3.8**	NS	**2.94**
	Nitrogen as Nitrite	---	1	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.20)	NS	ND (0.10)	ND (0.10)	ND (0.20)	NS	ND (0.10)
	Nitrogen as Nitrate and Nitrite	---	10	mg/L	ND (0.10)	ND (0.10)	**0.60**	**0.621**	**4.8**	**4.9**	NS	**5.02**	**3.8**	**3.8**	NS	**2.94**
14808-79-8	Sulfate	886.8[3]	250	mg/L	**5,380**	**5,540**	**5,690**	**6,980**	**323**	**365**	**366**	**359**	**305**	**336**	**329**	**313**
18496-25-8	Sulfide, Total	---	---	mg/L	ND (0.050)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
General Parameters																
	Specific Conductance	---	---	umhos/cm	**3,440**	**6,147**	**8,375**	**9,450**	**1,115**	**1,438**	**1,495**	**1,458**	**1,099**	**1,376**	**1,439**	**1,461**
	pH	---	6.5 - 8.5	Std. Units	**7.2**	**7.33**	**7.26**	**7.08**	**7.03**	**7.41**	**7.21**	**6.99**	**7.21**	**7.37**	**7.23**	**7.11**

[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 fo
The bentonite seal may be compromised; however, the analytical data does not indicate that the w
[3] The COGCC cleanup standard for chloride and sulfate is 1.25 x background. Background concent
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Green shading indicates the most recent analytical results.
umhos/cm - microsiemens per centimeter
M - Drinking water maximum contaminant level
NS - Not Sampled
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Table 2 - Groundwater Analytical Results
City of Longmont - Groundwater Quality Monitoring
Project Number 25147063

CAS #	Parameter	COGCC Table 910-1	CDPHE Basic Standards for Groundwater	Wellsite	Rider #1 Wellsite												
				Sample ID	RD1-MW03R			RD1-MW04				RD1-MW05				RD1-MW06		
				Date	07/30/2014	04/01/2015	6/23/2016	07/30/2014	04/01/2015	6/23/2016	7/8/2016[5]	07/30/2014	04/01/2015	6/23/2016	7/8/2016[5]	07/30/2014	04/01/2015	6/23/2016
Volatile Organic Compounds																		
71-43-2	Benzene	0.005	0.005	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.010)	ND (0.0010)	ND (0.0010)	NS	ND (0.0010)	ND (0.0010)	ND (0.0010)	NS	ND (0.0010)	ND (0.0010)	ND (0.0010)
108-88-3	Toluene	0.56 to 1	0.56 to 1[M]	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0050)	ND (0.010)	ND (0.0010)	ND (0.0050)	NS	ND (0.0010)	ND (0.0010)	ND (0.0050)	NS	ND (0.0010)	ND (0.0010)	ND (0.0050)
100-41-4	Ethylbenzene	0.7	0.7	mg/L	**0.0025**	ND (0.0010)	**0.0377**	**0.0778**	**0.0021**	**0.081**	NS	**0.0088**	ND (0.0010)	ND (0.0010)	NS	ND (0.0010)	ND (0.0010)	ND (0.0010)
1330-20-7	Xylenes (Total)	1.4 to 10	1.4 to 10[M]	mg/L	**0.0133**	ND (0.0030)	**0.0182**	**1.14**	**0.0253**	**1.12**	NS	**0.0594**	ND (0.0030)	ND (0.0030)	NS	ND (0.0030)	ND (0.0030)	ND (0.0030)
Other Organic Compounds																		
74-82-8	Methane	---	---	mg/L	**0.0347**	**0.0734**	**0.457**	**0.0316**	**0.0092**	**0.571**	NS	**0.406**	**0.0067**	**1.12**	NS	ND (0.0066)	ND (0.0066)	ND (0.010)
74-84-0	Ethane	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.013)	NS	ND (0.0062)	ND (0.0062)	ND (0.013)	NS	ND (0.0062)	ND (0.0062)	ND (0.013)
74-85-1	Ethene	---	---	mg/L	ND (0.0062)	ND (0.0062)	ND (0.013)	ND (0.0062)	ND (0.0062)	ND (0.013)	NS	ND (0.0062)	ND (0.0062)	ND (0.013)	NS	ND (0.0062)	ND (0.0062)	ND (0.013)
Inorganic Parameters																		
7440-70-2	Calcium, Dissolved	---	---	mg/L	**84.8**	**85.6**	**99.8**	**92.4**	**91.0**	**106**	NS	**82.1**	**87.2**	**101**	NS	**82.7**	**82.2**	**98.6**
7439-89-6	Iron, Dissolved	---	0.3 to 5[M]	mg/L	ND (0.050)	ND (0.050)	ND (0.010)	ND (0.050)	ND (0.050)	ND (0.010)	NS	ND (0.050)	ND (0.050)	ND (0.010)	NS	ND (0.050)	ND (0.050)	ND (0.010)
7439-95-4	Magnesium, Dissolved	---	---	mg/L	**78.2**	**79.7**	**83.4**	**81.4**	**80.3**	**85.6**	NS	**76.2**	**78.6**	**81.8**	NS	**79.9**	**80.1**	**85.5**
7440-09-7	Potassium, Dissolved	---	---	mg/L	**2.12**	**2.00**	**2.24**	**2.33**	**2.07**	**2.16**	NS	**2.47**	**2.08**	**2.4**	NS	**1.9**	**1.81**	**1.9**
7440-23-5	Sodium, Dissolved	---	---	mg/L	**100**	**102**	**104**	**114**	**112**	**119**	NS	**102**	**108**	**109**	NS	**92.7**	**90.3**	**96.8**
7440-24-6	Strontium	---	---	mg/L	**3.53**	**2.94**	**10.4**	**3.37**	**2.85**	**4.27**	NS	**3.08**	**2.82**	**8.14**	NS	**3.6**	**2.65**	**4.38**
	Alkalinity, Carbonate (CaCO3)	---	---	mg/L	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	NS	ND (20.0)	ND (20.0)	ND (20.0)	NS	ND (20.0)	ND (20.0)	ND (20.0)
	Alkalinity, Bicarbonate (CaCO3)	---	---	mg/L	**555**	**423**	**420**	**552**	**419**	**456**	NS	**584**	**407**	**416**	NS	**536**	**424**	**396**
	Alkalinity, Total as CaCO3	---	---	mg/L	**555**	**423**	**420**	**552**	**419**	**456**	NS	**584**	**407**	**416**	NS	**536**	**424**	**396**
24959-67-9	Bromide	---	---	mg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
16887-00-6	Chloride	51.32[3]	250	mg/L	**31.5**	**32.5**	**35.9**	**33.7**	**34.5**	**39.6**	**39.7**	**31.8**	**30.1**	**37.1**	**42.1**	**38.6**	**33.4**	**48.4**
	Nitrogen as Nitrate	---	10	mg/L	**3.8**	**3.6**	NS	**4.2**	**4.9**	NS	**2.98**	**3.7**	**4.9**	NS	**3.98**	**2.2**	**2.9**	NS
	Nitrogen as Nitrite	---	1	mg/L	ND (0.10)	ND (0.20)	NS	ND (0.10)	ND (0.20)	NS	ND (0.10)	ND (0.10)	ND (0.20)	NS	ND (0.10)	ND (0.10)	ND (0.20)	NS
	Nitrogen as Nitrate and Nitrite	---	10	mg/L	**3.8**	**3.7**	NS	**4.2**	**4.9**	NS	**2.98**	**3.7**	**4.9**	NS	**3.98**	**2.2**	**2.9**	NS
14808-79-8	Sulfate	886.8[3]	250	mg/L	**290**	**310**	**321**	**320**	**367**	**339**	**334**	**291**	**335**	**343**	**310**	**306**	**294**	**295**
18496-25-8	Sulfide, Total	---	---	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
General Parameters																		
	Specific Conductance	---	---	umhos/cm	**1,028**	**1,318**	**1,364**	**1,109**	**1,396**	**1,473**	**1,546**	**1,045**	**1,352**	**1,376**	**1,400**	**1,077**	**1,284**	**1,356**
	pH	---	6.5 - 8.5	Std. Units	**7.35**	**7.39**	**7.24**	**7.2**	**7.39**	**7.19**	**7.1**	**7.31**	**7.4**	**7.14**	**7.33**	**7.3**	**7.44**	**7.34**

[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 fo
The bentonite seal may be compromised; however, the analytical data does not indicate that the w
[3] The COGCC cleanup standard for chloride and sulfate is 1.25 x background. Background concent
[4] Filled with sediment. No water present.
[5] Samples had to be recollected for nitrite and nitrate analysis due to a shipping delay resulting in th
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
Gray shading indicates constituents detected above their respective standards
Green shading indicates the most recent analytical results.
umhos/cm - microsiemens per centimeter
M - Drinking water maximum contaminant level
NS - Not Sampled
Bkg - Background
--- indicates no regulatory standard

APPENDIX B
ANALYTICAL REPORT AND CHAIN OF CUSTODY

ANALYTICAL REPORT

July 10, 2016

Terracon - Wheat Ridge, CO

Sample Delivery Group:	L842780
Samples Received:	06/22/2016
Project Number:	25167304
Description:	City of Longmont Groundwater Monitoring

Report To:

Heather Otterstetter
10625 W I70 Frontage Rd,Ste 3
Wheat Ridge, CO 80033

Entire Report Reviewed By:

Daphne R Richards

Daphne Richards
Technical Service Representative

SH1-MW02 6.82FT L842780-01 GW

Collected by: C. Parten
Collected date/time: 06/21/16 09:00
Received date/time: 06/22/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG882685	1	06/23/16 09:26	06/23/16 17:21	LTB
Metals (ICPMS) by Method 6020	WG883046	1	06/24/16 17:41	07/08/16 20:24	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG883531	1	06/26/16 13:33	06/26/16 13:33	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883470	1	06/26/16 06:19	06/26/16 06:19	JHH
Wet Chemistry by Method 2320 B-2011	WG883664	1	06/27/16 10:08	06/27/16 10:08	MCG
Wet Chemistry by Method 9056A	WG882371	1	06/22/16 14:16	06/22/16 14:16	CM
Wet Chemistry by Method 9056A	WG882371	10	06/22/16 17:28	06/22/16 17:28	CM

SH2-MW01 5.04FT L842780-02 GW

Collected by: C. Parten
Collected date/time: 06/21/16 10:00
Received date/time: 06/22/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG882685	1	06/23/16 09:26	06/23/16 17:24	LTB
Metals (ICPMS) by Method 6020	WG883046	1	06/24/16 17:41	07/08/16 20:26	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG883531	1	06/26/16 13:36	06/26/16 13:36	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG882942	1	06/28/16 23:23	06/28/16 23:23	DAH
Wet Chemistry by Method 2320 B-2011	WG882835	1	06/25/16 11:35	06/25/16 11:35	MCG
Wet Chemistry by Method 9056A	WG882371	1	06/22/16 14:31	06/22/16 14:31	CM
Wet Chemistry by Method 9056A	WG882371	10	06/22/16 17:42	06/22/16 17:42	CM

SH2-MW02 4.95FT L842780-03 GW

Collected by: C. Parten
Collected date/time: 06/21/16 10:45
Received date/time: 06/22/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG882685	1	06/23/16 09:26	06/23/16 17:27	LTB
Metals (ICPMS) by Method 6020	WG883046	1	06/24/16 17:41	07/08/16 20:28	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG883531	1	06/26/16 13:38	06/26/16 13:38	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG882976	1	06/26/16 19:04	06/26/16 19:04	DAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883349	1	06/29/16 16:02	06/29/16 16:02	BMB
Wet Chemistry by Method 2320 B-2011	WG882835	1	06/25/16 11:43	06/25/16 11:43	MCG
Wet Chemistry by Method 9056A	WG882371	1	06/22/16 14:45	06/22/16 14:45	CM
Wet Chemistry by Method 9056A	WG882371	10	06/22/16 17:57	06/22/16 17:57	CM

SH2-MW03 4.61FT L842780-04 GW

Collected by: C. Parten
Collected date/time: 06/21/16 11:30
Received date/time: 06/22/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG882685	1	06/23/16 09:26	06/23/16 17:30	LTB
Metals (ICPMS) by Method 6020	WG883046	1	06/24/16 17:41	07/08/16 20:36	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG883531	1	06/26/16 13:40	06/26/16 13:40	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG882976	1	06/26/16 19:23	06/26/16 19:23	DAH
Wet Chemistry by Method 2320 B-2011	WG882835	1	06/25/16 11:52	06/25/16 11:52	MCG
Wet Chemistry by Method 9056A	WG882371	1	06/22/16 14:59	06/22/16 14:59	CM
Wet Chemistry by Method 9056A	WG882371	10	06/22/16 18:11	06/22/16 18:11	CM

CL1-MW01 3.87FT L842780-05 GW

Collected by: C. Parten
Collected date/time: 06/21/16 12:40
Received date/time: 06/22/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG882685	1	06/23/16 09:26	06/23/16 17:33	LTB
Metals (ICPMS) by Method 6020	WG883046	1	06/24/16 17:41	07/08/16 20:38	JDG

CL1-MW01 3.87FT L842780-05 GW

Collected by: C. Parten | Collected date/time: 06/21/16 12:40 | Received date/time: 06/22/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method RSK175	WG883531	1	06/26/16 13:42	06/26/16 13:42	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG882976	1	06/26/16 19:42	06/26/16 19:42	DAH
Wet Chemistry by Method 2320 B-2011	WG883664	1	06/27/16 10:23	06/27/16 10:23	MCG
Wet Chemistry by Method 9056A	WG882371	1	06/22/16 15:14	06/22/16 15:14	CM
Wet Chemistry by Method 9056A	WG882371	10	06/22/16 18:54	06/22/16 18:54	CM

CL1-MW03 3.22FT L842780-06 GW

Collected by: C. Parten | Collected date/time: 06/21/16 13:30 | Received date/time: 06/22/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG882685	1	06/23/16 09:26	06/23/16 17:36	LTB
Metals (ICPMS) by Method 6020	WG883046	1	06/24/16 17:41	07/08/16 20:40	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG883531	1	06/26/16 13:46	06/26/16 13:46	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG882976	1	06/26/16 20:02	06/26/16 20:02	DAH
Wet Chemistry by Method 2320 B-2011	WG883664	1	06/27/16 10:30	06/27/16 10:30	MCG
Wet Chemistry by Method 9056A	WG882371	1	06/22/16 15:28	06/22/16 15:28	CM
Wet Chemistry by Method 9056A	WG882371	10	06/22/16 19:09	06/22/16 19:09	CM

SGU-MW01 3.68FT L842780-07 GW

Collected by: C. Parten | Collected date/time: 06/21/16 14:25 | Received date/time: 06/22/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG882685	1	06/23/16 09:26	06/23/16 17:38	LTB
Metals (ICPMS) by Method 6020	WG883046	1	06/24/16 17:41	07/08/16 20:43	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG883531	1	06/26/16 13:52	06/26/16 13:52	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG882976	1	06/26/16 20:21	06/26/16 20:21	DAH
Wet Chemistry by Method 2320 B-2011	WG882835	1	06/25/16 12:18	06/25/16 12:18	MCG
Wet Chemistry by Method 9056A	WG882371	1	06/22/16 16:11	06/22/16 16:11	CM
Wet Chemistry by Method 9056A	WG882371	10	06/22/16 19:23	06/22/16 19:23	CM

SGU-MW02 4.24FT L842780-08 GW

Collected by: C. Parten | Collected date/time: 06/21/16 15:00 | Received date/time: 06/22/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG882685	1	06/23/16 09:26	06/23/16 17:41	LTB
Metals (ICPMS) by Method 6020	WG883046	1	06/24/16 17:41	07/08/16 20:45	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG883531	1	06/26/16 13:55	06/26/16 13:55	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG882976	1	06/26/16 20:40	06/26/16 20:40	DAH
Wet Chemistry by Method 2320 B-2011	WG883664	1	06/27/16 10:37	06/27/16 10:37	MCG
Wet Chemistry by Method 9056A	WG882371	1	06/22/16 16:30	06/22/16 16:30	CM
Wet Chemistry by Method 9056A	WG882371	10	06/22/16 19:37	06/22/16 19:37	CM

SGU-MW03 3.52FT L842780-09 GW

Collected by: C. Parten | Collected date/time: 06/21/16 15:40 | Received date/time: 06/22/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG882685	1	06/23/16 09:26	06/23/16 17:44	LTB
Metals (ICPMS) by Method 6020	WG883046	1	06/24/16 17:41	07/08/16 20:47	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG883999	1	06/28/16 11:10	06/28/16 11:10	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG882976	1	06/26/16 20:59	06/26/16 20:59	DAH
Wet Chemistry by Method 2320 B-2011	WG882837	1	06/25/16 15:22	06/25/16 15:22	MCG

SGU-MW03 3.52FT L842780-09 GW

Collected by: C. Parten
Collected date/time: 06/21/16 15:40
Received date/time: 06/22/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG882371	1	06/22/16 16:44	06/22/16 16:44	CM
Wet Chemistry by Method 9056A	WG882371	10	06/22/16 19:52	06/22/16 19:52	CM

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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.

Daphne R Richards

Daphne Richards
Technical Service Representative

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	401000		20000	1	06/27/2016 10:08	WG883664

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/22/2016 14:16	WG882371
Chloride	55300		1000	1	06/22/2016 14:16	WG882371
Nitrate	9760		100	1	06/22/2016 14:16	WG882371
Nitrite	ND		100	1	06/22/2016 14:16	WG882371
Sulfate	592000		50000	10	06/22/2016 17:28	WG882371

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	125000		1000	1	06/23/2016 17:21	WG882685
Iron,Dissolved	ND		100	1	06/23/2016 17:21	WG882685
Magnesium,Dissolved	126000		1000	1	06/23/2016 17:21	WG882685
Potassium,Dissolved	2160		1000	1	06/23/2016 17:21	WG882685
Sodium,Dissolved	143000		1000	1	06/23/2016 17:21	WG882685

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	3430		10.0	1	07/08/2016 20:24	WG883046

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/26/2016 13:33	WG883531
Ethane	ND		13.0	1	06/26/2016 13:33	WG883531
Ethene	ND		13.0	1	06/26/2016 13:33	WG883531

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/26/2016 06:19	WG883470
Toluene	ND		5.00	1	06/26/2016 06:19	WG883470
Ethylbenzene	ND		1.00	1	06/26/2016 06:19	WG883470
Total Xylenes	ND		3.00	1	06/26/2016 06:19	WG883470
(S) Toluene-d8	*104*		*90.0-115*		*06/26/2016 06:19*	WG883470
(S) Dibromofluoromethane	*95.0*		*79.0-121*		*06/26/2016 06:19*	WG883470
(S) 4-Bromofluorobenzene	*101*		*80.1-120*		*06/26/2016 06:19*	WG883470

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	371000		20000	1	06/25/2016 11:35	WG882835

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/22/2016 14:31	WG882371
Chloride	41500		1000	1	06/22/2016 14:31	WG882371
Nitrate	16300		1000	10	06/22/2016 17:42	WG882371
Nitrite	ND		100	1	06/22/2016 14:31	WG882371
Sulfate	613000		50000	10	06/22/2016 17:42	WG882371

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	186000		1000	1	06/23/2016 17:24	WG882685
Iron,Dissolved	ND		100	1	06/23/2016 17:24	WG882685
Magnesium,Dissolved	107000		1000	1	06/23/2016 17:24	WG882685
Potassium,Dissolved	1910		1000	1	06/23/2016 17:24	WG882685
Sodium,Dissolved	108000		1000	1	06/23/2016 17:24	WG882685

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	3260		10.0	1	07/08/2016 20:26	WG883046

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/26/2016 13:36	WG883531
Ethane	ND		13.0	1	06/26/2016 13:36	WG883531
Ethene	ND		13.0	1	06/26/2016 13:36	WG883531

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/28/2016 23:23	WG882942
Toluene	ND		5.00	1	06/28/2016 23:23	WG882942
Ethylbenzene	ND		1.00	1	06/28/2016 23:23	WG882942
Total Xylenes	ND		3.00	1	06/28/2016 23:23	WG882942
(S) Toluene-d8	*104*		*90.0-115*		*06/28/2016 23:23*	WG882942
(S) Dibromofluoromethane	*114*		*79.0-121*		*06/28/2016 23:23*	WG882942
(S) 4-Bromofluorobenzene	*102*		*80.1-120*		*06/28/2016 23:23*	WG882942

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	377000		20000	1	06/25/2016 11:43	WG882835

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/22/2016 14:45	WG882371
Chloride	41800		1000	1	06/22/2016 14:45	WG882371
Nitrate	15500		1000	10	06/22/2016 17:57	WG882371
Nitrite	ND		100	1	06/22/2016 14:45	WG882371
Sulfate	654000		50000	10	06/22/2016 17:57	WG882371

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	208000		1000	1	06/23/2016 17:27	WG882685
Iron,Dissolved	ND		100	1	06/23/2016 17:27	WG882685
Magnesium,Dissolved	108000		1000	1	06/23/2016 17:27	WG882685
Potassium,Dissolved	4360		1000	1	06/23/2016 17:27	WG882685
Sodium,Dissolved	107000		1000	1	06/23/2016 17:27	WG882685

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	3710		10.0	1	07/08/2016 20:28	WG883046

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/26/2016 13:38	WG883531
Ethane	ND		13.0	1	06/26/2016 13:38	WG883531
Ethene	ND		13.0	1	06/26/2016 13:38	WG883531

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/26/2016 19:04	WG882976
Toluene	ND		5.00	1	06/26/2016 19:04	WG882976
Ethylbenzene	ND		1.00	1	06/26/2016 19:04	WG882976
Total Xylenes	ND		3.00	1	06/29/2016 16:02	WG883349
(S) Toluene-d8	*109*		*90.0-115*		*06/29/2016 16:02*	WG883349
(S) Toluene-d8	*104*		*90.0-115*		*06/26/2016 19:04*	WG882976
(S) Dibromofluoromethane	*115*		*79.0-121*		*06/26/2016 19:04*	WG882976
(S) Dibromofluoromethane	*105*		*79.0-121*		*06/29/2016 16:02*	WG883349
(S) 4-Bromofluorobenzene	*86.2*		*80.1-120*		*06/29/2016 16:02*	WG883349
(S) 4-Bromofluorobenzene	*102*		*80.1-120*		*06/26/2016 19:04*	WG882976

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	371000		20000	1	06/25/2016 11:52	WG882835

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/22/2016 14:59	WG882371
Chloride	41500		1000	1	06/22/2016 14:59	WG882371
Nitrate	16900		1000	10	06/22/2016 18:11	WG882371
Nitrite	ND		100	1	06/22/2016 14:59	WG882371
Sulfate	624000		50000	10	06/22/2016 18:11	WG882371

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	212000		1000	1	06/23/2016 17:30	WG882685
Iron,Dissolved	ND		100	1	06/23/2016 17:30	WG882685
Magnesium,Dissolved	97200		1000	1	06/23/2016 17:30	WG882685
Potassium,Dissolved	7090		1000	1	06/23/2016 17:30	WG882685
Sodium,Dissolved	105000		1000	1	06/23/2016 17:30	WG882685

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	3850		10.0	1	07/08/2016 20:36	WG883046

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/26/2016 13:40	WG883531
Ethane	ND		13.0	1	06/26/2016 13:40	WG883531
Ethene	ND		13.0	1	06/26/2016 13:40	WG883531

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/26/2016 19:23	WG882976
Toluene	ND		5.00	1	06/26/2016 19:23	WG882976
Ethylbenzene	ND		1.00	1	06/26/2016 19:23	WG882976
Total Xylenes	ND		3.00	1	06/26/2016 19:23	WG882976
(S) Toluene-d8	*104*		*90.0-115*		*06/26/2016 19:23*	WG882976
(S) Dibromofluoromethane	*114*		*79.0-121*		*06/26/2016 19:23*	WG882976
(S) 4-Bromofluorobenzene	*106*		*80.1-120*		*06/26/2016 19:23*	WG882976

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	393000		20000	1	06/27/2016 10:23	WG883664

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/22/2016 15:14	WG882371
Chloride	42700		1000	1	06/22/2016 15:14	WG882371
Nitrate	12200		1000	10	06/22/2016 18:54	WG882371
Nitrite	ND		100	1	06/22/2016 15:14	WG882371
Sulfate	247000		50000	10	06/22/2016 18:54	WG882371

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	104000		1000	1	06/23/2016 17:33	WG882685
Iron,Dissolved	ND		100	1	06/23/2016 17:33	WG882685
Magnesium,Dissolved	83000		1000	1	06/23/2016 17:33	WG882685
Potassium,Dissolved	1940		1000	1	06/23/2016 17:33	WG882685
Sodium,Dissolved	91000		1000	1	06/23/2016 17:33	WG882685

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	2770		10.0	1	07/08/2016 20:38	WG883046

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/26/2016 13:42	WG883531
Ethane	ND		13.0	1	06/26/2016 13:42	WG883531
Ethene	ND		13.0	1	06/26/2016 13:42	WG883531

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/26/2016 19:42	WG882976
Toluene	ND		5.00	1	06/26/2016 19:42	WG882976
Ethylbenzene	ND		1.00	1	06/26/2016 19:42	WG882976
Total Xylenes	ND		3.00	1	06/26/2016 19:42	WG882976
(S) Toluene-d8	*104*		*90.0-115*		*06/26/2016 19:42*	WG882976
(S) Dibromofluoromethane	*113*		*79.0-121*		*06/26/2016 19:42*	WG882976
(S) 4-Bromofluorobenzene	*105*		*80.1-120*		*06/26/2016 19:42*	WG882976

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	380000		20000	1	06/27/2016 10:30	WG883664

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/22/2016 15:28	WG882371
Chloride	45700		1000	1	06/22/2016 15:28	WG882371
Nitrate	13300		1000	10	06/22/2016 19:09	WG882371
Nitrite	ND		100	1	06/22/2016 15:28	WG882371
Sulfate	254000		50000	10	06/22/2016 19:09	WG882371

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	105000		1000	1	06/23/2016 17:36	WG882685
Iron,Dissolved	ND		100	1	06/23/2016 17:36	WG882685
Magnesium,Dissolved	82900		1000	1	06/23/2016 17:36	WG882685
Potassium,Dissolved	1910		1000	1	06/23/2016 17:36	WG882685
Sodium,Dissolved	94700		1000	1	06/23/2016 17:36	WG882685

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	2410		10.0	1	07/08/2016 20:40	WG883046

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/26/2016 13:46	WG883531
Ethane	ND		13.0	1	06/26/2016 13:46	WG883531
Ethene	ND		13.0	1	06/26/2016 13:46	WG883531

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/26/2016 20:02	WG882976
Toluene	ND		5.00	1	06/26/2016 20:02	WG882976
Ethylbenzene	ND		1.00	1	06/26/2016 20:02	WG882976
Total Xylenes	ND		3.00	1	06/26/2016 20:02	WG882976
(S) Toluene-d8	*105*		*90.0-115*		*06/26/2016 20:02*	WG882976
(S) Dibromofluoromethane	*115*		*79.0-121*		*06/26/2016 20:02*	WG882976
(S) 4-Bromofluorobenzene	*103*		*80.1-120*		*06/26/2016 20:02*	WG882976

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	364000		20000	1	06/25/2016 12:18	WG882835

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/22/2016 16:11	WG882371
Chloride	37800		1000	1	06/22/2016 16:11	WG882371
Nitrate	7370		100	1	06/22/2016 16:11	WG882371
Nitrite	ND		100	1	06/22/2016 16:11	WG882371
Sulfate	205000		50000	10	06/22/2016 19:23	WG882371

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	109000		1000	1	06/23/2016 17:38	WG882685
Iron,Dissolved	ND		100	1	06/23/2016 17:38	WG882685
Magnesium,Dissolved	61900		1000	1	06/23/2016 17:38	WG882685
Potassium,Dissolved	2670		1000	1	06/23/2016 17:38	WG882685
Sodium,Dissolved	69900		1000	1	06/23/2016 17:38	WG882685

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	2020		10.0	1	07/08/2016 20:43	WG883046

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/26/2016 13:52	WG883531
Ethane	ND		13.0	1	06/26/2016 13:52	WG883531
Ethene	ND		13.0	1	06/26/2016 13:52	WG883531

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/26/2016 20:21	WG882976
Toluene	ND		5.00	1	06/26/2016 20:21	WG882976
Ethylbenzene	ND		1.00	1	06/26/2016 20:21	WG882976
Total Xylenes	ND		3.00	1	06/26/2016 20:21	WG882976
(S) Toluene-d8	*105*		*90.0-115*		*06/26/2016 20:21*	WG882976
(S) Dibromofluoromethane	*116*		*79.0-121*		*06/26/2016 20:21*	WG882976
(S) 4-Bromofluorobenzene	*104*		*80.1-120*		*06/26/2016 20:21*	WG882976

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	401000		20000	1	06/27/2016 10:37	WG883664

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/22/2016 16:30	WG882371
Chloride	119000		10000	10	06/22/2016 19:37	WG882371
Nitrate	6420		100	1	06/22/2016 16:30	WG882371
Nitrite	ND		100	1	06/22/2016 16:30	WG882371
Sulfate	201000		50000	10	06/22/2016 19:37	WG882371

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	110000		1000	1	06/23/2016 17:41	WG882685
Iron,Dissolved	ND		100	1	06/23/2016 17:41	WG882685
Magnesium,Dissolved	63500		1000	1	06/23/2016 17:41	WG882685
Potassium,Dissolved	2980		1000	1	06/23/2016 17:41	WG882685
Sodium,Dissolved	158000		1000	1	06/23/2016 17:41	WG882685

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	2820		10.0	1	07/08/2016 20:45	WG883046

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	238		10.0	1	06/26/2016 13:55	WG883531
Ethane	15.9		13.0	1	06/26/2016 13:55	WG883531
Ethene	ND		13.0	1	06/26/2016 13:55	WG883531

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	58.9		1.00	1	06/26/2016 20:40	WG882976
Toluene	ND		5.00	1	06/26/2016 20:40	WG882976
Ethylbenzene	ND		1.00	1	06/26/2016 20:40	WG882976
Total Xylenes	ND		3.00	1	06/26/2016 20:40	WG882976
(S) Toluene-d8	*105*		*90.0-115*		*06/26/2016 20:40*	WG882976
(S) Dibromofluoromethane	*120*		*79.0-121*		*06/26/2016 20:40*	WG882976
(S) 4-Bromofluorobenzene	*102*		*80.1-120*		*06/26/2016 20:40*	WG882976

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	375000		20000	1	06/25/2016 15:22	WG882837

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/22/2016 16:44	WG882371
Chloride	43700		1000	1	06/22/2016 16:44	WG882371
Nitrate	9910		1000	10	06/22/2016 19:52	WG882371
Nitrite	ND		100	1	06/22/2016 16:44	WG882371
Sulfate	261000		50000	10	06/22/2016 19:52	WG882371

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	142000		1000	1	06/23/2016 17:44	WG882685
Iron,Dissolved	ND		100	1	06/23/2016 17:44	WG882685
Magnesium,Dissolved	67400		1000	1	06/23/2016 17:44	WG882685
Potassium,Dissolved	2220		1000	1	06/23/2016 17:44	WG882685
Sodium,Dissolved	69200		1000	1	06/23/2016 17:44	WG882685

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	2330		10.0	1	07/08/2016 20:47	WG883046

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/28/2016 11:10	WG883999
Ethane	ND		13.0	1	06/28/2016 11:10	WG883999
Ethene	ND		13.0	1	06/28/2016 11:10	WG883999

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/26/2016 20:59	WG882976
Toluene	ND		5.00	1	06/26/2016 20:59	WG882976
Ethylbenzene	ND		1.00	1	06/26/2016 20:59	WG882976
Total Xylenes	ND		3.00	1	06/26/2016 20:59	WG882976
(S) Toluene-d8	*104*		*90.0-115*		*06/26/2016 20:59*	WG882976
(S) Dibromofluoromethane	*115*		*79.0-121*		*06/26/2016 20:59*	WG882976
(S) 4-Bromofluorobenzene	*106*		*80.1-120*		*06/26/2016 20:59*	WG882976

Method Blank (MB)

(MB) R3145990-1 06/25/16 11:09

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity	3240	J	2710	20000

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

(LCS) R3145990-3 06/25/16 12:26 • (LCSD) R3145990-4 06/25/16 13:54

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Alkalinity	100000	104000	98000	104	98.0	85.0-115			5.00	20

Method Blank (MB)

(MB) R3145992-1 06/25/16 15:15

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Alkalinity	3570	J	2710	20000

L842780-09 Original Sample (OS) • Duplicate (DUP)

(OS) L842780-09 06/25/16 15:22 • (DUP) R3145992-2 06/25/16 15:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Alkalinity	375000	380000	1	1.00		20

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

(LCS) R3145992-3 06/25/16 16:22 • (LCSD) R3145992-6 06/25/16 17:51

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Alkalinity	100000	97800	102000	98.0	102	85.0-115			4.00	20

Method Blank (MB)

(MB) R3146102-1 06/27/16 09:03

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity	3130	J	2710	20000

L842780-01 Original Sample (OS) • Duplicate (DUP)

(OS) L842780-01 06/27/16 10:08 • (DUP) R3146102-2 06/27/16 10:16

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	401000	378000	1	6.00		20

L843350-03 Original Sample (OS) • Duplicate (DUP)

(OS) L843350-03 06/27/16 14:16 • (DUP) R3146102-9 06/27/16 14:25

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	456000	433000	1	5.00		20

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

(LCS) R3146102-4 06/27/16 11:12 • (LCSD) R3146102-7 06/27/16 13:03

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Alkalinity	100000	98300	100000	98.0	100	85.0-115			2.00	20

L843027-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843027-01 06/27/16 11:38 • (MS) R3146102-5 06/27/16 11:45 • (MSD) R3146102-6 06/27/16 11:53

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Alkalinity	100000	447000	518000	519000	71.0	71.0	1	80.0-120	V	V	0.000	20

Method Blank (MB)

(MB) R3145250-1 06/22/16 10:25

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Bromide	U		79.0	1000
Chloride	U		51.9	1000
Nitrate	U		22.7	100
Nitrite	U		27.7	100
Sulfate	U		77.4	5000

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

(LCS) R3145250-2 06/22/16 10:40 • (LCSD) R3145250-3 06/22/16 10:54

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromide	40000	38900	38900	97	97	80-120			0	15
Chloride	40000	38500	38500	96	96	80-120			0	15
Nitrate	8000	7870	7880	98	99	80-120			0	15
Nitrite	8000	7730	7750	97	97	80-120			0	15
Sulfate	40000	38500	38500	96	96	80-120			0	15

L842729-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L842729-01 06/22/16 12:21 • (MS) R3145250-4 06/22/16 12:35

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	50000	ND	47900	96	1	80-120	
Chloride	50000	17100	66400	99	1	80-120	
Nitrate	5000	386	5330	99	1	80-120	
Nitrite	5000	ND	5060	101	1	80-120	
Sulfate	50000	41300	89200	96	1	80-120	

Method Blank (MB)

(MB) R3145523-1 06/23/16 16:44

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium,Dissolved	U		46.3	1000
Iron,Dissolved	U		14.1	100
Magnesium,Dissolved	U		11.1	1000
Potassium,Dissolved	U		102	1000
Sodium,Dissolved	U		98.5	1000

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

(LCS) R3145523-2 06/23/16 16:46 • (LCSD) R3145523-3 06/23/16 16:49

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Calcium,Dissolved	10000	10200	10100	102	101	80-120			1	20
Iron,Dissolved	10000	10100	10000	101	100	80-120			1	20
Magnesium,Dissolved	10000	10300	10200	103	102	80-120			0	20
Potassium,Dissolved	10000	9660	9580	97	96	80-120			1	20
Sodium,Dissolved	10000	10200	10000	102	100	80-120			1	20

Method Blank (MB)

(MB) R3148540-1 07/08/16 20:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Strontium	U		0.160	10.0

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

(LCS) R3148540-2 07/08/16 20:10 • (LCSD) R3148540-3 07/08/16 20:12

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Strontium	50.0	44.7	44.0	89	88	80-120			2	20

L842969-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L842969-02 07/08/16 20:14 • (MS) R3148540-5 07/08/16 20:19 • (MSD) R3148540-6 07/08/16 20:21

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l		ug/l	ug/l	%	%		%			%	%
Strontium	50.0		98.2	97.2	94	92	1	75-125			1	20

Method Blank (MB)

(MB) R3145874-1 06/26/16 12:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Methane	U		2.91	10.0
Ethane	U		4.07	13.0
Ethene	U		4.26	13.0

L842599-46 Original Sample (OS) • Duplicate (DUP)

(OS) L842599-46 06/26/16 13:09 • (DUP) R3145874-2 06/26/16 13:26

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

L842599-50 Original Sample (OS) • Duplicate (DUP)

(OS) L842599-50 06/26/16 13:31 • (DUP) R3145874-3 06/26/16 13:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	37.6	40.5	1	7.32		20
Ethane	U	0.000	1	0.000		20
Ethene	U	0.000	1	0.000		20

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

(LCS) R3145874-4 06/26/16 14:20 • (LCSD) R3145874-5 06/26/16 14:24

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Methane	67.8	71.2	74.6	105	110	85.0-115			4.71	20
Ethane	129	132	140	102	109	85.0-115			6.12	20
Ethene	127	128	136	101	107	85.0-115			6.00	20

Method Blank (MB)

(MB) R3146293-1 06/28/16 11:08

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Methane	U		2.91	10.0
Ethane	U		4.07	13.0
Ethene	U		4.26	13.0

L842780-09 Original Sample (OS) • Duplicate (DUP)

(OS) L842780-09 06/28/16 11:10 • (DUP) R3146293-2 06/28/16 11:38

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

L843333-13 Original Sample (OS) • Duplicate (DUP)

(OS) L843333-13 06/28/16 11:57 • (DUP) R3146293-3 06/28/16 12:17

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

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

(LCS) R3146293-4 06/28/16 12:20 • (LCSD) R3146293-5 06/28/16 13:03

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Methane	67.8	68.3	72.6	101	107	85.0-115			6.10	20
Ethane	129	131	139	101	107	85.0-115			5.86	20
Ethene	127	127	134	100	106	85.0-115			5.57	20

Method Blank (MB)

(MB) R3145811-3 06/24/16 11:18

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Toluene	U		0.780	5.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*101*			*90.0-115*
(S) Dibromofluoromethane	*103*			*79.0-121*
(S) 4-Bromofluorobenzene	*92.3*			*80.1-120*

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

(LCS) R3145811-1 06/24/16 10:00 • (LCSD) R3145811-2 06/24/16 10:19

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	26.7	26.1	107	104	73.0-122			2.20	20
Ethylbenzene	25.0	24.8	24.6	99.3	98.6	80.9-121			0.740	20
Toluene	25.0	25.0	24.6	100	98.3	77.9-116			1.83	20
Xylenes, Total	75.0	73.3	72.3	97.8	96.4	79.2-122			1.38	20
(S) Toluene-d8				*103*	*103*	*90.0-115*				
(S) Dibromofluoromethane				*108*	*106*	*79.0-121*				
(S) 4-Bromofluorobenzene				*93.6*	*92.6*	*80.1-120*				

L842780-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L842780-02 06/28/16 23:23 • (MS) R3146482-1 06/28/16 23:45 • (MSD) R3146482-2 06/29/16 00:08

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Benzene	25.0	ND	27.4	26.6	110	106	1	58.6-133			3.15	20
Ethylbenzene	25.0	ND	23.9	22.9	95.6	91.5	1	62.7-136			4.39	20
Toluene	25.0	ND	25.2	24.3	101	97.2	1	67.8-124			3.66	20
Xylenes, Total	75.0	ND	73.1	70.4	97.4	93.9	1	65.6-133			3.73	20
(S) Toluene-d8					*107*	*107*		*90.0-115*				
(S) Dibromofluoromethane					*114*	*112*		*79.0-121*				
(S) 4-Bromofluorobenzene					*97.9*	*99.4*		*80.1-120*				

Method Blank (MB)

(MB) R3146305-3 06/26/16 17:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Toluene	U		0.780	5.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*104*			*90.0-115*
(S) Dibromofluoromethane	*115*			*79.0-121*
(S) 4-Bromofluorobenzene	*105*			*80.1-120*

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

(LCS) R3146305-1 06/26/16 16:11 • (LCSD) R3146305-2 06/26/16 16:30

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	28.9	28.3	116	113	73.0-122			2.15	20
Ethylbenzene	25.0	27.1	26.7	108	107	80.9-121			1.25	20
Toluene	25.0	28.2	28.0	113	112	77.9-116			0.690	20
Xylenes, Total	75.0	79.3	80.2	106	107	79.2-122			1.13	20
(S) Toluene-d8				*107*	*108*	*90.0-115*				
(S) Dibromofluoromethane				*112*	*110*	*79.0-121*				
(S) 4-Bromofluorobenzene				*108*	*109*	*80.1-120*				

L842837-23 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L842837-23 06/26/16 18:45 • (MS) R3146305-4 06/26/16 17:47 • (MSD) R3146305-5 06/26/16 18:06

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Benzene	25.0	10.7	37.9	38.5	109	111	1	58.6-133			1.58	20
Ethylbenzene	25.0	25.9	48.9	49.2	92.0	93.1	1	62.7-136			0.570	20
Toluene	25.0	132	138	137	22.5	18.5	1	67.8-124	V	V	0.720	20
Xylenes, Total	75.0	2000	1940	1910	0.000	0.000	1	65.6-133	E V	E V	1.51	20
(S) Toluene-d8					*107*	*107*		*90.0-115*				
(S) Dibromofluoromethane					*111*	*111*		*79.0-121*				
(S) 4-Bromofluorobenzene					*110*	*110*		*80.1-120*				

Method Blank (MB)

(MB) R3146625-3 06/29/16 09:30

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*107*			*90.0-115*
(S) Dibromofluoromethane	*108*			*79.0-121*
(S) 4-Bromofluorobenzene	*85.8*			*80.1-120*

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

(LCS) R3146625-1 06/29/16 07:43 • (LCSD) R3146625-2 06/29/16 08:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Xylenes, Total	75.0	67.0	67.4	89.4	89.9	79.2-122			0.580	20
(S) Toluene-d8				*109*	*107*	*90.0-115*				
(S) Dibromofluoromethane				*103*	*104*	*79.0-121*				
(S) 4-Bromofluorobenzene				*84.1*	*85.2*	*80.1-120*				

L843402-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843402-01 06/29/16 12:48 • (MS) R3146625-4 06/29/16 13:10 • (MSD) R3146625-5 06/29/16 13:32

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Xylenes, Total	75.0	U	68.6	70.9	91.5	94.5	1	65.6-133			3.24	20
(S) Toluene-d8					*106*	*109*		*90.0-115*				
(S) Dibromofluoromethane					*101*	*106*		*79.0-121*				
(S) 4-Bromofluorobenzene					*87.6*	*87.9*		*80.1-120*				

Method Blank (MB)

(MB) R3146038-3 06/25/16 18:11

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Toluene	U		0.780	5.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*99.9*			*90.0-115*
(S) Dibromofluoromethane	*108*			*79.0-121*
(S) 4-Bromofluorobenzene	*109*			*80.1-120*

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

(LCS) R3146038-1 06/25/16 16:33 • (LCSD) R3146038-2 06/25/16 16:53

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	20.9	22.5	83.5	89.9	73.0-122			7.31	20
Ethylbenzene	25.0	23.9	24.3	95.5	97.2	80.9-121			1.72	20
Toluene	25.0	23.4	24.4	93.8	97.5	77.9-116			3.89	20
Xylenes, Total	75.0	73.6	74.0	98.1	98.6	79.2-122			0.540	20
(S) Toluene-d8				*106*	*107*	*90.0-115*				
(S) Dibromofluoromethane				*96.0*	*99.5*	*79.0-121*				
(S) 4-Bromofluorobenzene				*105*	*103*	*80.1-120*				

L843213-22 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843213-22 06/26/16 00:49 • (MS) R3146038-4 06/25/16 22:45 • (MSD) R3146038-5 06/25/16 23:05

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Benzene	25.0	765	764	763	0.000	0.000	1	58.6-133	E V	E V	0.120	20
Ethylbenzene	25.0	60.5	65.9	69.6	21.3	36.4	1	62.7-136	J6	J6	5.57	20
Toluene	25.0	15.5	33.5	35.7	71.8	80.9	1	67.8-124			6.56	20
Xylenes, Total	75.0	209	222	238	17.6	39.0	1	65.6-133	J6	J6	6.97	20
(S) Toluene-d8					*106*	*108*		*90.0-115*				
(S) Dibromofluoromethane					*86.5*	*88.2*		*79.0-121*				
(S) 4-Bromofluorobenzene					*105*	*96.7*		*80.1-120*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
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.
(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.
Rec.	Recovery.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

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

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

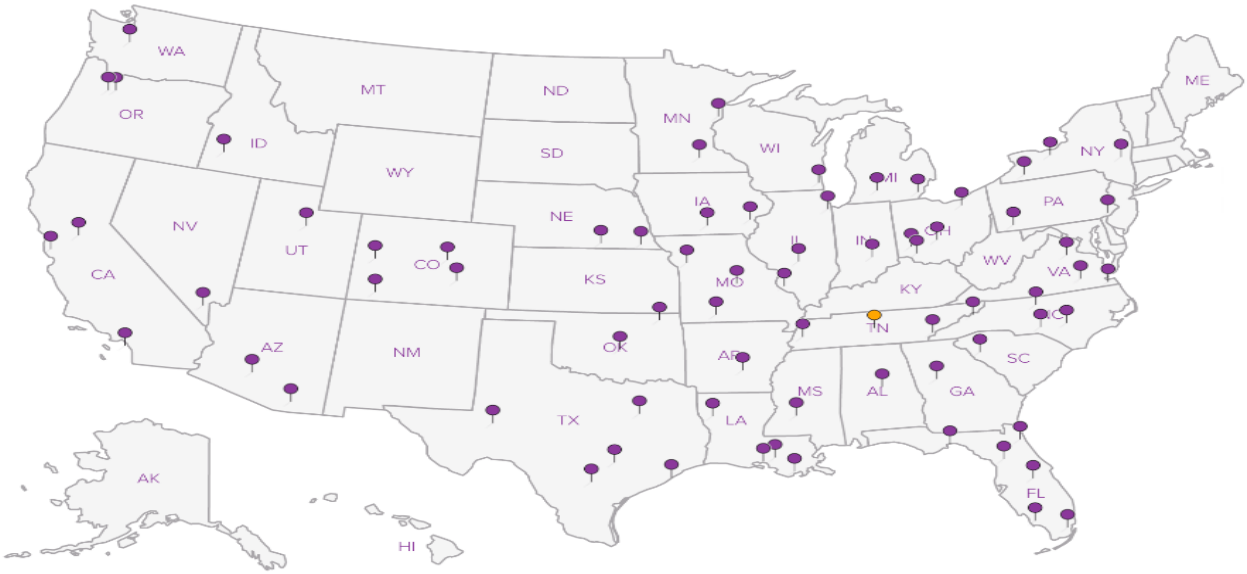
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



Company Name/Address:
Terracon Wheatridge
10625 W. I-70 Frontage Road N
Wheatridge, CO 80033

Billing Information:

Report to: Heather Ottersletter

Email To: Heather.Ottersletter@Terracon.com

Project Description: City of Longmont Groundwater Monitoring

City/State Collected: Longmont, CO

Phone: 303-423-3000
Fax: 303-423-3353

Client Project # 25167304

Lab Project #

Collected by (print): C. Parten

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ____ Y ____

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

Date Results Needed

Email? ___No ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 8260 (3) 40ml Amber w/HCl	RSK 175 (3) 40ml Amber w/HCl	Diss. Metals* 6010B 250ml HDPE No Pres	Strontium 6020 250ml HDPE w/Hn03	N02, N03, S04, Bromide, Chloride 300.0 500ml HDPE	Alkalinity 2320 250 ml HDPE No Pres	Rem./Contaminant	Sample # (lab only)
SH1-MW02	Grab	GW	6.82	6/21/16	0900	10	X	X	X	X	X	X		-01
SH2-MW01	Grab	GW	5.04	6/21/16	1000	10	X	X	X	X	X	X		-02
SH2-MW02	Grab	GW	4.95	6/21/16	1045	10	X	X	X	X	X	X		-03
SH2-MW03	Grab	GW	4.61	6/21/16	1130	10	X	X	X	X	X	X		-04
CL1-MW01	Grab	GW	3.87	6/21/16	1240	10	X	X	X	X	X	X		-05
CL1-MW03	Grab	GW	3.22	6/21/16	1330	10	X	X	X	X	X	X		-06
SGU-MW01	Grab	GW	3.68	6/21/16	1425	10	X	X	X	X	X	X		-07
SGU-MW02	Grab	GW	4.24	6/21/16	1500	10	X	X	X	X	X	X		-08
SGU-MW03	Grab	GW	3.52	6/21/16	1540	10	X	X	X	X	X	X		-09

Chain of Custody Page ___ of ___

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

L # L842780

B103

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

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

Remarks: ***Ca, Mg, Na, Fe, K**

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Chelsea Parten	6/21/16	1738	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/21/16	1730	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

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

Temp: 3.1 °C Bottles Received: 90

Date: 6/22/16 Time: 900

Condition: (lab use only) JW7 OK

COC Seal Intact: ____ Y ____ N ____ NA

pH Checked: 12 NCF:

677700034027

ANALYTICAL REPORT

July 13, 2016

Terracon - Wheat Ridge, CO

Sample Delivery Group:	L843045
Samples Received:	06/23/2016
Project Number:	TERRWRCO-25167304
Description:	City of Longmont Groundwater Monitoring

Report To: Heather Otterstetter
10625 W I70 Frontage Rd,Ste 3
Wheat Ridge, CO 80033

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Technical Service Representative

TABLE OF CONTENTS

CL1-MW02 1.80FT L843045-01 GW

Collected by: Chelsea Parten
Collected date/time: 06/22/16 08:45
Received date/time: 06/23/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG883389	1	06/27/16 08:28	06/27/16 17:27	ST
Metals (ICPMS) by Method 6020	WG884565	1	06/29/16 17:58	07/13/16 02:13	JD
Volatile Organic Compounds (GC) by Method RSK175	WG883999	1	06/28/16 11:12	06/28/16 11:12	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883238	1	06/27/16 12:37	06/27/16 12:37	JHH
Wet Chemistry by Method 2320 B-2011	WG883398	1	06/28/16 10:03	06/28/16 10:03	MCG
Wet Chemistry by Method 9056A	WG882674	1	06/23/16 12:45	06/23/16 12:45	SAM
Wet Chemistry by Method 9056A	WG882674	20	06/23/16 13:00	06/23/16 13:00	SAM

PL1-MW01 10.64FT L843045-02 GW

Collected by: Chelsea Parten
Collected date/time: 06/22/16 09:50
Received date/time: 06/23/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG883389	1	06/27/16 08:28	06/27/16 17:29	ST
Metals (ICPMS) by Method 6020	WG884565	1	06/29/16 17:58	07/13/16 02:18	JD
Volatile Organic Compounds (GC) by Method RSK175	WG883999	1	06/28/16 11:15	06/28/16 11:15	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883238	1	06/27/16 12:56	06/27/16 12:56	JHH
Wet Chemistry by Method 2320 B-2011	WG883398	1	06/27/16 16:16	06/27/16 16:16	MCG
Wet Chemistry by Method 9056A	WG882674	1	06/23/16 13:43	06/23/16 13:43	SAM
Wet Chemistry by Method 9056A	WG882674	20	06/23/16 19:29	06/23/16 19:29	SAM

PL1-MW02 11.64FT L843045-03 GW

Collected by: Chelsea Parten
Collected date/time: 06/22/16 10:20
Received date/time: 06/23/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG883389	1	06/27/16 08:28	06/27/16 17:32	ST
Metals (ICPMS) by Method 6020	WG884565	1	06/29/16 17:58	07/13/16 02:22	JD
Volatile Organic Compounds (GC) by Method RSK175	WG883999	1	06/28/16 11:17	06/28/16 11:17	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883238	1	06/27/16 13:15	06/27/16 13:15	JHH
Wet Chemistry by Method 2320 B-2011	WG883398	1	06/27/16 16:23	06/27/16 16:23	MCG
Wet Chemistry by Method 9056A	WG882674	1	06/23/16 13:57	06/23/16 13:57	SAM
Wet Chemistry by Method 9056A	WG882674	20	06/23/16 14:12	06/23/16 14:12	SAM

E6W-MW01 4.24FT L843045-04 GW

Collected by: Chelsea Parten
Collected date/time: 06/22/16 11:25
Received date/time: 06/23/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG883389	1	06/27/16 08:28	06/27/16 17:35	ST
Metals (ICPMS) by Method 6020	WG884565	1	06/29/16 17:58	07/13/16 02:27	JD
Volatile Organic Compounds (GC) by Method RSK175	WG883999	1	06/28/16 11:20	06/28/16 11:20	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883238	1	06/27/16 13:33	06/27/16 13:33	JHH
Wet Chemistry by Method 2320 B-2011	WG883398	1	06/27/16 16:46	06/27/16 16:46	MCG
Wet Chemistry by Method 9056A	WG882674	1	06/23/16 14:26	06/23/16 14:26	SAM
Wet Chemistry by Method 9056A	WG882674	20	06/23/16 14:40	06/23/16 14:40	SAM

E6W-MW03 4.74FT L843045-05 GW

Collected by: Chelsea Parten
Collected date/time: 06/22/16 11:55
Received date/time: 06/23/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG883389	1	06/27/16 08:28	06/27/16 17:38	ST
Metals (ICPMS) by Method 6020	WG884565	10	06/29/16 17:58	07/13/16 07:25	JD
Volatile Organic Compounds (GC) by Method RSK175	WG883999	1	06/28/16 11:22	06/28/16 11:22	MJ

E6W-MW03 4.74FT L843045-05 GW

Collected by: Chelsea Parten
Collected date/time: 06/22/16 11:55
Received date/time: 06/23/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883238	1	06/27/16 13:53	06/27/16 13:53	JHH
Wet Chemistry by Method 2320 B-2011	WG883398	1	06/27/16 16:55	06/27/16 16:55	MCG
Wet Chemistry by Method 9056A	WG882674	1	06/23/16 14:55	06/23/16 14:55	SAM
Wet Chemistry by Method 9056A	WG882674	20	06/23/16 15:09	06/23/16 15:09	SAM

E6W-MW02 5.55FT L843045-06 GW

Collected by: Chelsea Parten
Collected date/time: 06/22/16 12:20
Received date/time: 06/23/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG883389	1	06/27/16 08:28	06/27/16 17:41	ST
Metals (ICPMS) by Method 6020	WG884565	10	06/29/16 17:58	07/13/16 07:29	JD
Volatile Organic Compounds (GC) by Method RSK175	WG883999	1	06/28/16 11:24	06/28/16 11:24	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883238	1	06/27/16 14:12	06/27/16 14:12	JHH
Wet Chemistry by Method 2320 B-2011	WG883398	1	06/27/16 17:03	06/27/16 17:03	MCG
Wet Chemistry by Method 9056A	WG882674	1	06/23/16 15:24	06/23/16 15:24	SAM
Wet Chemistry by Method 9056A	WG882674	20	06/23/16 15:38	06/23/16 15:38	SAM

E6T-MW01 9.43FT L843045-07 GW

Collected by: Chelsea Parten
Collected date/time: 06/22/16 13:25
Received date/time: 06/23/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG883389	1	06/27/16 08:28	06/27/16 17:49	ST
Metals (ICP) by Method 6010B	WG883389	5	06/27/16 08:28	06/27/16 19:05	ST
Metals (ICPMS) by Method 6020	WG884565	1	06/29/16 17:58	07/13/16 02:42	JD
Volatile Organic Compounds (GC) by Method RSK175	WG883999	1	06/28/16 11:26	06/28/16 11:26	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883238	1	06/27/16 14:31	06/27/16 14:31	JHH
Wet Chemistry by Method 2320 B-2011	WG883398	1	06/27/16 17:12	06/27/16 17:12	MCG
Wet Chemistry by Method 9056A	WG882674	1	06/23/16 16:21	06/23/16 16:21	SAM
Wet Chemistry by Method 9056A	WG883234	50	06/25/16 18:02	06/25/16 18:02	SAM

E6T-MW02 8.55FT L843045-08 GW

Collected by: Chelsea Parten
Collected date/time: 06/22/16 13:55
Received date/time: 06/23/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG883389	1	06/27/16 08:28	06/27/16 17:52	ST
Metals (ICP) by Method 6010B	WG883389	5	06/27/16 08:28	06/27/16 19:08	ST
Metals (ICPMS) by Method 6020	WG884565	10	06/29/16 17:58	07/13/16 02:47	JD
Volatile Organic Compounds (GC) by Method RSK175	WG883999	1	06/28/16 11:28	06/28/16 11:28	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883238	1	06/27/16 14:51	06/27/16 14:51	JHH
Wet Chemistry by Method 2320 B-2011	WG883398	1	06/27/16 17:19	06/27/16 17:19	MCG
Wet Chemistry by Method 9056A	WG882674	1	06/23/16 16:50	06/23/16 16:50	SAM
Wet Chemistry by Method 9056A	WG882674	100	06/23/16 17:05	06/23/16 17:05	SAM

E6T-MW03 8.75FT L843045-09 GW

Collected by: Chelsea Parten
Collected date/time: 06/22/16 14:20
Received date/time: 06/23/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG883389	1	06/27/16 08:28	06/27/16 17:55	ST
Metals (ICPMS) by Method 6020	WG884565	10	06/29/16 17:58	07/13/16 07:34	JD
Volatile Organic Compounds (GC) by Method RSK175	WG883999	1	06/28/16 11:36	06/28/16 11:36	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883238	1	06/27/16 08:43	06/27/16 08:43	JHH

E6T-MW03 8.75FT L843045-09 GW

Collected by: Chelsea Parten
Collected date/time: 06/22/16 14:20
Received date/time: 06/23/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG883399	1	06/27/16 19:43	06/27/16 19:43	MCG
Wet Chemistry by Method 9056A	WG882674	1	06/23/16 17:19	06/23/16 17:19	SAM
Wet Chemistry by Method 9056A	WG883234	50	06/25/16 18:47	06/25/16 18:47	SAM

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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.

Daphne R Richards

Daphne Richards
Technical Service Representative

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	372000		20000	1	06/28/2016 10:03	WG883398

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/23/2016 12:45	WG882674
Chloride	46700		1000	1	06/23/2016 12:45	WG882674
Nitrate	13000		2000	20	06/23/2016 13:00	WG882674
Nitrite	ND		100	1	06/23/2016 12:45	WG882674
Sulfate	246000		100000	20	06/23/2016 13:00	WG882674

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	102000		1000	1	06/27/2016 17:27	WG883389
Iron,Dissolved	ND		100	1	06/27/2016 17:27	WG883389
Magnesium,Dissolved	85500		1000	1	06/27/2016 17:27	WG883389
Potassium,Dissolved	1980		1000	1	06/27/2016 17:27	WG883389
Sodium,Dissolved	93300		1000	1	06/27/2016 17:27	WG883389

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	3220		10.0	1	07/13/2016 02:13	WG884565

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/28/2016 11:12	WG883999
Ethane	ND		13.0	1	06/28/2016 11:12	WG883999
Ethene	ND		13.0	1	06/28/2016 11:12	WG883999

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/27/2016 12:37	WG883238
Toluene	ND		5.00	1	06/27/2016 12:37	WG883238
Ethylbenzene	ND		1.00	1	06/27/2016 12:37	WG883238
Total Xylenes	ND		3.00	1	06/27/2016 12:37	WG883238
(S) Toluene-d8	*102*		*90.0-115*		*06/27/2016 12:37*	WG883238
(S) Dibromofluoromethane	*113*		*79.0-121*		*06/27/2016 12:37*	WG883238
(S) 4-Bromofluorobenzene	*88.1*		*80.1-120*		*06/27/2016 12:37*	WG883238

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	198000		20000	1	06/27/2016 16:16	WG883398

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/23/2016 13:43	WG882674
Chloride	86000		1000	1	06/23/2016 13:43	WG882674
Nitrate	11200		2000	20	06/23/2016 19:29	WG882674
Nitrite	ND		100	1	06/23/2016 13:43	WG882674
Sulfate	1270000		100000	20	06/23/2016 19:29	WG882674

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	284000		1000	1	06/27/2016 17:29	WG883389
Iron,Dissolved	ND		100	1	06/27/2016 17:29	WG883389
Magnesium,Dissolved	195000		1000	1	06/27/2016 17:29	WG883389
Potassium,Dissolved	2250		1000	1	06/27/2016 17:29	WG883389
Sodium,Dissolved	114000		1000	1	06/27/2016 17:29	WG883389

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	4880		10.0	1	07/13/2016 02:18	WG884565

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/28/2016 11:15	WG883999
Ethane	ND		13.0	1	06/28/2016 11:15	WG883999
Ethene	ND		13.0	1	06/28/2016 11:15	WG883999

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/27/2016 12:56	WG883238
Toluene	ND		5.00	1	06/27/2016 12:56	WG883238
Ethylbenzene	ND		1.00	1	06/27/2016 12:56	WG883238
Total Xylenes	ND		3.00	1	06/27/2016 12:56	WG883238
(S) Toluene-d8	*101*		*90.0-115*		*06/27/2016 12:56*	WG883238
(S) Dibromofluoromethane	*109*		*79.0-121*		*06/27/2016 12:56*	WG883238
(S) 4-Bromofluorobenzene	*87.1*		*80.1-120*		*06/27/2016 12:56*	WG883238

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	304000		20000	1	06/27/2016 16:23	WG883398

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/23/2016 13:57	WG882674
Chloride	36700		1000	1	06/23/2016 13:57	WG882674
Nitrate	ND		100	1	06/23/2016 13:57	WG882674
Nitrite	ND		100	1	06/23/2016 13:57	WG882674
Sulfate	616000		100000	20	06/23/2016 14:12	WG882674

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	131000		1000	1	06/27/2016 17:32	WG883389
Iron,Dissolved	ND		100	1	06/27/2016 17:32	WG883389
Magnesium,Dissolved	91100		1000	1	06/27/2016 17:32	WG883389
Potassium,Dissolved	2530		1000	1	06/27/2016 17:32	WG883389
Sodium,Dissolved	134000		1000	1	06/27/2016 17:32	WG883389

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	2120		10.0	1	07/13/2016 02:22	WG884565

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	12.0		10.0	1	06/28/2016 11:17	WG883999
Ethane	ND		13.0	1	06/28/2016 11:17	WG883999
Ethene	ND		13.0	1	06/28/2016 11:17	WG883999

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/27/2016 13:15	WG883238
Toluene	ND		5.00	1	06/27/2016 13:15	WG883238
Ethylbenzene	ND		1.00	1	06/27/2016 13:15	WG883238
Total Xylenes	ND		3.00	1	06/27/2016 13:15	WG883238
(S) Toluene-d8	*102*		*90.0-115*		*06/27/2016 13:15*	WG883238
(S) Dibromofluoromethane	*110*		*79.0-121*		*06/27/2016 13:15*	WG883238
(S) 4-Bromofluorobenzene	*88.6*		*80.1-120*		*06/27/2016 13:15*	WG883238

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	268000		20000	1	06/27/2016 16:46	WG883398

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/23/2016 14:26	WG882674
Chloride	42600		1000	1	06/23/2016 14:26	WG882674
Nitrate	351		100	1	06/23/2016 14:26	WG882674
Nitrite	ND		100	1	06/23/2016 14:26	WG882674
Sulfate	915000		100000	20	06/23/2016 14:40	WG882674

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	187000		1000	1	06/27/2016 17:35	WG883389
Iron,Dissolved	ND		100	1	06/27/2016 17:35	WG883389
Magnesium,Dissolved	115000		1000	1	06/27/2016 17:35	WG883389
Potassium,Dissolved	4590		1000	1	06/27/2016 17:35	WG883389
Sodium,Dissolved	164000		1000	1	06/27/2016 17:35	WG883389

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	4060		10.0	1	07/13/2016 02:27	WG884565

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/28/2016 11:20	WG883999
Ethane	ND		13.0	1	06/28/2016 11:20	WG883999
Ethene	ND		13.0	1	06/28/2016 11:20	WG883999

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/27/2016 13:33	WG883238
Toluene	ND		5.00	1	06/27/2016 13:33	WG883238
Ethylbenzene	ND		1.00	1	06/27/2016 13:33	WG883238
Total Xylenes	ND		3.00	1	06/27/2016 13:33	WG883238
(S) Toluene-d8	*102*		*90.0-115*		*06/27/2016 13:33*	WG883238
(S) Dibromofluoromethane	*108*		*79.0-121*		*06/27/2016 13:33*	WG883238
(S) 4-Bromofluorobenzene	*89.2*		*80.1-120*		*06/27/2016 13:33*	WG883238

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	325000		20000	1	06/27/2016 16:55	WG883398

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/23/2016 14:55	WG882674
Chloride	49000		1000	1	06/23/2016 14:55	WG882674
Nitrate	3380		100	1	06/23/2016 14:55	WG882674
Nitrite	ND		100	1	06/23/2016 14:55	WG882674
Sulfate	1280000		100000	20	06/23/2016 15:09	WG882674

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	262000		1000	1	06/27/2016 17:38	WG883389
Iron,Dissolved	ND		100	1	06/27/2016 17:38	WG883389
Magnesium,Dissolved	156000		1000	1	06/27/2016 17:38	WG883389
Potassium,Dissolved	9130		1000	1	06/27/2016 17:38	WG883389
Sodium,Dissolved	196000		1000	1	06/27/2016 17:38	WG883389

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	6610		100	10	07/13/2016 07:25	WG884565

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/28/2016 11:22	WG883999
Ethane	ND		13.0	1	06/28/2016 11:22	WG883999
Ethene	ND		13.0	1	06/28/2016 11:22	WG883999

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/27/2016 13:53	WG883238
Toluene	ND		5.00	1	06/27/2016 13:53	WG883238
Ethylbenzene	ND		1.00	1	06/27/2016 13:53	WG883238
Total Xylenes	ND		3.00	1	06/27/2016 13:53	WG883238
(S) Toluene-d8	*103*		*90.0-115*		*06/27/2016 13:53*	WG883238
(S) Dibromofluoromethane	*112*		*79.0-121*		*06/27/2016 13:53*	WG883238
(S) 4-Bromofluorobenzene	*91.3*		*80.1-120*		*06/27/2016 13:53*	WG883238

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	304000		20000	1	06/27/2016 17:03	WG883398

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/23/2016 15:24	WG882674
Chloride	50300		1000	1	06/23/2016 15:24	WG882674
Nitrate	2940		100	1	06/23/2016 15:24	WG882674
Nitrite	ND		100	1	06/23/2016 15:24	WG882674
Sulfate	1430000		100000	20	06/23/2016 15:38	WG882674

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	226000		1000	1	06/27/2016 17:41	WG883389
Iron,Dissolved	ND		100	1	06/27/2016 17:41	WG883389
Magnesium,Dissolved	182000		1000	1	06/27/2016 17:41	WG883389
Potassium,Dissolved	19800		1000	1	06/27/2016 17:41	WG883389
Sodium,Dissolved	235000		1000	1	06/27/2016 17:41	WG883389

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	7600		100	10	07/13/2016 07:29	WG884565

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/28/2016 11:24	WG883999
Ethane	ND		13.0	1	06/28/2016 11:24	WG883999
Ethene	ND		13.0	1	06/28/2016 11:24	WG883999

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/27/2016 14:12	WG883238
Toluene	ND		5.00	1	06/27/2016 14:12	WG883238
Ethylbenzene	ND		1.00	1	06/27/2016 14:12	WG883238
Total Xylenes	ND		3.00	1	06/27/2016 14:12	WG883238
(S) Toluene-d8	*102*		*90.0-115*		*06/27/2016 14:12*	WG883238
(S) Dibromofluoromethane	*113*		*79.0-121*		*06/27/2016 14:12*	WG883238
(S) 4-Bromofluorobenzene	*90.6*		*80.1-120*		*06/27/2016 14:12*	WG883238

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	291000		20000	1	06/27/2016 17:12	WG883398

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/23/2016 16:21	WG882674
Chloride	86100		1000	1	06/23/2016 16:21	WG882674
Nitrate	ND		100	1	06/23/2016 16:21	WG882674
Nitrite	ND		100	1	06/23/2016 16:21	WG882674
Sulfate	2190000		250000	50	06/25/2016 18:02	WG883234

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	251000		1000	1	06/27/2016 17:49	WG883389
Iron,Dissolved	ND		100	1	06/27/2016 17:49	WG883389
Magnesium,Dissolved	168000		1000	1	06/27/2016 17:49	WG883389
Potassium,Dissolved	5150		1000	1	06/27/2016 17:49	WG883389
Sodium,Dissolved	587000		5000	5	06/27/2016 19:05	WG883389

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	4850		10.0	1	07/13/2016 02:42	WG884565

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	12.2		10.0	1	06/28/2016 11:26	WG883999
Ethane	ND		13.0	1	06/28/2016 11:26	WG883999
Ethene	ND		13.0	1	06/28/2016 11:26	WG883999

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/27/2016 14:31	WG883238
Toluene	ND		5.00	1	06/27/2016 14:31	WG883238
Ethylbenzene	ND		1.00	1	06/27/2016 14:31	WG883238
Total Xylenes	ND		3.00	1	06/27/2016 14:31	WG883238
(S) Toluene-d8	*101*		*90.0-115*		*06/27/2016 14:31*	WG883238
(S) Dibromofluoromethane	*115*		*79.0-121*		*06/27/2016 14:31*	WG883238
(S) 4-Bromofluorobenzene	*88.3*		*80.1-120*		*06/27/2016 14:31*	WG883238

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	141000		20000	1	06/27/2016 17:19	WG883398

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/23/2016 16:50	WG882674
Chloride	218000		100000	100	06/23/2016 17:05	WG882674
Nitrate	ND		100	1	06/23/2016 16:50	WG882674
Nitrite	ND		100	1	06/23/2016 16:50	WG882674
Sulfate	7560000		500000	100	06/23/2016 17:05	WG882674

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	551000		5000	5	06/27/2016 19:08	WG883389
Iron,Dissolved	ND		100	1	06/27/2016 17:52	WG883389
Magnesium,Dissolved	810000		5000	5	06/27/2016 19:08	WG883389
Potassium,Dissolved	8740		1000	1	06/27/2016 17:52	WG883389
Sodium,Dissolved	1060000		5000	5	06/27/2016 19:08	WG883389

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	29300		100	10	07/13/2016 02:47	WG884565

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/28/2016 11:28	WG883999
Ethane	ND		13.0	1	06/28/2016 11:28	WG883999
Ethene	ND		13.0	1	06/28/2016 11:28	WG883999

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/27/2016 14:51	WG883238
Toluene	ND		5.00	1	06/27/2016 14:51	WG883238
Ethylbenzene	ND		1.00	1	06/27/2016 14:51	WG883238
Total Xylenes	ND		3.00	1	06/27/2016 14:51	WG883238
(S) Toluene-d8	*101*		*90.0-115*		*06/27/2016 14:51*	WG883238
(S) Dibromofluoromethane	*111*		*79.0-121*		*06/27/2016 14:51*	WG883238
(S) 4-Bromofluorobenzene	*90.4*		*80.1-120*		*06/27/2016 14:51*	WG883238

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	245000		20000	1	06/27/2016 19:43	WG883399

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/23/2016 17:19	WG882674
Chloride	88100		1000	1	06/23/2016 17:19	WG882674
Nitrate	4410		100	1	06/23/2016 17:19	WG882674
Nitrite	ND		100	1	06/23/2016 17:19	WG882674
Sulfate	2930000		250000	50	06/25/2016 18:47	WG883234

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	392000		1000	1	06/27/2016 17:55	WG883389
Iron,Dissolved	ND		100	1	06/27/2016 17:55	WG883389
Magnesium,Dissolved	295000		1000	1	06/27/2016 17:55	WG883389
Potassium,Dissolved	6650		1000	1	06/27/2016 17:55	WG883389
Sodium,Dissolved	490000		1000	1	06/27/2016 17:55	WG883389

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	7440		100	10	07/13/2016 07:34	WG884565

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/28/2016 11:36	WG883999
Ethane	ND		13.0	1	06/28/2016 11:36	WG883999
Ethene	ND		13.0	1	06/28/2016 11:36	WG883999

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/27/2016 08:43	WG883238
Toluene	ND		5.00	1	06/27/2016 08:43	WG883238
Ethylbenzene	ND		1.00	1	06/27/2016 08:43	WG883238
Total Xylenes	ND		3.00	1	06/27/2016 08:43	WG883238
(S) Toluene-d8	*102*		*90.0-115*		*06/27/2016 08:43*	WG883238
(S) Dibromofluoromethane	*107*		*79.0-121*		*06/27/2016 08:43*	WG883238
(S) 4-Bromofluorobenzene	*91.4*		*80.1-120*		*06/27/2016 08:43*	WG883238

Method Blank (MB)

(MB) R3146423-2 06/27/16 15:19

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity	U		2710	20000

L843045-01 Original Sample (OS) • Duplicate (DUP)

(OS) L843045-01 06/28/16 10:03 • (DUP) R3146423-6 06/28/16 10:11

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	372000	384000	1	3.00		20

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

(LCS) R3146423-4 06/27/16 16:31 • (LCSD) R3146423-5 06/27/16 18:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Alkalinity	100000	103000	102000	103	102	85.0-115			1.00	20

Method Blank (MB)

(MB) R3146427-1 06/27/16 19:29

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Alkalinity	U		2710	20000

L843074-05 Original Sample (OS) • Duplicate (DUP)

(OS) L843074-05 06/28/16 08:14 • (DUP) R3146427-9 06/28/16 08:22

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Alkalinity	1060000	1060000	1	0.000		20

L843074-06 Original Sample (OS) • Duplicate (DUP)

(OS) L843074-06 06/28/16 08:29 • (DUP) R3146427-10 06/28/16 08:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Alkalinity	1170000	1190000	1	2.00		20

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

(LCS) R3146427-4 06/27/16 20:46 • (LCSD) R3146427-7 06/27/16 22:13

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Alkalinity	100000	106000	103000	106	103	85.0-115			3.00	20

L843074-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843074-11 06/28/16 09:20 • (MS) R3146427-11 06/28/16 09:28 • (MSD) R3146427-12 06/28/16 09:35

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Alkalinity	100000	715000	730000	711000	15.0	0.000	1	80.0-120	V	V	3.00	20

Method Blank (MB)

(MB) R3145556-1 06/23/16 06:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Bromide	U		79.0	1000
Chloride	U		51.9	1000
Nitrate	U		22.7	100
Nitrite	U		27.7	100
Sulfate	U		77.4	5000

L843002-01 Original Sample (OS) • Duplicate (DUP)

(OS) L843002-01 06/23/16 08:20 • (DUP) R3145556-4 06/23/16 12:03

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	105	1	0		15
Chloride	8250	8300	1	1		15
Nitrite	ND	0.000	1	0		15
Sulfate	18000	18000	1	0		15

L843027-03 Original Sample (OS) • Duplicate (DUP)

(OS) L843027-03 06/23/16 19:00 • (DUP) R3145556-8 06/23/16 19:14

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	0.000	1	0		15
Chloride	7260	7200	1	1		15
Nitrate	907	935	1	3		15
Nitrite	ND	0.000	1	0		15

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

(LCS) R3145556-2 06/23/16 07:13 • (LCSD) R3145556-3 06/23/16 07:27

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromide	40000	38900	38900	97	97	80-120			0	15
Chloride	40000	38500	38400	96	96	80-120			0	15
Nitrate	8000	7880	7870	98	98	80-120			0	15
Nitrite	8000	7700	7720	96	96	80-120			0	15
Sulfate	40000	38600	38600	96	96	80-120			0	15

L843027-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L843027-01 06/23/16 12:16 • (MS) R3145556-5 06/23/16 12:31

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	50000	ND	45300	91	1	80-120	
Chloride	50000	8040	57300	99	1	80-120	
Nitrate	5000	ND	4670	93	1	80-120	
Nitrite	5000	ND	5030	101	1	80-120	

L843027-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843027-02 06/23/16 17:48 • (MS) R3145556-6 06/23/16 18:02 • (MSD) R3145556-7 06/23/16 18:17

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	50000	ND	46500	47000	93	94	1	80-120			1	15
Chloride	50000	7190	56800	56800	99	99	1	80-120			0	15
Nitrate	5000	885	5750	5830	97	99	1	80-120			1	15

Method Blank (MB)

(MB) R3146097-1 06/25/16 06:11

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Sulfate	U		77.4	5000

L842847-03 Original Sample (OS) • Duplicate (DUP)

(OS) L842847-03 06/25/16 16:18 • (DUP) R3146097-4 06/25/16 16:33

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	180000	182000	10	1		15

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

(LCS) R3146097-2 06/25/16 06:26 • (LCSD) R3146097-3 06/25/16 06:41

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Sulfate	40000	39300	39300	98	98	80-120			0	15

L842847-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L842847-05 06/25/16 16:48 • (MS) R3146097-5 06/25/16 17:03 • (MSD) R3146097-6 06/25/16 17:18

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Sulfate	50000	236000	736000	730000	100	99	10	80-120			1	15

L843255-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L843255-06 06/26/16 00:15 • (MS) R3146097-8 06/26/16 00:30

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Sulfate	50000	2650	52400	99	1	80-120	

Method Blank (MB)

(MB) R3146153-1 06/27/16 14:09

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium,Dissolved	U		46.3	1000
Iron,Dissolved	U		14.1	100
Magnesium,Dissolved	20.0	J	11.1	1000
Potassium,Dissolved	138	J	102	1000
Sodium,Dissolved	U		98.5	1000

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

(LCS) R3146153-2 06/27/16 14:11 • (LCSD) R3146153-3 06/27/16 14:14

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Calcium,Dissolved	10000	10200	10400	102	104	80-120			2	20
Iron,Dissolved	10000	10300	10400	103	104	80-120			2	20
Magnesium,Dissolved	10000	9980	10200	100	102	80-120			2	20
Potassium,Dissolved	10000	9580	9720	96	97	80-120			2	20
Sodium,Dissolved	10000	10100	10200	101	102	80-120			1	20

L842920-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L842920-01 06/27/16 14:16 • (MS) R3146153-5 06/27/16 14:21 • (MSD) R3146153-6 06/27/16 14:24

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium,Dissolved	10000	145000	151000	151000	58	67	1	75-125	V	V	1	20
Iron,Dissolved	10000	ND	10000	10200	100	102	1	75-125			1	20
Magnesium,Dissolved	10000	27100	36100	35900	90	88	1	75-125			0	20
Potassium,Dissolved	10000	11700	20500	20700	88	90	1	75-125			1	20
Sodium,Dissolved	10000	73300	79900	79800	66	65	1	75-125	V	V	0	20

Method Blank (MB)

(MB) R3149258-2 07/13/16 01:29

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Strontium	0.297	J	0.160	10.0

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

(LCS) R3149258-3 07/13/16 01:34 • (LCSD) R3149258-7 07/13/16 07:04

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Strontium	50.0	58.7	52.3	117	105	80-120			12	20

L843757-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843757-13 07/13/16 01:44 • (MS) R3149258-5 07/13/16 01:53 • (MSD) R3149258-6 07/13/16 01:58

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Strontium	50.0	289	342	328	105	78	1	75-125			4	20

Method Blank (MB)

(MB) R3146293-1 06/28/16 11:08

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Methane	U		2.91	10.0
Ethane	U		4.07	13.0
Ethene	U		4.26	13.0

L842780-09 Original Sample (OS) • Duplicate (DUP)

(OS) L842780-09 06/28/16 11:10 • (DUP) R3146293-2 06/28/16 11:38

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

L843333-13 Original Sample (OS) • Duplicate (DUP)

(OS) L843333-13 06/28/16 11:57 • (DUP) R3146293-3 06/28/16 12:17

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

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

(LCS) R3146293-4 06/28/16 12:20 • (LCSD) R3146293-5 06/28/16 13:03

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Methane	67.8	68.3	72.6	101	107	85.0-115			6.10	20
Ethane	129	131	139	101	107	85.0-115			5.86	20
Ethene	127	127	134	100	106	85.0-115			5.57	20

Method Blank (MB)

(MB) R3146334-3 06/27/16 05:03

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Toluene	U		0.780	5.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*103*			*90.0-115*
(S) Dibromofluoromethane	*108*			*79.0-121*
(S) 4-Bromofluorobenzene	*91.5*			*80.1-120*

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

(LCS) R3146334-1 06/27/16 03:45 • (LCSD) R3146334-2 06/27/16 04:05

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	27.3	27.0	109	108	73.0-122			0.930	20
Ethylbenzene	25.0	24.2	23.8	97.0	95.1	80.9-121			1.96	20
Toluene	25.0	25.1	24.8	101	99.1	77.9-116			1.46	20
Xylenes, Total	75.0	71.6	70.7	95.5	94.2	79.2-122			1.33	20
(S) Toluene-d8				*102*	*103*	*90.0-115*				
(S) Dibromofluoromethane				*108*	*106*	*79.0-121*				
(S) 4-Bromofluorobenzene				*90.1*	*91.8*	*80.1-120*				

L843045-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843045-09 06/27/16 08:43 • (MS) R3146334-4 06/27/16 07:45 • (MSD) R3146334-5 06/27/16 08:04

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Benzene	25.0	ND	26.7	26.6	107	107	1	58.6-133			0.240	20
Ethylbenzene	25.0	ND	23.6	23.3	94.6	93.1	1	62.7-136			1.56	20
Toluene	25.0	ND	24.1	24.0	96.5	96.0	1	67.8-124			0.600	20
Xylenes, Total	75.0	ND	69.8	69.0	93.1	92.1	1	65.6-133			1.10	20
(S) Toluene-d8					*102*	*102*		*90.0-115*				
(S) Dibromofluoromethane					*106*	*107*		*79.0-121*				
(S) 4-Bromofluorobenzene					*89.9*	*90.1*		*80.1-120*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
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.
(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.
Rec.	Recovery.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

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

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

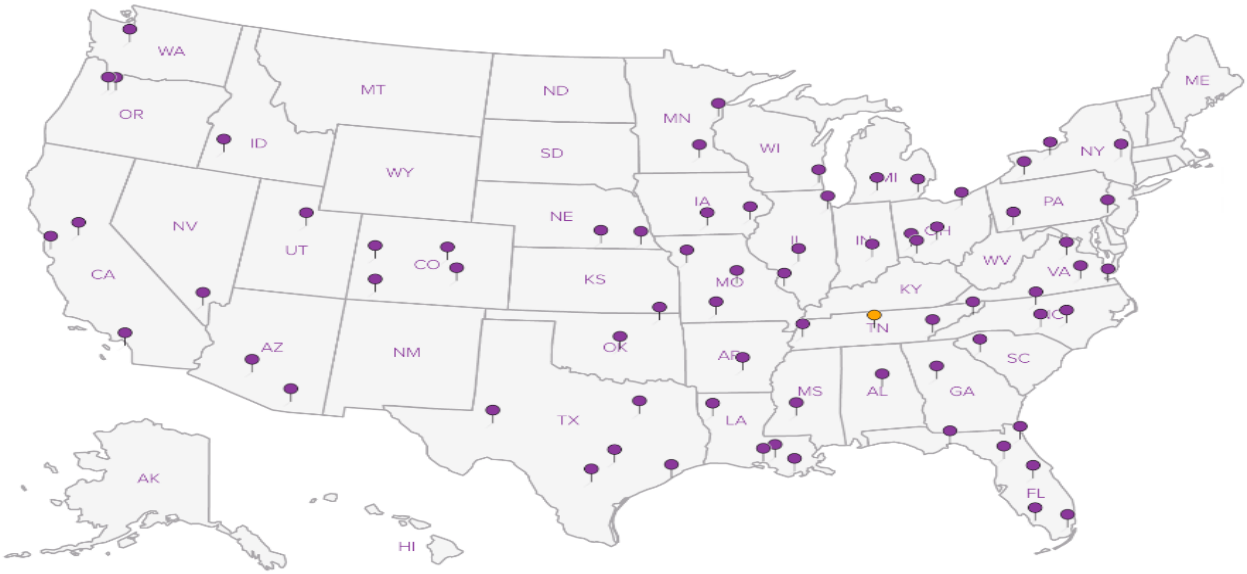
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



Company Name/Address:
Terracon Wheatridge
10625 W. I-70 Frontage Road N
Wheatridge, CO 80033

Billing Information:

Report to: Heather Otterstetter

Email To: Heather.Otterstetter@terracon.com

Project Description: City of Longmont Groundwater Sampling

City/State Collected:

Phone: 303-423-3000
Fax: 303-423-3353

Client Project # 25167304

Lab Project #

Collected by (print): Chelsea Parten

Site/Facility ID #

P.O. #

Collected by (signature): Chelsea Parten

Immediately Packed on Ice N ___ Y ✓

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

Date Results Needed

Email? ___No ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 8260 (3) 40ml Amber w/HCl	RSK 175 (3) 40ml Amber w/HCl	Diss. Metals* 6010B 250ml HDPE No Pres	Strontium 6020 250ml HDPE w/Hn03	N02, N03, S04, Bromide, Chloride 300.0 500ml HDPE	Alkalinity 2320 250 ml HDPE No Pres					Rem./Contaminant	Sample # (lab only)
CL1-MW02	Grab	GW	1,80	6/22/16	0845	10	X	X	X	X	X	X						-01
PL1-MW01	Grab	GW	10.64	6/22/16	0950	10	X	X	X	X	X	X						-02
PL1-MW02	Grab	GW	11.64	6/22/16	1020	10	X	X	X	X	X	X						-03
E6W-MW01	Grab	GW	4.24	6/22/16	1125	10	X	X	X	X	X	X						-04
E6W-MW03	Grab	GW	4.74	6/22/16	1155	10	X	X	X	X	X	X						-05
E6W-MW02	Grab	GW	5.55	6/22/16	1220	10	X	X	X	X	X	X						-06
E6T-MW01	Grab	GW	9.43	6/22/16	1325	10	X	X	X	X	X	X						-07
E6T-MW02	Grab	GW	8.55	6/22/16	1355	10	X	X	X	X	X	X						-08
E6T-MW03	Grab	GW	8.75	6/22/16	1420	10	X	X	X	X	X	X						-09

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

Remarks: ***Ca, Mg, Na, Fe, K**

pH _____ Temp _____

Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Chelsea Parten	6/22/16	1650	
	6/22/16	1730	
			Received for lab by: (Signature)

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

Temp: 3.1 °C Bottles Received: 90

Date: 6/23/16 Time: 900

Hold #

Condition: (lab use only) ok SW1

COC Seal Intact: ___Y ___N ___NA

pH Checked: ok NCF:

Chain of Custody Page ___ of ___

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

L# L843045

B127

Acctnum: TERRWRCO

Template:

Prelogin:

TSR:

PB:

Shipped Via:

6777000340 60

ANALYTICAL REPORT

July 13, 2016

Terracon - Wheat Ridge, CO

Sample Delivery Group:	L843350
Samples Received:	06/24/2016
Project Number:	25167304
Description:	City of Longmont Groundwater Monitoring

Report To: Heather Otterstetter
10625 W I70 Frontage Rd,Ste 3
Wheat Ridge, CO 80033

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Technical Service Representative

TABLE OF CONTENTS

ST-MW01 L843350-01 GW

Collected by: Chelsea Parten
Collected date/time: 06/23/16 14:45
Received date/time: 06/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG884069	1	06/29/16 11:29	06/29/16 14:51	RDS
Metals (ICP) by Method 6010B	WG884069	5	06/29/16 11:29	06/29/16 18:01	RDS
Metals (ICPMS) by Method 6020	WG884066	10	07/01/16 11:10	07/13/16 08:22	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG883999	1	06/28/16 12:05	06/28/16 12:05	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883351	1	06/29/16 15:29	06/29/16 15:29	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG885000	1	07/01/16 15:02	07/01/16 15:02	LRL
Wet Chemistry by Method 2320 B-2011	WG883399	1	06/28/16 09:42	06/28/16 09:42	MCG
Wet Chemistry by Method 9056A	WG883143	1	06/24/16 18:44	06/24/16 18:44	SAM
Wet Chemistry by Method 9056A	WG883143	20	06/24/16 18:59	06/24/16 18:59	SAM
Wet Chemistry by Method 9056A	WG885638	500	07/04/16 15:49	07/04/16 15:49	CM

R-MW02 L843350-02 GW

Collected by: Chelsea Parten
Collected date/time: 06/23/16 09:40
Received date/time: 06/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG884069	1	06/29/16 11:29	06/29/16 14:54	ST
Metals (ICPMS) by Method 6020	WG884066	1	07/01/16 11:10	07/13/16 04:52	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG883999	1	06/28/16 12:13	06/28/16 12:13	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883472	1	06/25/16 23:24	06/25/16 23:24	BMB
Wet Chemistry by Method 2320 B-2011	WG883664	1	06/27/16 14:06	06/27/16 14:06	MCG
Wet Chemistry by Method 9056A	WG883448	1	06/25/16 12:42	06/25/16 12:42	SAM
Wet Chemistry by Method 9056A	WG883761	20	06/29/16 12:26	06/29/16 12:26	CM

R-MW04 L843350-03 GW

Collected by: Chelsea Parten
Collected date/time: 06/23/16 10:00
Received date/time: 06/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG884069	1	06/29/16 11:29	06/29/16 14:57	ST
Metals (ICPMS) by Method 6020	WG884066	1	07/01/16 11:10	07/13/16 04:57	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG883999	1	06/28/16 12:15	06/28/16 12:15	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883548	5	06/27/16 03:49	06/27/16 03:49	ACG
Wet Chemistry by Method 2320 B-2011	WG883664	1	06/27/16 14:16	06/27/16 14:16	MCG
Wet Chemistry by Method 9056A	WG883448	1	06/25/16 13:11	06/25/16 13:11	SAM
Wet Chemistry by Method 9056A	WG883761	20	06/29/16 12:43	06/29/16 12:43	CM

R-MW01 L843350-04 GW

Collected by: Chelsea Parten
Collected date/time: 06/23/16 10:25
Received date/time: 06/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG884069	1	06/29/16 11:29	06/29/16 15:05	ST
Metals (ICPMS) by Method 6020	WG884066	1	07/01/16 11:10	07/13/16 05:02	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG884366	1	06/29/16 11:11	06/29/16 11:11	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883472	1	06/26/16 00:03	06/26/16 00:03	BMB
Wet Chemistry by Method 2320 B-2011	WG884922	1	07/01/16 10:38	07/01/16 10:38	MCG
Wet Chemistry by Method 9056A	WG883448	1	06/25/16 13:40	06/25/16 13:40	SAM
Wet Chemistry by Method 9056A	WG883761	20	06/29/16 13:51	06/29/16 13:51	CM

R-MW3R L843350-05 GW

Collected by: Chelsea Parten
Collected date/time: 06/23/16 11:15
Received date/time: 06/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG884069	1	06/29/16 11:29	06/29/16 15:08	ST
Metals (ICPMS) by Method 6020	WG884066	10	07/01/16 11:10	07/13/16 08:27	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG884366	1	06/29/16 11:17	06/29/16 11:17	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883548	1	06/27/16 04:10	06/27/16 04:10	ACG
Wet Chemistry by Method 2320 B-2011	WG884922	1	07/01/16 08:46	07/01/16 08:46	MCG
Wet Chemistry by Method 9056A	WG883448	1	06/25/16 12:31	06/25/16 12:31	SAM
Wet Chemistry by Method 9056A	WG883761	20	06/29/16 14:07	06/29/16 14:07	CM

R-MW06 L843350-06 GW

Collected by: Chelsea Parten
Collected date/time: 06/23/16 11:45
Received date/time: 06/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG884069	1	06/29/16 11:29	06/29/16 15:10	ST
Metals (ICPMS) by Method 6020	WG884066	1	07/01/16 11:10	07/13/16 05:11	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG884366	1	06/29/16 11:24	06/29/16 11:24	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883472	1	06/26/16 00:42	06/26/16 00:42	BMB
Wet Chemistry by Method 2320 B-2011	WG884922	1	07/01/16 08:54	07/01/16 08:54	MCG
Wet Chemistry by Method 9056A	WG883448	1	06/25/16 12:31	06/25/16 12:31	SAM
Wet Chemistry by Method 9056A	WG883761	20	06/29/16 14:58	06/29/16 14:58	CM

ST-MW06 L843350-07 GW

Collected by: Chelsea Parten
Collected date/time: 06/23/16 12:50
Received date/time: 06/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG884069	1	06/29/16 11:29	06/29/16 15:13	RDS
Metals (ICP) by Method 6010B	WG884069	5	06/29/16 11:29	06/29/16 18:04	RDS
Metals (ICPMS) by Method 6020	WG884066	10	07/01/16 11:10	07/13/16 08:31	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG884366	1	06/29/16 11:26	06/29/16 11:26	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883548	1	06/27/16 04:31	06/27/16 04:31	ACG
Wet Chemistry by Method 2320 B-2011	WG884922	1	07/01/16 09:02	07/01/16 09:02	MCG
Wet Chemistry by Method 9056A	WG883448	1	06/25/16 12:31	06/25/16 12:31	SAM
Wet Chemistry by Method 9056A	WG883448	20	06/25/16 13:54	06/25/16 13:54	SAM
Wet Chemistry by Method 9056A	WG885117	100	07/01/16 14:36	07/01/16 14:36	NJM

ST-MW05 L843350-08 GW

Collected by: Chelsea Parten
Collected date/time: 06/23/16 13:15
Received date/time: 06/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG884069	1	06/29/16 11:29	06/29/16 15:16	RDS
Metals (ICP) by Method 6010B	WG884069	5	06/29/16 11:29	06/29/16 18:07	RDS
Metals (ICPMS) by Method 6020	WG884066	10	07/01/16 11:10	07/13/16 08:36	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG884366	1	06/29/16 11:28	06/29/16 11:28	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883548	1	06/27/16 04:51	06/27/16 04:51	ACG
Wet Chemistry by Method 2320 B-2011	WG884922	1	07/01/16 09:10	07/01/16 09:10	MCG
Wet Chemistry by Method 9056A	WG883448	1	06/25/16 12:31	06/25/16 12:31	SAM
Wet Chemistry by Method 9056A	WG883448	20	06/25/16 14:09	06/25/16 14:09	SAM
Wet Chemistry by Method 9056A	WG885117	100	07/01/16 14:51	07/01/16 14:51	NJM

ST-MW04 L843350-09 GW

Collected by: Chelsea Parten
Collected date/time: 06/23/16 13:45
Received date/time: 06/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG884069	1	06/29/16 11:29	06/29/16 15:19	RDS
Metals (ICP) by Method 6010B	WG884069	5	06/29/16 11:29	06/29/16 18:10	RDS
Metals (ICPMS) by Method 6020	WG884066	10	07/01/16 11:10	07/13/16 08:41	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG884366	1	06/29/16 11:30	06/29/16 11:30	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883548	1	06/27/16 05:12	06/27/16 05:12	ACG
Wet Chemistry by Method 2320 B-2011	WG884922	1	07/01/16 09:17	07/01/16 09:17	MCG
Wet Chemistry by Method 9056A	WG883448	1	06/25/16 12:31	06/25/16 12:31	SAM
Wet Chemistry by Method 9056A	WG883448	20	06/25/16 14:23	06/25/16 14:23	SAM
Wet Chemistry by Method 9056A	WG885117	100	07/01/16 21:34	07/01/16 21:34	NJM

ST-MW03 L843350-10 GW

Collected by: Chelsea Parten
Collected date/time: 06/23/16 14:10
Received date/time: 06/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG884069	1	06/29/16 11:29	06/29/16 15:22	RDS
Metals (ICP) by Method 6010B	WG884069	5	06/29/16 11:29	06/29/16 18:13	RDS
Metals (ICPMS) by Method 6020	WG884066	10	07/01/16 11:10	07/13/16 08:46	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG884366	1	06/29/16 11:33	06/29/16 11:33	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG883548	1	06/27/16 05:32	06/27/16 05:32	ACG
Wet Chemistry by Method 2320 B-2011	WG884922	1	07/01/16 09:25	07/01/16 09:25	MCG
Wet Chemistry by Method 9056A	WG883448	1	06/25/16 12:28	06/25/16 12:28	SAM
Wet Chemistry by Method 9056A	WG883448	20	06/25/16 15:06	06/25/16 15:06	SAM
Wet Chemistry by Method 9056A	WG885117	100	07/01/16 21:49	07/01/16 21:49	NJM

R-MW05 L843350-11 GW

Collected by: Chelsea Parten
Collected date/time: 06/23/16 09:15
Received date/time: 06/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG884069	1	06/29/16 11:29	06/29/16 15:25	ST
Metals (ICPMS) by Method 6020	WG884066	10	07/01/16 11:10	07/13/16 08:51	JDG
Volatile Organic Compounds (GC) by Method RSK175	WG884366	1	06/29/16 11:35	06/29/16 11:35	MJ
Volatile Organic Compounds (GC) by Method RSK175	WG884739	5	06/30/16 11:22	06/30/16 11:22	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG885772	1	07/04/16 13:40	07/04/16 13:40	JHH
Wet Chemistry by Method 2320 B-2011	WG884922	1	07/01/16 09:34	07/01/16 09:34	MCG
Wet Chemistry by Method 9056A	WG883772	1	06/29/16 01:38	06/29/16 01:38	SAM
Wet Chemistry by Method 9056A	WG884556	20	07/01/16 14:25	07/01/16 14:25	CM

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.

Daphne R Richards

Daphne Richards
Technical Service Representative

Sample Handling and Receiving

The following analysis were performed from an unpreserved, insufficiently or inadequately preserved sample.

ESC Sample ID	Project Sample ID	Method
L843350-01	ST-MW01	8260B
L843350-11	R-MW05	8260B

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L843350-05	R-MW3R	9056A
L843350-06	R-MW06	9056A

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	762000		20000	1	06/28/2016 09:42	WG883399

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/24/2016 18:44	WG883143
Chloride	699000		20000	20	06/24/2016 18:59	WG883143
Nitrate	ND		100	1	06/24/2016 18:44	WG883143
Nitrite	ND		100	1	06/24/2016 18:44	WG883143
Sulfate	11200000		2500000	500	07/04/2016 15:49	WG885638

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	434000		5000	5	06/29/2016 18:01	WG884069
Iron,Dissolved	ND		100	1	06/29/2016 14:51	WG884069
Magnesium,Dissolved	1270000		5000	5	06/29/2016 18:01	WG884069
Potassium,Dissolved	13800		5000	5	06/29/2016 18:01	WG884069
Sodium,Dissolved	2900000		5000	5	06/29/2016 18:01	WG884069

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	16400		100	10	07/13/2016 08:22	WG884066

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	262		10.0	1	06/28/2016 12:05	WG883999
Ethane	24.5		13.0	1	06/28/2016 12:05	WG883999
Ethene	ND		13.0	1	06/28/2016 12:05	WG883999

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	07/01/2016 15:02	WG885000
Toluene	ND		5.00	1	06/29/2016 15:29	WG883351
Ethylbenzene	1.10		1.00	1	06/29/2016 15:29	WG883351
Total Xylenes	ND		3.00	1	06/29/2016 15:29	WG883351
(S) Toluene-d8	*101*		*90.0-115*		*06/29/2016 15:29*	WG883351
(S) Toluene-d8	*104*		*90.0-115*		*07/01/2016 15:02*	WG885000
(S) Dibromofluoromethane	*97.4*		*79.0-121*		*07/01/2016 15:02*	WG885000
(S) Dibromofluoromethane	*106*		*79.0-121*		*06/29/2016 15:29*	WG883351
(S) 4-Bromofluorobenzene	*90.1*		*80.1-120*		*06/29/2016 15:29*	WG883351
(S) 4-Bromofluorobenzene	*102*		*80.1-120*		*07/01/2016 15:02*	WG885000

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	504000		20000	1	06/27/2016 14:06	WG883664

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/25/2016 12:42	WG883448
Chloride	41100		1000	1	06/25/2016 12:42	WG883448
Sulfate	329000		100000	20	06/29/2016 12:26	WG883761

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	105000		1000	1	06/29/2016 14:54	WG884069
Iron,Dissolved	ND		100	1	06/29/2016 14:54	WG884069
Magnesium,Dissolved	85600		1000	1	06/29/2016 14:54	WG884069
Potassium,Dissolved	1990		1000	1	06/29/2016 14:54	WG884069
Sodium,Dissolved	109000		1000	1	06/29/2016 14:54	WG884069

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	3690		10.0	1	07/13/2016 04:52	WG884066

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	119		10.0	1	06/28/2016 12:13	WG883999
Ethane	ND		13.0	1	06/28/2016 12:13	WG883999
Ethene	ND		13.0	1	06/28/2016 12:13	WG883999

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/25/2016 23:24	WG883472
Toluene	ND		5.00	1	06/25/2016 23:24	WG883472
Ethylbenzene	ND		1.00	1	06/25/2016 23:24	WG883472
Total Xylenes	ND		3.00	1	06/25/2016 23:24	WG883472
(S) Toluene-d8	*102*		*90.0-115*		*06/25/2016 23:24*	WG883472
(S) Dibromofluoromethane	*99.0*		*79.0-121*		*06/25/2016 23:24*	WG883472
(S) 4-Bromofluorobenzene	*101*		*80.1-120*		*06/25/2016 23:24*	WG883472

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	456000		20000	1	06/27/2016 14:16	WG883664

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/25/2016 13:11	WG883448
Chloride	39600		1000	1	06/25/2016 13:11	WG883448
Sulfate	339000		100000	20	06/29/2016 12:43	WG883761

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	106000		1000	1	06/29/2016 14:57	WG884069
Iron,Dissolved	ND		100	1	06/29/2016 14:57	WG884069
Magnesium,Dissolved	85600		1000	1	06/29/2016 14:57	WG884069
Potassium,Dissolved	2160		1000	1	06/29/2016 14:57	WG884069
Sodium,Dissolved	119000		1000	1	06/29/2016 14:57	WG884069

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	4270		10.0	1	07/13/2016 04:57	WG884066

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	571		10.0	1	06/28/2016 12:15	WG883999
Ethane	ND		13.0	1	06/28/2016 12:15	WG883999
Ethene	ND		13.0	1	06/28/2016 12:15	WG883999

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		5.00	5	06/27/2016 03:49	WG883548
Toluene	ND		25.0	5	06/27/2016 03:49	WG883548
Ethylbenzene	81.0		5.00	5	06/27/2016 03:49	WG883548
Total Xylenes	1120		15.0	5	06/27/2016 03:49	WG883548
(S) Toluene-d8	*96.0*		*90.0-115*		*06/27/2016 03:49*	WG883548
(S) Dibromofluoromethane	*100*		*79.0-121*		*06/27/2016 03:49*	WG883548
(S) 4-Bromofluorobenzene	*104*		*80.1-120*		*06/27/2016 03:49*	WG883548

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	389000		20000	1	07/01/2016 10:38	WG884922

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/25/2016 13:40	WG883448
Chloride	36200		1000	1	06/25/2016 13:40	WG883448
Sulfate	366000		100000	20	06/29/2016 13:51	WG883761

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	107000		1000	1	06/29/2016 15:05	WG884069
Iron,Dissolved	ND		100	1	06/29/2016 15:05	WG884069
Magnesium,Dissolved	82600		1000	1	06/29/2016 15:05	WG884069
Potassium,Dissolved	2570		1000	1	06/29/2016 15:05	WG884069
Sodium,Dissolved	129000		1000	1	06/29/2016 15:05	WG884069

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	4810		10.0	1	07/13/2016 05:02	WG884066

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/29/2016 11:11	WG884366
Ethane	ND		13.0	1	06/29/2016 11:11	WG884366
Ethene	ND		13.0	1	06/29/2016 11:11	WG884366

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/26/2016 00:03	WG883472
Toluene	ND		5.00	1	06/26/2016 00:03	WG883472
Ethylbenzene	ND		1.00	1	06/26/2016 00:03	WG883472
Total Xylenes	ND		3.00	1	06/26/2016 00:03	WG883472
(S) Toluene-d8	*103*		*90.0-115*		*06/26/2016 00:03*	WG883472
(S) Dibromofluoromethane	*98.0*		*79.0-121*		*06/26/2016 00:03*	WG883472
(S) 4-Bromofluorobenzene	*99.0*		*80.1-120*		*06/26/2016 00:03*	WG883472

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	420000		20000	1	07/01/2016 08:46	WG884922

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/25/2016 12:31	WG883448
Chloride	35900		1000	1	06/25/2016 12:31	WG883448
Nitrate	3130		100	1	06/25/2016 12:31	WG883448
Nitrite	ND		100	1	06/25/2016 12:31	WG883448
Sulfate	321000		100000	20	06/29/2016 14:07	WG883761

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	99800		1000	1	06/29/2016 15:08	WG884069
Iron,Dissolved	ND		100	1	06/29/2016 15:08	WG884069
Magnesium,Dissolved	83400		1000	1	06/29/2016 15:08	WG884069
Potassium,Dissolved	2240		1000	1	06/29/2016 15:08	WG884069
Sodium,Dissolved	104000		1000	1	06/29/2016 15:08	WG884069

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	10400		100	10	07/13/2016 08:27	WG884066

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	457		10.0	1	06/29/2016 11:17	WG884366
Ethane	ND		13.0	1	06/29/2016 11:17	WG884366
Ethene	ND		13.0	1	06/29/2016 11:17	WG884366

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/27/2016 04:10	WG883548
Toluene	ND		5.00	1	06/27/2016 04:10	WG883548
Ethylbenzene	3.77		1.00	1	06/27/2016 04:10	WG883548
Total Xylenes	18.2		3.00	1	06/27/2016 04:10	WG883548
(S) Toluene-d8	*104*		*90.0-115*		*06/27/2016 04:10*	WG883548
(S) Dibromofluoromethane	*105*		*79.0-121*		*06/27/2016 04:10*	WG883548
(S) 4-Bromofluorobenzene	*116*		*80.1-120*		*06/27/2016 04:10*	WG883548

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	396000		20000	1	07/01/2016 08:54	WG884922

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/25/2016 12:31	WG883448
Chloride	48400		1000	1	06/25/2016 12:31	WG883448
Nitrate	2350		100	1	06/25/2016 12:31	WG883448
Nitrite	ND		100	1	06/25/2016 12:31	WG883448
Sulfate	295000		100000	20	06/29/2016 14:58	WG883761

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	98600		1000	1	06/29/2016 15:10	WG884069
Iron,Dissolved	ND		100	1	06/29/2016 15:10	WG884069
Magnesium,Dissolved	85500		1000	1	06/29/2016 15:10	WG884069
Potassium,Dissolved	1900		1000	1	06/29/2016 15:10	WG884069
Sodium,Dissolved	96800		1000	1	06/29/2016 15:10	WG884069

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	4380		10.0	1	07/13/2016 05:11	WG884066

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/29/2016 11:24	WG884366
Ethane	ND		13.0	1	06/29/2016 11:24	WG884366
Ethene	ND		13.0	1	06/29/2016 11:24	WG884366

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/26/2016 00:42	WG883472
Toluene	ND		5.00	1	06/26/2016 00:42	WG883472
Ethylbenzene	ND		1.00	1	06/26/2016 00:42	WG883472
Total Xylenes	ND		3.00	1	06/26/2016 00:42	WG883472
(S) Toluene-d8	*102*		*90.0-115*		*06/26/2016 00:42*	WG883472
(S) Dibromofluoromethane	*99.4*		*79.0-121*		*06/26/2016 00:42*	WG883472
(S) 4-Bromofluorobenzene	*98.6*		*80.1-120*		*06/26/2016 00:42*	WG883472

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	527000		20000	1	07/01/2016 09:02	WG884922

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/25/2016 12:31	WG883448
Chloride	131000		20000	20	06/25/2016 13:54	WG883448
Nitrate	621		100	1	06/25/2016 12:31	WG883448
Nitrite	ND		100	1	06/25/2016 12:31	WG883448
Sulfate	6980000		500000	100	07/01/2016 14:36	WG885117

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	454000		5000	5	06/29/2016 18:04	WG884069
Iron,Dissolved	ND		100	1	06/29/2016 15:13	WG884069
Magnesium,Dissolved	870000		5000	5	06/29/2016 18:04	WG884069
Potassium,Dissolved	9610		5000	5	06/29/2016 18:04	WG884069
Sodium,Dissolved	1430000		5000	5	06/29/2016 18:04	WG884069

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	11800		100	10	07/13/2016 08:31	WG884066

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/29/2016 11:26	WG884366
Ethane	ND		13.0	1	06/29/2016 11:26	WG884366
Ethene	ND		13.0	1	06/29/2016 11:26	WG884366

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/27/2016 04:31	WG883548
Toluene	ND		5.00	1	06/27/2016 04:31	WG883548
Ethylbenzene	ND		1.00	1	06/27/2016 04:31	WG883548
Total Xylenes	ND		3.00	1	06/27/2016 04:31	WG883548
(S) Toluene-d8	*103*		*90.0-115*		*06/27/2016 04:31*	WG883548
(S) Dibromofluoromethane	*113*		*79.0-121*		*06/27/2016 04:31*	WG883548
(S) 4-Bromofluorobenzene	*88.2*		*80.1-120*		*06/27/2016 04:31*	WG883548

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	535000		20000	1	07/01/2016 09:10	WG884922

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/25/2016 12:31	WG883448
Chloride	106000		20000	20	06/25/2016 14:09	WG883448
Nitrate	177		100	1	06/25/2016 12:31	WG883448
Nitrite	ND		100	1	06/25/2016 12:31	WG883448
Sulfate	9090000		500000	100	07/01/2016 14:51	WG885117

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	422000		5000	5	06/29/2016 18:07	WG884069
Iron,Dissolved	ND		100	1	06/29/2016 15:16	WG884069
Magnesium,Dissolved	922000		5000	5	06/29/2016 18:07	WG884069
Potassium,Dissolved	8950		5000	5	06/29/2016 18:07	WG884069
Sodium,Dissolved	1670000		5000	5	06/29/2016 18:07	WG884069

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	9550		100	10	07/13/2016 08:36	WG884066

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/29/2016 11:28	WG884366
Ethane	ND		13.0	1	06/29/2016 11:28	WG884366
Ethene	ND		13.0	1	06/29/2016 11:28	WG884366

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/27/2016 04:51	WG883548
Toluene	ND		5.00	1	06/27/2016 04:51	WG883548
Ethylbenzene	ND		1.00	1	06/27/2016 04:51	WG883548
Total Xylenes	ND		3.00	1	06/27/2016 04:51	WG883548
(S) Toluene-d8	*101*		*90.0-115*		*06/27/2016 04:51*	WG883548
(S) Dibromofluoromethane	*110*		*79.0-121*		*06/27/2016 04:51*	WG883548
(S) 4-Bromofluorobenzene	*89.5*		*80.1-120*		*06/27/2016 04:51*	WG883548

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	485000		20000	1	07/01/2016 09:17	WG884922

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/25/2016 12:31	WG883448
Chloride	127000		20000	20	06/25/2016 14:23	WG883448
Nitrate	3120		100	1	06/25/2016 12:31	WG883448
Nitrite	ND		100	1	06/25/2016 12:31	WG883448
Sulfate	8050000		500000	100	07/01/2016 21:34	WG885117

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	437000		5000	5	06/29/2016 18:10	WG884069
Iron,Dissolved	ND		100	1	06/29/2016 15:19	WG884069
Magnesium,Dissolved	888000		5000	5	06/29/2016 18:10	WG884069
Potassium,Dissolved	10300		5000	5	06/29/2016 18:10	WG884069
Sodium,Dissolved	1660000		5000	5	06/29/2016 18:10	WG884069

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	10700		100	10	07/13/2016 08:41	WG884066

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/29/2016 11:30	WG884366
Ethane	ND		13.0	1	06/29/2016 11:30	WG884366
Ethene	ND		13.0	1	06/29/2016 11:30	WG884366

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/27/2016 05:12	WG883548
Toluene	ND		5.00	1	06/27/2016 05:12	WG883548
Ethylbenzene	ND		1.00	1	06/27/2016 05:12	WG883548
Total Xylenes	ND		3.00	1	06/27/2016 05:12	WG883548
(S) Toluene-d8	*99.7*		*90.0-115*		*06/27/2016 05:12*	WG883548
(S) Dibromofluoromethane	*106*		*79.0-121*		*06/27/2016 05:12*	WG883548
(S) 4-Bromofluorobenzene	*89.1*		*80.1-120*		*06/27/2016 05:12*	WG883548

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	1360000		20000	1	07/01/2016 09:25	WG884922

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/25/2016 12:28	WG883448
Chloride	147000		20000	20	06/25/2016 15:06	WG883448
Nitrate	ND		100	1	06/25/2016 12:28	WG883448
Nitrite	ND		100	1	06/25/2016 12:28	WG883448
Sulfate	6870000		500000	100	07/01/2016 21:49	WG885117

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	466000		5000	5	06/29/2016 18:13	WG884069
Iron,Dissolved	ND		100	1	06/29/2016 15:22	WG884069
Magnesium,Dissolved	858000		5000	5	06/29/2016 18:13	WG884069
Potassium,Dissolved	8440		5000	5	06/29/2016 18:13	WG884069
Sodium,Dissolved	1720000		5000	5	06/29/2016 18:13	WG884069

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	12100		100	10	07/13/2016 08:46	WG884066

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	171		10.0	1	06/29/2016 11:33	WG884366
Ethane	16.0		13.0	1	06/29/2016 11:33	WG884366
Ethene	ND		13.0	1	06/29/2016 11:33	WG884366

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	1.15		1.00	1	06/27/2016 05:32	WG883548
Toluene	ND		5.00	1	06/27/2016 05:32	WG883548
Ethylbenzene	ND		1.00	1	06/27/2016 05:32	WG883548
Total Xylenes	ND		3.00	1	06/27/2016 05:32	WG883548
(S) Toluene-d8	*103*		*90.0-115*		*06/27/2016 05:32*	WG883548
(S) Dibromofluoromethane	*108*		*79.0-121*		*06/27/2016 05:32*	WG883548
(S) 4-Bromofluorobenzene	*90.7*		*80.1-120*		*06/27/2016 05:32*	WG883548

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	416000		20000	1	07/01/2016 09:34	WG884922

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/29/2016 01:38	WG883772
Chloride	37100		1000	1	06/29/2016 01:38	WG883772
Sulfate	343000		100000	20	07/01/2016 14:25	WG884556

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	101000		1000	1	06/29/2016 15:25	WG884069
Iron,Dissolved	ND		100	1	06/29/2016 15:25	WG884069
Magnesium,Dissolved	81800		1000	1	06/29/2016 15:25	WG884069
Potassium,Dissolved	2400		1000	1	06/29/2016 15:25	WG884069
Sodium,Dissolved	109000		1000	1	06/29/2016 15:25	WG884069

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	8140		100	10	07/13/2016 08:51	WG884066

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	1120		50.0	5	06/30/2016 11:22	WG884739
Ethane	ND		13.0	1	06/29/2016 11:35	WG884366
Ethene	ND		13.0	1	06/29/2016 11:35	WG884366

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	07/04/2016 13:40	WG885772
Toluene	ND		5.00	1	07/04/2016 13:40	WG885772
Ethylbenzene	ND		1.00	1	07/04/2016 13:40	WG885772
Total Xylenes	ND		3.00	1	07/04/2016 13:40	WG885772
(S) Toluene-d8	*109*		*90.0-115*		*07/04/2016 13:40*	WG885772
(S) Dibromofluoromethane	*107*		*79.0-121*		*07/04/2016 13:40*	WG885772
(S) 4-Bromofluorobenzene	*101*		*80.1-120*		*07/04/2016 13:40*	WG885772

Method Blank (MB)

(MB) R3146427-1 06/27/16 19:29

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Alkalinity	U		2710	20000

L843074-05 Original Sample (OS) • Duplicate (DUP)

(OS) L843074-05 06/28/16 08:14 • (DUP) R3146427-9 06/28/16 08:22

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Alkalinity	1060000	1060000	1	0.000		20

L843074-06 Original Sample (OS) • Duplicate (DUP)

(OS) L843074-06 06/28/16 08:29 • (DUP) R3146427-10 06/28/16 08:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Alkalinity	1170000	1190000	1	2.00		20

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

(LCS) R3146427-4 06/27/16 20:46 • (LCSD) R3146427-7 06/27/16 22:13

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Alkalinity	100000	106000	103000	106	103	85.0-115			3.00	20

L843074-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843074-11 06/28/16 09:20 • (MS) R3146427-11 06/28/16 09:28 • (MSD) R3146427-12 06/28/16 09:35

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Alkalinity	100000	715000	730000	711000	15.0	0.000	1	80.0-120	V	V	3.00	20

Method Blank (MB)

(MB) R3146102-1 06/27/16 09:03

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity	3130	J	2710	20000

L842780-01 Original Sample (OS) • Duplicate (DUP)

(OS) L842780-01 06/27/16 10:08 • (DUP) R3146102-2 06/27/16 10:16

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	401000	378000	1	6.00		20

L843350-03 Original Sample (OS) • Duplicate (DUP)

(OS) L843350-03 06/27/16 14:16 • (DUP) R3146102-9 06/27/16 14:25

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	456000	433000	1	5.00		20

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

(LCS) R3146102-4 06/27/16 11:12 • (LCSD) R3146102-7 06/27/16 13:03

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Alkalinity	100000	98300	100000	98.0	100	85.0-115			2.00	20

L843027-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843027-01 06/27/16 11:38 • (MS) R3146102-5 06/27/16 11:45 • (MSD) R3146102-6 06/27/16 11:53

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Alkalinity	100000	447000	518000	519000	71.0	71.0	1	80.0-120	V	V	0.000	20

Method Blank (MB)

(MB) R3147112-2 06/30/16 16:56

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity	4560	J	2710	20000

L843614-01 Original Sample (OS) • Duplicate (DUP)

(OS) L843614-01 06/30/16 19:34 • (DUP) R3147112-4 06/30/16 19:41

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	209000	202000	1	3.00		20

L843350-04 Original Sample (OS) • Duplicate (DUP)

(OS) L843350-04 07/01/16 10:38 • (DUP) R3147112-8 07/01/16 08:37

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	389000	427000	1	9.00		20

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

(LCS) R3147112-3 06/30/16 18:21 • (LCSD) R3147112-5 06/30/16 19:48

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Alkalinity	100000	108000	103000	108	103	85.0-115			5.00	20

L843614-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843614-02 06/30/16 19:57 • (MS) R3147112-6 06/30/16 20:05 • (MSD) R3147112-7 06/30/16 20:15

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Alkalinity	100000	330000	396000	398000	66.0	68.0	1	80.0-120	J6	J6	1.00	20

Method Blank (MB)

(MB) R3145813-1 06/24/16 06:49

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Bromide	U		79.0	1000
Chloride	U		51.9	1000
Nitrate	U		22.7	100
Nitrite	U		27.7	100

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

(LCS) R3145813-2 06/24/16 07:04 • (LCSD) R3145813-3 06/24/16 07:18

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromide	40000	39000	38900	97	97	80-120			0	15
Chloride	40000	38500	38400	96	96	80-120			0	15
Nitrate	8000	7880	7880	98	98	80-120			0	15
Nitrite	8000	7720	7730	96	97	80-120			0	15

Method Blank (MB)

(MB) R3145970-1 06/25/16 08:08

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Bromide	U		79.0	1000
Chloride	U		51.9	1000
Nitrate	U		22.7	100
Nitrite	U		27.7	100

L843350-02 Original Sample (OS) • Duplicate (DUP)

(OS) L843350-02 06/25/16 12:42 • (DUP) R3145970-4 06/25/16 12:56

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	86.8	1	0		15
Chloride	41100	41100	1	0		15
Nitrate	3270	3280	1	0		15

L843626-03 Original Sample (OS) • Duplicate (DUP)

(OS) L843626-03 06/25/16 15:49 • (DUP) R3145970-6 06/25/16 16:04

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	0.000	1	0		15
Chloride	1510	1520	1	0		15
Nitrate	440	435	1	1		15
Nitrite	ND	0.000	1	0		15

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

(LCS) R3145970-2 06/25/16 08:23 • (LCSD) R3145970-3 06/25/16 08:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromide	40000	38600	38600	96	96	80-120			0	15
Chloride	40000	38100	38100	95	95	80-120			0	15
Nitrate	8000	7790	7790	97	97	80-120			0	15
Nitrite	8000	7660	7660	96	96	80-120			0	15

L843350-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L843350-03 06/25/16 13:11 • (MS) R3145970-5 06/25/16 13:25

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	50000	ND	45500	91	1	80-120	
Chloride	50000	39600	86800	94	1	80-120	
Nitrate	5000	4680	9400	94	1	80-120	
Nitrite	5000	ND	5130	103	1	80-120	

L843626-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843626-07 06/25/16 17:45 • (MS) R3145970-7 06/25/16 17:59 • (MSD) R3145970-8 06/25/16 18:14

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	50000	ND	47300	47800	95	96	1	80-120			1	15
Chloride	50000	4070	53400	53200	99	98	1	80-120			0	15
Nitrate	5000	198	4940	5020	95	96	1	80-120			2	15
Nitrite	5000	ND	4920	4920	98	98	1	80-120			0	15

Method Blank (MB)

(MB) R3146527-1 06/29/16 06:51

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Sulfate	U		77.4	5000

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

(LCS) R3146527-2 06/29/16 07:09 • (LCSD) R3146527-3 06/29/16 07:27

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Sulfate	40000	39800	39200	100	98	80-120			2	15

L843419-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L843419-09 06/29/16 13:17 • (MS) R3146527-4 06/29/16 13:34

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Sulfate	50000	1140	52900	104	1	80-120	

Method Blank (MB)

(MB) R3146457-1 06/28/16 08:03

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Bromide	U		79.0	1000
Chloride	U		51.9	1000

L843671-01 Original Sample (OS) • Duplicate (DUP)

(OS) L843671-01 06/28/16 16:26 • (DUP) R3146457-4 06/28/16 16:41

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Bromide	249	304	1	20	J P1	15
Chloride	61600	61500	1	0		15

L843689-01 Original Sample (OS) • Duplicate (DUP)

(OS) L843689-01 06/28/16 20:24 • (DUP) R3146457-6 06/28/16 20:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Bromide	U	0.000	1	0		15
Chloride	6300	2920	1	73	J3	15

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

(LCS) R3146457-2 06/28/16 08:18 • (LCSD) R3146457-3 06/28/16 08:33

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Bromide	40000	39800	39900	100	100	80-120			0	15
Chloride	40000	39300	39400	98	98	80-120			0	15

L843671-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L843671-02 06/28/16 18:55 • (MS) R3146457-5 06/28/16 19:10

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Bromide	50000	U	43800	88	1	80-120	
Chloride	50000	91800	140000	96	1	80-120	E

L843750-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843750-01 06/29/16 00:23 • (MS) R3146457-7 06/29/16 00:38 • (MSD) R3146457-8 06/29/16 00:53

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	50000	U	49400	49700	99	99	1	80-120			1	15
Chloride	50000	27800	78100	78000	101	100	1	80-120			0	15

Method Blank (MB)

(MB) R3147150-2 06/30/16 23:18

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Sulfate	U		77.4	5000

L843848-05 Original Sample (OS) • Duplicate (DUP)

(OS) L843848-05 07/01/16 03:46 • (DUP) R3147150-6 07/01/16 04:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	121000	120000	10	1		15

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

(LCS) R3147150-3 06/30/16 23:33 • (LCSD) R3147150-4 06/30/16 23:48

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Sulfate	40000	40500	40500	101	101	80-120			0	15

L843613-10 Original Sample (OS) • Matrix Spike (MS)

(OS) L843613-10 07/01/16 01:32 • (MS) R3147150-5 07/01/16 02:17

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Sulfate	50000	5190	58500	107	1	80-120	

Method Blank (MB)

(MB) R3147296-1 07/01/16 11:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Sulfate	U		77.4	5000

L844080-03 Original Sample (OS) • Duplicate (DUP)

(OS) L844080-03 07/01/16 17:21 • (DUP) R3147296-5 07/01/16 17:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	138000	140000	5	1		15

L844080-04 Original Sample (OS) • Duplicate (DUP)

(OS) L844080-04 07/01/16 18:50 • (DUP) R3147296-6 07/01/16 19:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	138000	139000	5	1		15

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

(LCS) R3147296-2 07/01/16 11:50 • (LCSD) R3147296-3 07/01/16 12:05

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Sulfate	40000	40700	40600	102	102	80-120			0	15

L844580-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L844580-07 07/01/16 20:04 • (MS) R3147296-7 07/01/16 20:19 • (MSD) R3147296-8 07/01/16 20:34

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Sulfate	50000	ND	53300	53300	103	103	1	80-120			0	15

Method Blank (MB)

(MB) R3147442-1 07/04/16 13:12

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Sulfate	U		77.4	5000

L843333-13 Original Sample (OS) • Duplicate (DUP)

(OS) L843333-13 07/04/16 20:07 • (DUP) R3147442-5 07/04/16 20:22

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	9530	9450	10	1	J	15

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

(LCS) R3147442-2 07/04/16 13:26 • (LCSD) R3147442-3 07/04/16 13:40

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Sulfate	40000	39600	39500	99	99	80-120			0	15

L844626-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L844626-05 07/04/16 18:41 • (MS) R3147442-4 07/04/16 18:55

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Sulfate	50000	5700	55700	100	1	80-120	

L844653-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L844653-09 07/04/16 23:29 • (MS) R3147442-6 07/04/16 23:44 • (MSD) R3147442-7 07/04/16 23:58

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Sulfate	50000	5850	54500	55000	97	98	1	80-120			1	15

Method Blank (MB)

(MB) R3146626-1 06/29/16 14:33

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium,Dissolved	U		46.3	1000
Iron,Dissolved	14.1	J	14.1	100
Magnesium,Dissolved	41.1	J	11.1	1000
Potassium,Dissolved	U		102	1000
Sodium,Dissolved	U		98.5	1000

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

(LCS) R3146626-2 06/29/16 14:35 • (LCSD) R3146626-3 06/29/16 14:38

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Calcium,Dissolved	10000	9880	9940	99	99	80-120			1	20
Iron,Dissolved	10000	9750	9830	98	98	80-120			1	20
Magnesium,Dissolved	10000	9920	10000	99	100	80-120			1	20
Potassium,Dissolved	10000	9650	9720	97	97	80-120			1	20
Sodium,Dissolved	10000	9950	9910	100	99	80-120			0	20

L843498-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843498-06 06/29/16 14:41 • (MS) R3146626-5 06/29/16 14:46 • (MSD) R3146626-6 06/29/16 14:48

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium,Dissolved	10000	102000	110000	109000	75	68	1	75-125		V	1	20
Iron,Dissolved	10000	139	9780	9680	96	95	1	75-125			1	20
Magnesium,Dissolved	10000	105000	112000	112000	65	66	1	75-125	V	V	0	20
Potassium,Dissolved	10000	6730	16300	16200	96	95	1	75-125			1	20
Sodium,Dissolved	10000	118000	125000	124000	71	60	1	75-125	V	V	1	20

Method Blank (MB)

(MB) R3149305-2 07/13/16 04:04

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Strontium	0.171	J	0.160	10.0

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

(LCS) R3149305-7 07/13/16 08:17 • (LCSD) R3149305-3 07/13/16 04:13

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Strontium	50.0	51.8	51.0	104	102	80-120			2	20

L843611-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843611-04 07/13/16 04:18 • (MS) R3149305-5 07/13/16 04:28 • (MSD) R3149305-6 07/13/16 04:33

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Strontium	50.0	12900	12700	12900	0	0	1	75-125	E V	E V	2	20

Method Blank (MB)

(MB) R3146293-1 06/28/16 11:08

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Methane	U		2.91	10.0
Ethane	U		4.07	13.0
Ethene	U		4.26	13.0

L842780-09 Original Sample (OS) • Duplicate (DUP)

(OS) L842780-09 06/28/16 11:10 • (DUP) R3146293-2 06/28/16 11:38

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

L843333-13 Original Sample (OS) • Duplicate (DUP)

(OS) L843333-13 06/28/16 11:57 • (DUP) R3146293-3 06/28/16 12:17

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

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

(LCS) R3146293-4 06/28/16 12:20 • (LCSD) R3146293-5 06/28/16 13:03

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Methane	67.8	68.3	72.6	101	107	85.0-115			6.10	20
Ethane	129	131	139	101	107	85.0-115			5.86	20
Ethene	127	127	134	100	106	85.0-115			5.57	20

Method Blank (MB)

(MB) R3146563-1 06/29/16 11:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Methane	U		2.91	10.0
Ethane	U		4.07	13.0
Ethene	U		4.26	13.0

L843350-05 Original Sample (OS) • Duplicate (DUP)

(OS) L843350-05 06/29/16 11:17 • (DUP) R3146563-2 06/29/16 11:46

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	457	440	1	3.94		20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

L843614-02 Original Sample (OS) • Duplicate (DUP)

(OS) L843614-02 06/29/16 11:49 • (DUP) R3146563-3 06/29/16 12:17

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	43.3	43.1	1	0.420		20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

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

(LCS) R3146563-4 06/29/16 12:20 • (LCSD) R3146563-5 06/29/16 12:22

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Methane	67.8	73.9	66.5	109	98.0	85.0-115			10.6	20
Ethane	129	141	127	109	98.6	85.0-115			10.1	20
Ethene	127	137	124	108	97.5	85.0-115			10.0	20

Method Blank (MB)

(MB) R3146794-1 06/30/16 11:08

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Methane	U		2.91	10.0

L843350-11 Original Sample (OS) • Duplicate (DUP)

(OS) L843350-11 06/30/16 11:22 • (DUP) R3146794-2 06/30/16 11:55

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	1120	1130	5	1.32		20

L843671-05 Original Sample (OS) • Duplicate (DUP)

(OS) L843671-05 06/30/16 11:58 • (DUP) R3146794-3 06/30/16 12:03

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	5490	5870	10	6.74		20

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

(LCS) R3146794-4 06/30/16 12:07 • (LCSD) R3146794-5 06/30/16 12:11

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Methane	67.8	66.6	73.9	98.3	109	85.0-115			10.3	20

Method Blank (MB)

(MB) R3146860-3 06/29/16 11:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Ethylbenzene	U		0.384	1.00
Toluene	U		0.780	5.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*102*			*90.0-115*
(S) Dibromofluoromethane	*96.7*			*79.0-121*
(S) 4-Bromofluorobenzene	*92.1*			*80.1-120*

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

(LCS) R3146860-1 06/29/16 09:49 • (LCSD) R3146860-2 06/29/16 10:09

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Ethylbenzene	25.0	24.6	25.5	98.3	102	80.9-121			3.62	20
Toluene	25.0	25.0	25.3	100	101	77.9-116			1.11	20
Xylenes, Total	75.0	73.3	75.3	97.7	100	79.2-122			2.73	20
(S) Toluene-d8				*102*	*102*	*90.0-115*				
(S) Dibromofluoromethane				*102*	*98.9*	*79.0-121*				
(S) 4-Bromofluorobenzene				*92.4*	*91.1*	*80.1-120*				

L843339-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843339-04 06/29/16 13:52 • (MS) R3146860-4 06/29/16 14:12 • (MSD) R3146860-5 06/29/16 14:31

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Ethylbenzene	25.0	2.14	26.4	26.6	97.0	97.6	1	62.7-136			0.620	20
Toluene	25.0	1.96	26.6	26.9	98.4	99.7	1	67.8-124			1.21	20
Xylenes, Total	75.0	5.22	77.3	76.6	96.1	95.2	1	65.6-133			0.830	20
(S) Toluene-d8					*102*	*102*		*90.0-115*				
(S) Dibromofluoromethane					*102*	*101*		*79.0-121*				
(S) 4-Bromofluorobenzene					*88.2*	*89.4*		*80.1-120*				

Method Blank (MB)

(MB) R3145844-3 06/25/16 16:55

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Toluene	U		0.780	5.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*101*			*90.0-115*
(S) Dibromofluoromethane	*98.1*			*79.0-121*
(S) 4-Bromofluorobenzene	*102*			*80.1-120*

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

(LCS) R3145844-1 06/25/16 15:35 • (LCSD) R3145844-2 06/25/16 15:55

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	26.9	25.2	108	101	73.0-122			6.58	20
Ethylbenzene	25.0	28.3	27.3	113	109	80.9-121			3.80	20
Toluene	25.0	24.9	23.8	99.6	95.3	77.9-116			4.44	20
Xylenes, Total	75.0	84.1	80.4	112	107	79.2-122			4.52	20
(S) Toluene-d8				*102*	*104*	*90.0-115*				
(S) Dibromofluoromethane				*101*	*99.0*	*79.0-121*				
(S) 4-Bromofluorobenzene				*97.6*	*99.0*	*80.1-120*				

L843188-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843188-07 06/25/16 19:09 • (MS) R3145844-4 06/25/16 18:10 • (MSD) R3145844-5 06/25/16 18:30

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Benzene	25.0	ND	24.1	24.4	96.5	97.8	1	58.6-133			1.35	20
Ethylbenzene	25.0	ND	26.2	26.8	105	107	1	62.7-136			2.52	20
Toluene	25.0	ND	22.7	23.3	90.9	93.3	1	67.8-124			2.57	20
Xylenes, Total	75.0	ND	77.4	79.2	103	106	1	65.6-133			2.29	20
(S) Toluene-d8					*102*	*103*		*90.0-115*				
(S) Dibromofluoromethane					*101*	*99.4*		*79.0-121*				
(S) 4-Bromofluorobenzene					*99.4*	*99.6*		*80.1-120*				

Method Blank (MB)

(MB) R3145985-3 06/26/16 17:06

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Toluene	U		0.780	5.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*101*			*90.0-115*
(S) Dibromofluoromethane	*100*			*79.0-121*
(S) 4-Bromofluorobenzene	*85.3*			*80.1-120*

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

(LCS) R3145985-1 06/26/16 15:23 • (LCSD) R3145985-2 06/26/16 15:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	26.0	25.7	104	103	73.0-122			1.00	20
Ethylbenzene	25.0	24.1	24.5	96.6	98.0	80.9-121			1.49	20
Toluene	25.0	24.4	24.1	97.5	96.3	77.9-116			1.21	20
Xylenes, Total	75.0	71.0	73.1	94.6	97.4	79.2-122			2.90	20
(S) Toluene-d8				*98.9*	*98.7*	*90.0-115*				
(S) Dibromofluoromethane				*103*	*104*	*79.0-121*				
(S) 4-Bromofluorobenzene				*84.6*	*84.4*	*80.1-120*				

L843402-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843402-21 06/26/16 22:46 • (MS) R3145985-4 06/26/16 23:43 • (MSD) R3145985-5 06/27/16 00:04

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Benzene	25.0	U	28.7	27.0	115	108	1	58.6-133			6.13	20
Ethylbenzene	25.0	U	24.7	27.2	98.8	109	1	62.7-136			9.72	20
Toluene	25.0	U	25.5	26.0	102	104	1	67.8-124			1.94	20
Xylenes, Total	75.0	U	73.0	80.3	97.3	107	1	65.6-133			9.48	20
(S) Toluene-d8					*101*	*98.5*		*90.0-115*				
(S) Dibromofluoromethane					*108*	*101*		*79.0-121*				
(S) 4-Bromofluorobenzene					*83.2*	*86.2*		*80.1-120*				

Method Blank (MB)

(MB) R3147132-3 07/01/16 09:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.331	1.00
(S) Toluene-d8	*104*			*90.0-115*
(S) Dibromofluoromethane	*95.8*			*79.0-121*
(S) 4-Bromofluorobenzene	*101*			*80.1-120*

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

(LCS) R3147132-1 07/01/16 07:36 • (LCSD) R3147132-2 07/01/16 07:59

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	25.0	22.3	21.9	89.2	87.6	73.0-122			1.80	20
(S) Toluene-d8				*103*	*102*	*90.0-115*				
(S) Dibromofluoromethane				*94.3*	*94.5*	*79.0-121*				
(S) 4-Bromofluorobenzene				*99.8*	*101*	*80.1-120*				

L843382-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843382-02 07/01/16 13:30 • (MS) R3147132-4 07/01/16 12:22 • (MSD) R3147132-5 07/01/16 12:45

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	25.0	U	22.8	22.0	91.0	87.8	1	58.6-133			3.56	20
(S) Toluene-d8					*103*	*101*		*90.0-115*				
(S) Dibromofluoromethane					*96.2*	*94.1*		*79.0-121*				
(S) 4-Bromofluorobenzene					*102*	*99.7*		*80.1-120*				

Method Blank (MB)

(MB) R3147440-3 07/04/16 11:53

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Toluene	U		0.780	5.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*106*			*90.0-115*
(S) Dibromofluoromethane	*108*			*79.0-121*
(S) 4-Bromofluorobenzene	*82.3*			*80.1-120*

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

(LCS) R3147440-1 07/04/16 10:27 • (LCSD) R3147440-2 07/04/16 10:48

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	27.6	27.0	110	108	73.0-122			2.04	20
Ethylbenzene	25.0	24.2	24.2	96.8	96.9	80.9-121			0.0900	20
Toluene	25.0	26.2	26.3	105	105	77.9-116			0.380	20
Xylenes, Total	75.0	74.8	74.4	99.7	99.2	79.2-122			0.520	20
(S) Toluene-d8				*108*	*107*	*90.0-115*				
(S) Dibromofluoromethane				*102*	*101*	*79.0-121*				
(S) 4-Bromofluorobenzene				*91.6*	*88.8*	*80.1-120*				

L843350-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843350-11 07/04/16 13:40 • (MS) R3147440-4 07/04/16 12:35 • (MSD) R3147440-5 07/04/16 12:57

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Benzene	25.0	ND	25.6	24.9	102	99.7	1	58.6-133			2.63	20
Ethylbenzene	25.0	ND	23.7	23.6	94.6	94.4	1	62.7-136			0.230	20
Toluene	25.0	ND	24.7	24.0	98.8	96.1	1	67.8-124			2.75	20
Xylenes, Total	75.0	ND	71.1	71.7	94.8	95.6	1	65.6-133			0.850	20
(S) Toluene-d8					*108*	*108*		*90.0-115*				
(S) Dibromofluoromethane					*99.8*	*101*		*79.0-121*				
(S) 4-Bromofluorobenzene					*94.8*	*98.4*		*80.1-120*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
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.
(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.
Rec.	Recovery.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

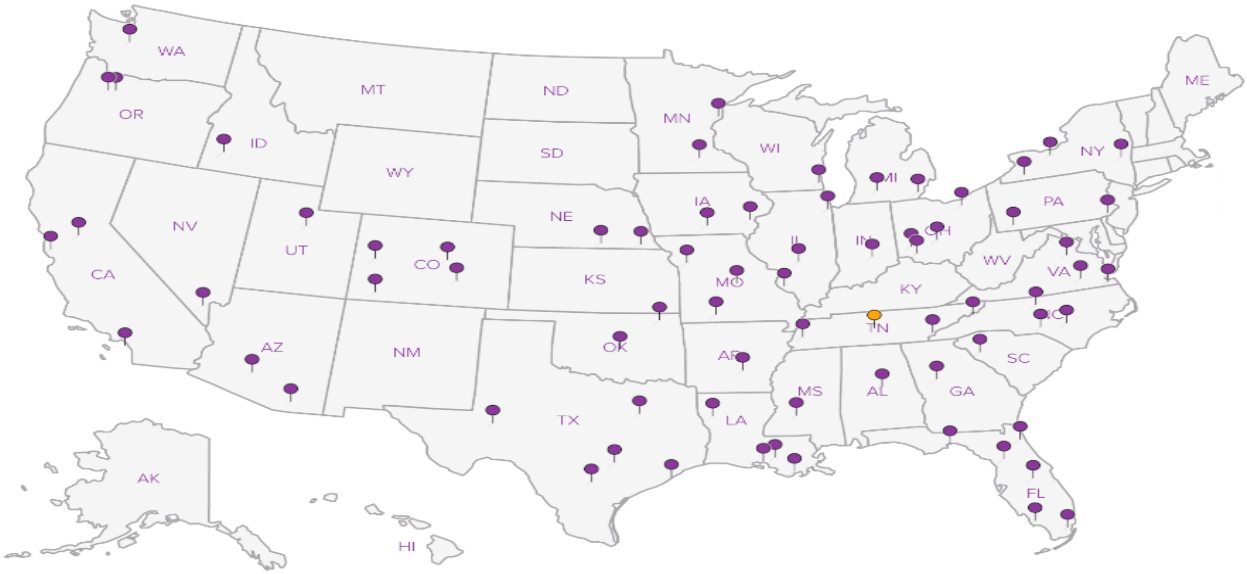
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



Chain of Custody Page 2 of 2

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

L# 843350

J133

Acctnum: TERRWRCO

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Company Name/Address:
Terracon Wheatridge
10625 W. I-70 Frontage Road N
Wheatridge, CO 80033

Billing Information:

Report to: Heather Otterstetter

Email To: Heather.Otterstetter@Terracon.com

Project Description: ~~to~~ City of Longmont Groundwater Sampling

City/State Collected: Longmont, CO

Phone: 303-423-3000
Fax: 303-423-3353

Client Project # 25167304

Lab Project #

Collected by (print): Chelsea Parten

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Date Results Needed

Email? ___No ✓Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 8260 (3) 40ml Amber w/HCl	RSK 175 (3) 40ml Amber w/HCl	Diss. Metals* 6010B 250ml HDPE No Pres	Strontium 6020 250ml HDPE w/Hn03	N02, N03, S04, Bromide, Chloride 300.0 500ml HDPE	Alkalinity 2320 250 ml HDPE No Pres	Rem./Contaminant	Sample # (lab only)
ST-MW01	Grab	GW	2.78	6/23/16	1445	10	X	X	X	X	X	X		01

Analysis / Container / Preservative

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

Remarks: *Ca, Mg, Na, Fe, K Broken up into 2 coolers

pH _____ Temp _____

Flow _____ Other _____

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

Temp: 3.9 °C Bottles Received: 60

Date: 6-24-16 Time: 0900

6777 0003 4277

Hold #

Condition: (lab use only) SW7

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF: X

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/23/16	4:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/23/16	1730	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Company Name/Address:
Terracon Wheatridge
10625 W. I-70 Frontage Road N
Wheatridge, CO 80033

Billing Information:

Report to: Heather Otterstetter

Email To: Heather.Otterstetter@Terracon.com

Project Description: City of Longmont Groundwater Sampling

City/State Collected: Longmont, CO

Phone: 303-423-3000
Fax: 303-423-3353

Client Project # 25167304

Lab Project #

Collected by (print): Chelsea Parten

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Date Results Needed

Email? ___No ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 8260 (3) 40ml Amber w/HCl	RSK 175 (3) 40ml Amber w/HCl	Diss. Metals* 6010B 250ml HDPE No Pres	Strontium 6020 250ml HDPE w/Hn03	N02, N03, S04, Bromide, Chloride 300.0 500ml HDPE	Alkalinity 2320 250 ml HDPE No Pres	Rem./Contaminant	Sample # (lab only)
R-MW05	Grab	GW	8.12	6/23/16	0915	4 10	X	X	X	X	X	X		-11
R-MW02			8.05		0940	10								02
R-MW04			7.99		1000	10								03
R-MW01			7.89		1025	10								04
R-MW3R			7.65		1115	10								05
R-MW06			5.35		1145	10								06
ST-MW06			4.37		1250	10								07
ST-MW05			4.50		1315	10								08
ST-MW04			4.10		1345	10								09
ST-MW03			4.92		1410	10								10

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

Remarks: *Ca, Mg, Na, Fe, K Broken up into 2 coolers

pH ___ Temp ___
Flow ___ Other ___

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ ___
Temp: 2.9 °C Bottles Received: 40

Relinquished by : (Signature) — Date: 6/23/16 Time: 4:00 — Received by: (Signature)
Relinquished by : (Signature) — Date: 6/24/16 Time: 1730 — Received by: (Signature) 6727.0003 4286
Relinquished by : (Signature) — Date: ___ Time: ___ — Received for lab by: (Signature) — Date: 6/25/16 Time: 0900

Hold #

Condition: (lab use only) JW

COC Seal Intact: ___ Y ___ N ___ NA

pH Checked: NCF: X

Chain of Custody Page 1 of 2

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

L # 743350

E074

Acctnum: TERRWRCO

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Matt Shacklock

ESC Lab Sciences
Non-Conformance Form

Login #L843350	Client: TERRWRCO	Date:6/24/16	Evaluated by:Richard

Non-Conformance (check applicable items)

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

Login Comments: Received page 2 of 2 but not page 1 of 2. Received 5 IDs not on this COC. (R-MW3R,ST-MW06,ST-MW07,R-MW06, and 1 set with no info at all.)
No dates and times on these IDs as well. Received sample containers as ST-MW01 which is logged.

Received page 1 on 6/25: Didn't receive R-MW05 and not sure if the sample without any info on it is the sample. Also R-MW02, R-MW04 Nitrate and nitrite is OOH

Client informed by:		Call		Email		Voice Mail		Date: 6/27	Time: 15:07
TSR Initials:DR	Client Contact: HO								

Login Instructions:

Log containers with no sample id as R-MW05

Do not run any nitrate, nitrites that are out of hold

ANALYTICAL REPORT

July 11, 2016

Terracon - Wheat Ridge, CO

Sample Delivery Group:	L843614
Samples Received:	06/25/2016
Project Number:	TERRWRCO-25167304
Description:	City of Longmont Groundwater Monitoring
Site:	25167304
Report To:	Heather Otterstetter 10625 W I70 Frontage Rd,Ste 3 Wheat Ridge, CO 80033

Entire Report Reviewed By:

Daphne R Richards

Daphne Richards
Technical Service Representative

TABLE OF CONTENTS

DM1-MW01 L843614-01 GW

Collected by: Chelsea Parten
Collected date/time: 06/24/16 11:40
Received date/time: 06/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG883983	1	06/28/16 09:35	06/28/16 13:06	CCE
Metals (ICPMS) by Method 6020	WG884067	1	06/30/16 12:27	07/09/16 14:16	JD
Volatile Organic Compounds (GC) by Method RSK175	WG884366	1	06/29/16 11:44	06/29/16 11:44	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG884175	1	06/30/16 02:04	06/30/16 02:04	LRL
Wet Chemistry by Method 2320 B-2011	WG884922	1	06/30/16 19:34	06/30/16 19:34	MCG
Wet Chemistry by Method 9056A	WG883448	1	06/25/16 18:28	06/25/16 18:28	SAM
Wet Chemistry by Method 9056A	WG883448	10	06/25/16 18:42	06/25/16 18:42	SAM

DM1-MW02 L843614-02 GW

Collected by: Chelsea Parten
Collected date/time: 06/24/16 12:25
Received date/time: 06/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG883983	1	06/28/16 09:35	06/28/16 13:09	CCE
Metals (ICPMS) by Method 6020	WG884067	1	06/30/16 12:27	07/09/16 14:19	JD
Volatile Organic Compounds (GC) by Method RSK175	WG884366	1	06/29/16 11:49	06/29/16 11:49	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG884175	1	06/30/16 02:23	06/30/16 02:23	LRL
Wet Chemistry by Method 2320 B-2011	WG884922	1	06/30/16 19:57	06/30/16 19:57	MCG
Wet Chemistry by Method 9056A	WG883448	1	06/25/16 18:57	06/25/16 18:57	SAM
Wet Chemistry by Method 9056A	WG883448	10	06/25/16 19:11	06/25/16 19:11	SAM

DM1-MW03 L843614-03 GW

Collected by: Chelsea Parten
Collected date/time: 06/24/16 13:05
Received date/time: 06/25/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG883983	1	06/28/16 09:35	06/28/16 13:11	CCE
Metals (ICPMS) by Method 6020	WG884067	1	06/30/16 12:27	07/09/16 14:22	JD
Volatile Organic Compounds (GC) by Method RSK175	WG884366	1	06/29/16 11:51	06/29/16 11:51	MJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG884175	1	06/30/16 02:43	06/30/16 02:43	LRL
Wet Chemistry by Method 2320 B-2011	WG884922	1	06/30/16 20:24	06/30/16 20:24	MCG
Wet Chemistry by Method 9056A	WG883448	1	06/25/16 19:26	06/25/16 19:26	SAM
Wet Chemistry by Method 9056A	WG883448	10	06/25/16 19:40	06/25/16 19:40	SAM

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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.

Daphne R Richards

Daphne Richards
Technical Service Representative

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	209000		20000	1	06/30/2016 19:34	WG884922

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	06/25/2016 18:28	WG883448
Chloride	48100		1000	1	06/25/2016 18:28	WG883448
Nitrate	ND		100	1	06/25/2016 18:28	WG883448
Nitrite	ND		100	1	06/25/2016 18:28	WG883448
Sulfate	122000		50000	10	06/25/2016 18:42	WG883448

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	33100		1000	1	06/28/2016 13:06	WG883983
Iron,Dissolved	ND		100	1	06/28/2016 13:06	WG883983
Magnesium,Dissolved	41100		1000	1	06/28/2016 13:06	WG883983
Potassium,Dissolved	1900		1000	1	06/28/2016 13:06	WG883983
Sodium,Dissolved	78700		1000	1	06/28/2016 13:06	WG883983

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	713		10.0	1	07/09/2016 14:16	WG884067

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/29/2016 11:44	WG884366
Ethane	ND		13.0	1	06/29/2016 11:44	WG884366
Ethene	ND		13.0	1	06/29/2016 11:44	WG884366

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/30/2016 02:04	WG884175
Toluene	ND		5.00	1	06/30/2016 02:04	WG884175
Ethylbenzene	ND		1.00	1	06/30/2016 02:04	WG884175
Total Xylenes	ND		3.00	1	06/30/2016 02:04	WG884175
(S) Toluene-d8	*101*		*90.0-115*		*06/30/2016 02:04*	WG884175
(S) Dibromofluoromethane	*100*		*79.0-121*		*06/30/2016 02:04*	WG884175
(S) 4-Bromofluorobenzene	*92.7*		*80.1-120*		*06/30/2016 02:04*	WG884175

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	330000	J6	20000	1	06/30/2016 19:57	WG884922

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	1250		1000	1	06/25/2016 18:57	WG883448
Chloride	61100		1000	1	06/25/2016 18:57	WG883448
Nitrate	ND		100	1	06/25/2016 18:57	WG883448
Nitrite	ND		100	1	06/25/2016 18:57	WG883448
Sulfate	185000		50000	10	06/25/2016 19:11	WG883448

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	68000		1000	1	06/28/2016 13:09	WG883983
Iron,Dissolved	ND		100	1	06/28/2016 13:09	WG883983
Magnesium,Dissolved	58000		1000	1	06/28/2016 13:09	WG883983
Potassium,Dissolved	5670		1000	1	06/28/2016 13:09	WG883983
Sodium,Dissolved	119000		1000	1	06/28/2016 13:09	WG883983

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	1120		10.0	1	07/09/2016 14:19	WG884067

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	43.3		10.0	1	06/29/2016 11:49	WG884366
Ethane	ND		13.0	1	06/29/2016 11:49	WG884366
Ethene	ND		13.0	1	06/29/2016 11:49	WG884366

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/30/2016 02:23	WG884175
Toluene	ND		5.00	1	06/30/2016 02:23	WG884175
Ethylbenzene	ND		1.00	1	06/30/2016 02:23	WG884175
Total Xylenes	ND		3.00	1	06/30/2016 02:23	WG884175
(S) Toluene-d8	*102*		*90.0-115*		*06/30/2016 02:23*	WG884175
(S) Dibromofluoromethane	*100*		*79.0-121*		*06/30/2016 02:23*	WG884175
(S) 4-Bromofluorobenzene	*91.4*		*80.1-120*		*06/30/2016 02:23*	WG884175

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Alkalinity	288000		20000	1	06/30/2016 20:24	WG884922

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	2060		1000	1	06/25/2016 19:26	WG883448
Chloride	110000		10000	10	06/25/2016 19:40	WG883448
Nitrate	4380		100	1	06/25/2016 19:26	WG883448
Nitrite	ND		100	1	06/25/2016 19:26	WG883448
Sulfate	604000		50000	10	06/25/2016 19:40	WG883448

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Calcium,Dissolved	160000		1000	1	06/28/2016 13:11	WG883983
Iron,Dissolved	ND		100	1	06/28/2016 13:11	WG883983
Magnesium,Dissolved	86000		1000	1	06/28/2016 13:11	WG883983
Potassium,Dissolved	2400		1000	1	06/28/2016 13:11	WG883983
Sodium,Dissolved	203000		1000	1	06/28/2016 13:11	WG883983

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Strontium	1800		10.0	1	07/09/2016 14:22	WG884067

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Methane	ND		10.0	1	06/29/2016 11:51	WG884366
Ethane	ND		13.0	1	06/29/2016 11:51	WG884366
Ethene	ND		13.0	1	06/29/2016 11:51	WG884366

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/30/2016 02:43	WG884175
Toluene	ND		5.00	1	06/30/2016 02:43	WG884175
Ethylbenzene	ND		1.00	1	06/30/2016 02:43	WG884175
Total Xylenes	ND		3.00	1	06/30/2016 02:43	WG884175
(S) Toluene-d8	*101*		*90.0-115*		*06/30/2016 02:43*	WG884175
(S) Dibromofluoromethane	*103*		*79.0-121*		*06/30/2016 02:43*	WG884175
(S) 4-Bromofluorobenzene	*90.9*		*80.1-120*		*06/30/2016 02:43*	WG884175

Method Blank (MB)

(MB) R3147112-2 06/30/16 16:56

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity	4560	J	2710	20000

L843614-01 Original Sample (OS) • Duplicate (DUP)

(OS) L843614-01 06/30/16 19:34 • (DUP) R3147112-4 06/30/16 19:41

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	209000	202000	1	3.00		20

L843350-04 Original Sample (OS) • Duplicate (DUP)

(OS) L843350-04 07/01/16 10:38 • (DUP) R3147112-8 07/01/16 08:37

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	389000	427000	1	9.00		20

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

(LCS) R3147112-3 06/30/16 18:21 • (LCSD) R3147112-5 06/30/16 19:48

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Alkalinity	100000	108000	103000	108	103	85.0-115			5.00	20

L843614-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843614-02 06/30/16 19:57 • (MS) R3147112-6 06/30/16 20:05 • (MSD) R3147112-7 06/30/16 20:15

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Alkalinity	100000	330000	396000	398000	66.0	68.0	1	80.0-120	J6	J6	1.00	20

Method Blank (MB)

(MB) R3145970-1 06/25/16 08:08

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Bromide	U		79.0	1000
Chloride	U		51.9	1000
Nitrate	U		22.7	100
Nitrite	U		27.7	100
Sulfate	U		77.4	5000

L843350-02 Original Sample (OS) • Duplicate (DUP)

(OS) L843350-02 06/25/16 12:42 • (DUP) R3145970-4 06/25/16 12:56

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	86.8	1	0		15
Chloride	41100	41100	1	0		15
Nitrate	3270	3280	1	0		15

L843626-03 Original Sample (OS) • Duplicate (DUP)

(OS) L843626-03 06/25/16 15:49 • (DUP) R3145970-6 06/25/16 16:04

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	0.000	1	0		15
Chloride	1510	1520	1	0		15
Nitrate	440	435	1	1		15
Nitrite	ND	0.000	1	0		15
Sulfate	16700	16700	1	0		15

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

(LCS) R3145970-2 06/25/16 08:23 • (LCSD) R3145970-3 06/25/16 08:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromide	40000	38600	38600	96	96	80-120			0	15
Chloride	40000	38100	38100	95	95	80-120			0	15
Nitrate	8000	7790	7790	97	97	80-120			0	15
Nitrite	8000	7660	7660	96	96	80-120			0	15
Sulfate	40000	38300	38300	96	96	80-120			0	15

L843350-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L843350-03 06/25/16 13:11 • (MS) R3145970-5 06/25/16 13:25

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	50000	ND	45500	91	1	80-120	
Chloride	50000	39600	86800	94	1	80-120	
Nitrate	5000	4680	9400	94	1	80-120	
Nitrite	5000	ND	5130	103	1	80-120	

L843626-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843626-07 06/25/16 17:45 • (MS) R3145970-7 06/25/16 17:59 • (MSD) R3145970-8 06/25/16 18:14

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	50000	ND	47300	47800	95	96	1	80-120			1	15
Chloride	50000	4070	53400	53200	99	98	1	80-120			0	15
Nitrate	5000	198	4940	5020	95	96	1	80-120			2	15
Nitrite	5000	ND	4920	4920	98	98	1	80-120			0	15
Sulfate	50000	23400	71600	71400	96	96	1	80-120			0	15

Method Blank (MB)

(MB) R3146323-1 06/28/16 11:54

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium,Dissolved	101	J	46.3	1000
Iron,Dissolved	U		14.1	100
Magnesium,Dissolved	46.8	J	11.1	1000
Potassium,Dissolved	U		102	1000
Sodium,Dissolved	184	J	98.5	1000

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

(LCS) R3146323-2 06/28/16 11:56 • (LCSD) R3146323-3 06/28/16 11:59

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Calcium,Dissolved	10000	9530	9510	95	95	80-120			0	20
Iron,Dissolved	10000	9550	9560	96	96	80-120			0	20
Magnesium,Dissolved	10000	9710	9710	97	97	80-120			0	20
Potassium,Dissolved	10000	9890	9930	99	99	80-120			0	20
Sodium,Dissolved	10000	9640	9620	96	96	80-120			0	20

L843280-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843280-01 06/28/16 12:02 • (MS) R3146323-5 06/28/16 12:07 • (MSD) R3146323-6 06/28/16 12:10

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium,Dissolved	10000	201000	208000	206000	69	45	1	75-125	V	V	1	20
Iron,Dissolved	10000	13000	24200	22100	112	91	1	75-125			9	20
Magnesium,Dissolved	10000	25400	34800	34200	93	88	1	75-125			2	20
Potassium,Dissolved	10000	13100	22800	22700	97	96	1	75-125			1	20
Sodium,Dissolved	10000	272000	276000	275000	46	30	1	75-125	V	V	1	20

Method Blank (MB)

(MB) R3148673-1 07/09/16 12:56

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Strontium	U		0.160	10.0

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

(LCS) R3148673-2 07/09/16 12:59 • (LCSD) R3148673-3 07/09/16 13:02

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Strontium	50.0	53.6	52.0	107	104	80-120			3	20

Method Blank (MB)

(MB) R3146563-1 06/29/16 11:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Methane	U		2.91	10.0
Ethane	U		4.07	13.0
Ethene	U		4.26	13.0

L843350-05 Original Sample (OS) • Duplicate (DUP)

(OS) L843350-05 06/29/16 11:17 • (DUP) R3146563-2 06/29/16 11:46

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	457	440	1	3.94		20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

L843614-02 Original Sample (OS) • Duplicate (DUP)

(OS) L843614-02 06/29/16 11:49 • (DUP) R3146563-3 06/29/16 12:17

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	43.3	43.1	1	0.420		20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

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

(LCS) R3146563-4 06/29/16 12:20 • (LCSD) R3146563-5 06/29/16 12:22

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Methane	67.8	73.9	66.5	109	98.0	85.0-115			10.6	20
Ethane	129	141	127	109	98.6	85.0-115			10.1	20
Ethene	127	137	124	108	97.5	85.0-115			10.0	20

Method Blank (MB)

(MB) R3146861-3 06/30/16 00:47

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Toluene	U		0.780	5.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*101*			*90.0-115*
(S) Dibromofluoromethane	*99.5*			*79.0-121*
(S) 4-Bromofluorobenzene	*92.2*			*80.1-120*

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

(LCS) R3146861-1 06/29/16 23:28 • (LCSD) R3146861-2 06/29/16 23:48

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	25.9	26.6	104	106	73.0-122			2.80	20
Ethylbenzene	25.0	24.5	25.9	97.9	104	80.9-121			5.79	20
Toluene	25.0	25.8	26.0	103	104	77.9-116			0.700	20
Xylenes, Total	75.0	72.7	75.8	96.9	101	79.2-122			4.17	20
(S) Toluene-d8				*103*	*101*	*90.0-115*				
(S) Dibromofluoromethane				*99.0*	*101*	*79.0-121*				
(S) 4-Bromofluorobenzene				*91.0*	*91.6*	*80.1-120*				

L843614-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L843614-01 06/30/16 02:04 • (MS) R3146861-4 06/30/16 01:06 • (MSD) R3146861-5 06/30/16 01:25

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Benzene	25.0	ND	24.9	23.8	99.5	95.2	1	58.6-133			4.40	20
Ethylbenzene	25.0	ND	25.0	24.3	100	97.0	1	62.7-136			3.10	20
Toluene	25.0	ND	24.5	23.6	98.2	94.4	1	67.8-124			3.97	20
Xylenes, Total	75.0	ND	73.1	71.0	97.5	94.7	1	65.6-133			2.99	20
(S) Toluene-d8					*102*	*102*		*90.0-115*				
(S) Dibromofluoromethane					*101*	*101*		*79.0-121*				
(S) 4-Bromofluorobenzene					*91.3*	*91.3*		*80.1-120*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
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.
(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.
Rec.	Recovery.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**

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

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

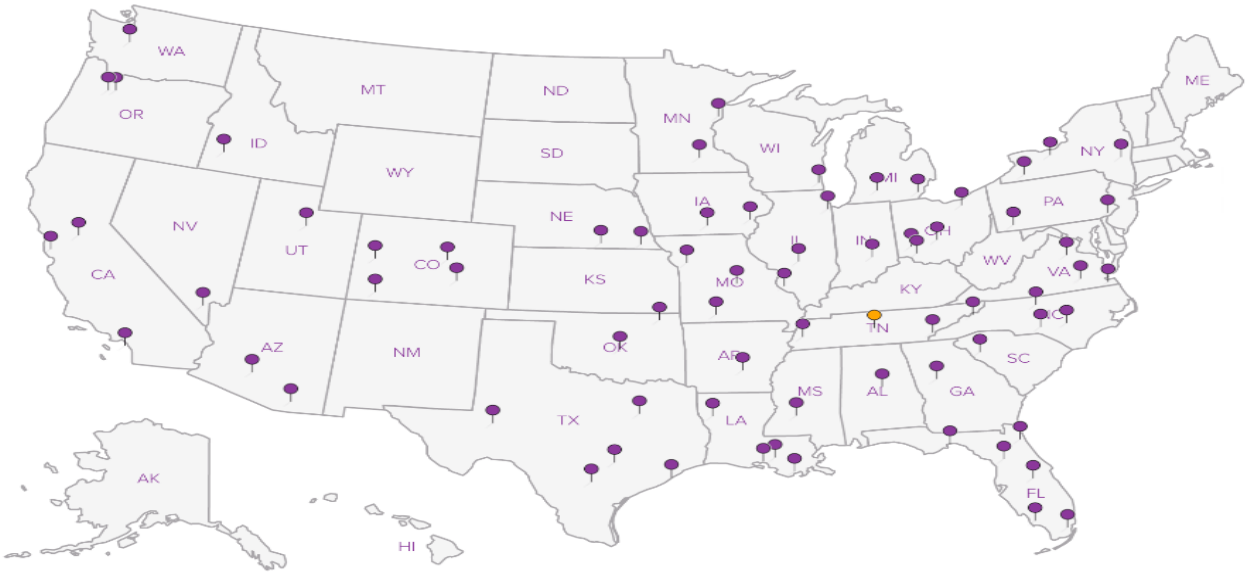
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



Company Name/Address:
Terracon Wheatridge
10625 W. I-70 Frontage Road N
Wheatridge, CO 80033

Billing Information:

Report to: Heather Otterstetter
Email To: Heather.Otterstetter@terracon.com

Project Description: City of Longmont Groundwater Sampling
City/State Collected:

Phone: 303-423-3000
Fax: 303-423-3353

Client Project # 25167304
Lab Project #

Collected by (print): Chelsea Parten
Site/Facility ID # 25167304
P.O. #

Collected by (signature):
Immediately Packed on Ice N ____ Y ____

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

Date Results Needed

Email? ___No ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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

L# L843614
Tabl E069
Acctnum: TERRWRCO
Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 8260 (3) 40ml Amber w/HCl	RSK 175 (3) 40ml Amber w/HCl	Diss. Metals* 6010B 250ml HDPE No Pres	Strontium 6020 250ml HDPE w/Hn03	N02, N03, S04, Bromide, Chloride 300.0 500ml HDPE	Alkalinity 2320 250 ml HDPE No Pres	Rem./Contaminant	Sample # (lab only)
DMI-MW01	Grab	GW	5.48	6/24/16	1140	10	X	X	X	X	X	X		-01
DMI-MW02	↓	↓	2.34	↓	1225	8	↓	↓	↓	↓	↓	↓		-02
DMI-MW03	↓	↓	3.34	↓	1305	10	↓	↓	↓	↓	↓	↓		-03

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

Remarks: ***Ca, Mg, Na, Fe, K**

PC
6 7710003 5674

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Chelsea Parten	6/24/16	1630	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/24/16	1730	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Forest Huff

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____
Temp: 3.2 °C Bottles Received: 28
Date: 6/25/16 Time: 900

Condition: (lab use only) GDW
COC Seal Intact: ____Y ____N ✓NA
pH Checked: NCF: X

ESC Lab Sciences
Non-Conformance Form

Login #:L843614	Client:TERRWRCO	Date:06/25/16	Evaluated by:Greg D.

Non-Conformance (check applicable items)

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

Login Comments:Received 2 broken vials for DM1-MW02

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

Login Instructions:

ANALYTICAL REPORT

July 14, 2016

Terracon - Wheat Ridge, CO

Sample Delivery Group:	L846106
Samples Received:	07/09/2016
Project Number:	25167304
Description:	City of Longmont Groundwater Monitoring
Site:	RIDER
Report To:	Heather Otterstetter 10625 W I70 Frontage Rd,Ste 3 Wheat Ridge, CO 80033

Entire Report Reviewed By:

Daphne R Richards

Daphne Richards
Technical Service Representative

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

R-MW01 L846106-01 WW

Collected by: Chelsea Parten
Collected date/time: 07/08/16 09:40
Received date/time: 07/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 300.0	WG887606	1	07/09/16 19:29	07/09/16 19:29	CM
Wet Chemistry by Method 300.0	WG887706	10	07/13/16 13:33	07/13/16 13:33	SAM

R-MW02 L846106-02 WW

Collected by: Chelsea Parten
Collected date/time: 07/08/16 10:15
Received date/time: 07/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 300.0	WG887606	1	07/09/16 19:58	07/09/16 19:58	CM
Wet Chemistry by Method 300.0	WG887706	10	07/13/16 14:33	07/13/16 14:33	SAM

R-MW04 L846106-03 WW

Collected by: Chelsea Parten
Collected date/time: 07/08/16 10:40
Received date/time: 07/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 300.0	WG887606	1	07/09/16 20:12	07/09/16 20:12	CM
Wet Chemistry by Method 300.0	WG887706	10	07/13/16 14:48	07/13/16 14:48	SAM

R-MW05 L846106-04 WW

Collected by: Chelsea Parten
Collected date/time: 07/08/16 11:15
Received date/time: 07/09/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 300.0	WG887606	1	07/09/16 20:27	07/09/16 20:27	CM
Wet Chemistry by Method 300.0	WG887706	10	07/13/16 15:02	07/13/16 15:02	SAM

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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.

Daphne R Richards

Daphne Richards
Technical Service Representative

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	07/09/2016 19:29	WG887606
Chloride	36900		1000	1	07/09/2016 19:29	WG887606
Nitrate as (N)	5020		100	1	07/09/2016 19:29	WG887606
Nitrite as (N)	ND		100	1	07/09/2016 19:29	WG887606
Sulfate	359000		50000	10	07/13/2016 13:33	WG887706

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	07/09/2016 19:58	WG887606
Chloride	42000		1000	1	07/09/2016 19:58	WG887606
Nitrate as (N)	2940		100	1	07/09/2016 19:58	WG887606
Nitrite as (N)	ND		100	1	07/09/2016 19:58	WG887606
Sulfate	313000		50000	10	07/13/2016 14:33	WG887706

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	07/09/2016 20:12	WG887606
Chloride	39700		1000	1	07/09/2016 20:12	WG887606
Nitrate as (N)	2980		100	1	07/09/2016 20:12	WG887606
Nitrite as (N)	ND		100	1	07/09/2016 20:12	WG887606
Sulfate	334000		50000	10	07/13/2016 14:48	WG887706

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Bromide	ND		1000	1	07/09/2016 20:27	WG887606
Chloride	42100		1000	1	07/09/2016 20:27	WG887606
Nitrate as (N)	3980		100	1	07/09/2016 20:27	WG887606
Nitrite as (N)	ND		100	1	07/09/2016 20:27	WG887606
Sulfate	310000		50000	10	07/13/2016 15:02	WG887706

Method Blank (MB)

(MB) R3148753-1 07/09/16 06:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Bromide	U		79.0	1000
Chloride	U		51.9	1000
Nitrate	U		22.7	100
Nitrite	U		27.7	100

L846106-01 Original Sample (OS) • Duplicate (DUP)

(OS) L846106-01 07/09/16 19:29 • (DUP) R3148753-4 07/09/16 19:43

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	94.5	1	0		20
Chloride	36900	36500	1	1		20
Nitrate	5020	4420	1	13		20
Nitrite	ND	0.000	1	0		20

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

(LCS) R3148753-2 07/09/16 07:13 • (LCSD) R3148753-3 07/09/16 07:27

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromide	40000	39400	39400	98	98	90-110			0	20
Chloride	40000	39000	39000	98	97	90-110			0	20
Nitrate	8000	8000	7990	100	100	90-110			0	20
Nitrite	8000	7850	7870	98	98	90-110			0	20

L846106-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L846106-04 07/09/16 20:27 • (MS) R3148753-5 07/09/16 21:10 • (MSD) R3148753-6 07/09/16 21:24

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	50000	ND	46600	47200	93	94	1	80-120			1	20
Chloride	50000	42100	90800	87000	97	90	1	80-120			4	20
Nitrate	5000	3980	8800	8930	96	99	1	80-120			1	20
Nitrite	5000	ND	5060	5130	101	103	1	80-120			1	20

Method Blank (MB)

(MB) R3149632-1 07/13/16 06:59

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Sulfate	U		77.4	5000

L846106-01 Original Sample (OS) • Duplicate (DUP)

(OS) L846106-01 07/13/16 13:33 • (DUP) R3149632-4 07/13/16 13:48

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	359000	359000	10	0		20

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

(LCS) R3149632-2 07/13/16 07:14 • (LCSD) R3149632-3 07/13/16 07:29

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Sulfate	40000	40100	40200	100	100	90-110			0	20

L846213-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L846213-04 07/13/16 16:02 • (MS) R3149632-5 07/13/16 16:17 • (MSD) R3149632-6 07/13/16 16:32

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Sulfate	50000	ND	50800	50700	101	101	1	80-120			0	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
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.
Rec.	Recovery.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

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

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

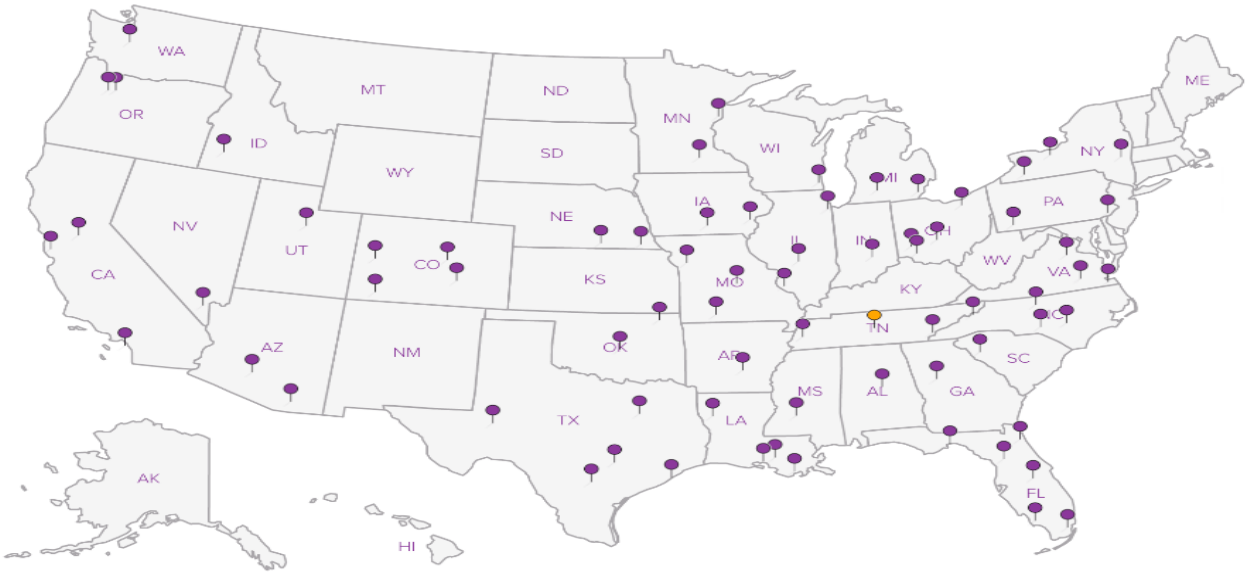
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

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

Our Locations

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



Chain of Custody Page ___ of ___

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Fax: 615-758-5859

L# 846166
J130

Company Name/Address:
Terracon (Wheat Ridge)
10625 W. I-70 Frontage Rd N
Wheat Ridge, CO 80033

Billing Information:

Report to: Heather Otterstetter

Email To: Heather.Otterstetter@terracon.com

Project Description: City of Longmont GW sampling

City/State Collected: Longmont/CO

Phone: (303) 423-3000
Fax: (303) 423-3353

Client Project # 25167304

Lab Project #

Collected by (print): Chelsea Parten

Site/Facility ID # Rider

P.O. #

Collected by (signature): Chelpt

Immediately Packed on Ice N ___ Y X

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

Date Results Needed

Email? ___No ___Yes
FAX? ___No ___Yes

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

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NO2, NO3, SO4, Bromide, Chloride, 300.0 500 ml HDPE	Rem./Contaminant	Sample # (lab only)
R-MW01	Grab	GW	7.86	7/8/16	0940	1	X		01
R-MW02	↓	↓	7.95	↓	1015	1	X		02
R-MW04	↓	↓	7.93	↓	1040	1	X		03
R-MW05	↓	↓	8.02	↓	1115	1	X		04

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

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

Temp: 3.7 °C Bottles Received: 4=D

Date: 7-9-16 Time: 900

Received for lab by: (Signature)

Relinquished by: (Signature) Chelpt Date: 7/8/16 Time: 1220

Relinquished by: (Signature) Date: 7/8/16 Time: 1730

Relinquished by: (Signature) Date: Time:

Received by: (Signature)

Received by: (Signature)

6777000 S 1258

Hold #

Condition: (lab use only) OK

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

APPENDIX C
PROUCL STATISTICAL ANALYSIS OUTPUTS

Outlier Tests for Selected Uncensored Variables

User Selected Options

Date/Time of Computation	ProUCL 5.18/23/2016 11:19:52 AM
From File	Chloride and Sulfate data for ProUCL_a.xls
Full Precision	OFF

Rosner's Outlier Test for Chloride

Mean	**41.06**
Standard Deviation	**5.985**
Number of data	**40**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	41.06	5.91	55.3	5	2.41	3.04	3.38

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

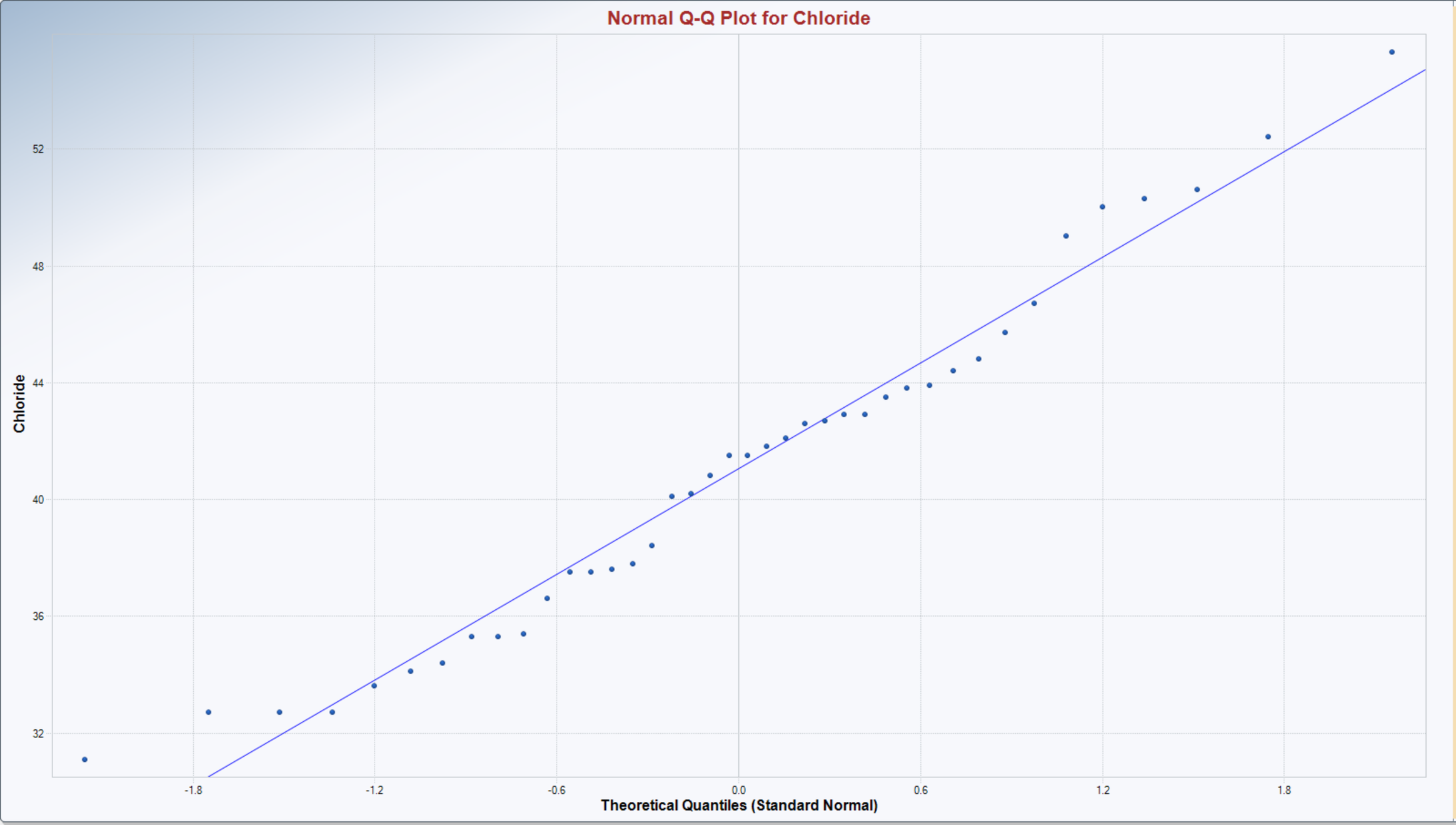
Rosner's Outlier Test for Sulfate

Mean	**745.9**
Standard Deviation	**353.9**
Number of data	**35**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	745.9	348.8	1430	29	1.961	2.98	3.32

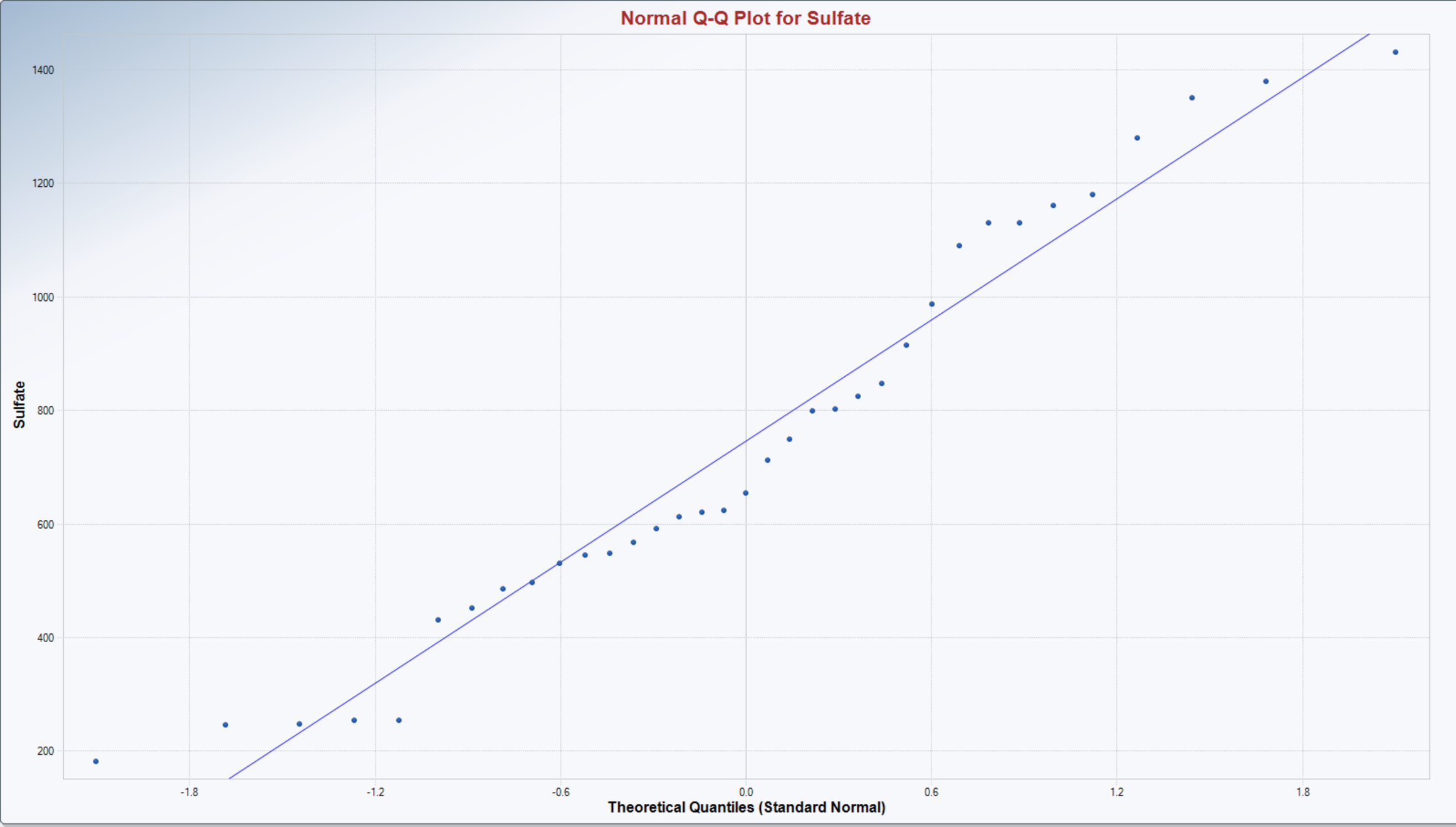
For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier



Chloride

- n = 40
- Mean = 41.06
- Sd = 5.985
- Slope = 6.039
- Intercept = 41.06
- Correlation, R = 0.987
- Shapiro-Wilk Test
- Exact Test Value = 0.963
- Critical Val(0.05) = 0.940
- Data Appear Normal
- Approx. Test Value = 0.963
- p-Value = 0.295
- ☑ Best Fit Line


Normal Q-Q Plot for Sulfate
Sulfate
1400
1200
1000
800
600
400
200
-1.8
-1.2
-0.6
0.0
0.6
1.2
1.8
Theoretical Quantiles (Standard Normal)
Sulfate
n = 35
Mean = 745.9
Sd = 353.9
Slope = 356
Intercept = 745.9
Correlation, R = 0.981
Shapiro-Wilk Test
Exact Test Value = 0.946
Critical Val(0.05) = 0.934
Data Appear Normal
Approx. Test Value = 0.946
p-Value = 0.108
Best Fit Line