Baseline Groundwater Sampling Report

Knight Well Pad Site, Olander Well Pad Site, and Union Reservoir
Longmont, Weld County, Colorado

January 25, 2021
Terracon Project No. 22187053

Prepared for:
City of Longmont
Longmont, Colorado

Prepared by:
Terracon Consultants, Inc.
Longmont, Colorado

January 25, 2021

City of Longmont
1100 South Sherman Street
Longmont, Colorado 80501

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

Re: Baseline Groundwater Sampling Report
Knight Well Pad Site, Olander Well Pad Site, and Union Reservoir
Longmont, Weld County, Colorado
Terracon Project No. 22187053

Dear Dr. Turner,

Terracon Consultants, Inc. (Terracon) is pleased to submit this Baseline Groundwater Sampling Report for groundwater analysis performed at the above referenced sites. The report presents data from recent field activities conducted on January 4, 2021, that included the collection of groundwater samples for laboratory analysis. Terracon conducted this assessment in general accordance with our proposals P22187033 and P22187053.

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

Sincerely,

Terracon Consultants, Inc.

Charles A. Covington
Staff Geologist

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

TABLE OF CONTENTS

BASELINE GROUNDWATER SAMPLING REPORT
KNIGHT WELL PAD SITE, OLANDER WELL PAD SITE, AND UNION RESERVOIR
LONGMONT, WELD COUNTY, COLORADO

Terracon Project No. 22187053
January 25, 2021

1.0 SITE DESCRIPTION

The Knight Well Pad site is located between State Highway 66 to the north and Weld County Road 28 to the south at 690 State Highway 66. The Olander Well Pad site is located between State Highway 66 to the north and Weld County Road 28 to the south at 1430 State Highway 66. The Union Reservoir site is located between Weld County Road 28 to the north and Union Reservoir to the south in Longmont, Weld County, Colorado.

Site Diagrams are included as Exhibit 1, Exhibit 2, and Exhibit 3 in Appendix A.

2.0 SCOPE OF SERVICES

In 2012, Terracon was retained by the City of Longmont (City) to assess seventeen plugged and abandoned oil and gas wells located within the City limits. The objective of the 2012 assessment was to provide information concerning the plugging and abandoning of 17 oil and gas (O&G) wellheads located within the City and to assess the potential presence of surficial soil impacts, methane and other gases in the subsurface near the surveyed well locations.

The City of Longmont has continued to assess sensitive environmental receptors, including soil, water, and soil gas conditions related to current and future oil and gas exploration and production in and around city limits. Terracon understands that the City of Longmont would like to expand the scope of work to include assessing the condition of soil, groundwater, and soil gas at select locations including collection of background conditions prior to future O&G activities.

Terracon installed permanent monitoring wells at the sites for the purpose of establishing a background groundwater data set prior to construction of future O&G exploration and production (E&P) facilities. The scope of services includes monthly groundwater monitoring for constituents of concern related to O&G production.

Terracon conducted the fieldwork under a safety plan developed for this project. Work was performed using United States Environmental Protection Agency (USEPA) Level D work attire consisting of hard hats, safety glasses, protective gloves, and protective boots.

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 groundwater sampling services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal and were not restricted by ASTM E1903-19.

2.2 Additional Scope Limitations

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

2.3 Reliance

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

3.0 GROUNDWATER SAMPLING

Groundwater sampling activities were completed on January 4, 2021 by a Terracon Scientist. One groundwater sample was collected from the monitoring well MW-01 at the Olander Well Pad Site

(Olander) and one groundwater sample was collected from each of the three monitoring wells (MW-01, MW-02, and MW-03) at the Union Reservoir Site (Union) for laboratory analysis. Due to site access restrictions, monitoring well MW-03 at the Knight Well Pad site was not sampled during this sampling event. Olander MW-01 was purged by removing approximately three well volumes, or approximately 14 gallons of water from the monitoring well until water parameter measurements stabilized. Union MW-01, MW-02, and MW-03 were not purged due to a lack of sufficient water for sampling in the monitoring well.

Groundwater samples were collected from each monitoring well using a new, disposable, polypropylene bailer. After packaging each groundwater sample in laboratory-provided containers, Terracon recorded the sample time on each container label in permanent ink and place the filled containers in an ice-filled cooler for transport to Terracon's office. Sample containers were placed into a shipping container and transported under chain-of-custody to PACE Analytical® (PACE) located in Mt. Juliet, Tennessee for analysis as outlined on the table below:

SAMPLING AND ANALYTICAL PROGRAM	
Groundwater Analysis	VOCs – EPA 8260
	Dissolved Gases – RSK 175
	Dissolved Gases CO_2 – EPA 4500CO2 D2011
	Total Dissolved Solids – EPA 160.1
	Chloride and Sulfate – EPA 300.0

EPA = Environmental Protection Agency; SW-846 analytical methods
VOCs = volatile organic compounds

4.0 GROUNDWATER ANALYTICAL RESULTS

Laboratory analytical results for the groundwater samples were compared to the June 30, 2016 CDPHE Groundwater Quality Standards (GWQSs) and January 2015 COGCC Table 910-1 Groundwater Concentration Levels (910-1 Levels). The groundwater analytical data and corresponding action levels are summarized in the Table in Appendix B. Inorganic analytical results were compared to COGCC standards and previously established background levels.

Analytical results from recent field activities conducted on January 4, 2020 indicated the following:

- Concentrations of VOCs were not reported above method detection limits for the groundwater samples collected.
- Concentrations of chloride (Union MW-01, Union MW-02, and Union MW-03,) were reported above CDPHE and COGCC limits for the groundwater samples collected.

- Concentrations of sulfate (Olander MW-01, Union MW-01, Union MW-02, and Union MW-03) were reported above CDPHE and COGCC limits for the groundwater samples collected.
- Concentrations of Total Dissolved Solids (TDS) were reported above CDPHE minimum groundwater standard of 400 mg/L for the groundwater samples collected.

A comprehensive summary of analytical results for groundwater samples is included in the Table in Appendix B. Laboratory analytical reports are also included in Appendix C.

5.0 CONCLUSIONS

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

- Elevated concentrations of chloride and sulfates exist on the site.
- Concentrations measured from field activities conducted on January 4, 2021 are comparable in magnitude with previously established baseline values.
- Reported concentrations from groundwater samples do not indicate a new or changing source of contamination.

APPENDIX A – EXHIBITS

Exhibit 1 – Knight Well Pad Site Map

Exhibit 2 – Union Reservoir Site Map

Exhibit 3 – Olander Well Pad Site Map

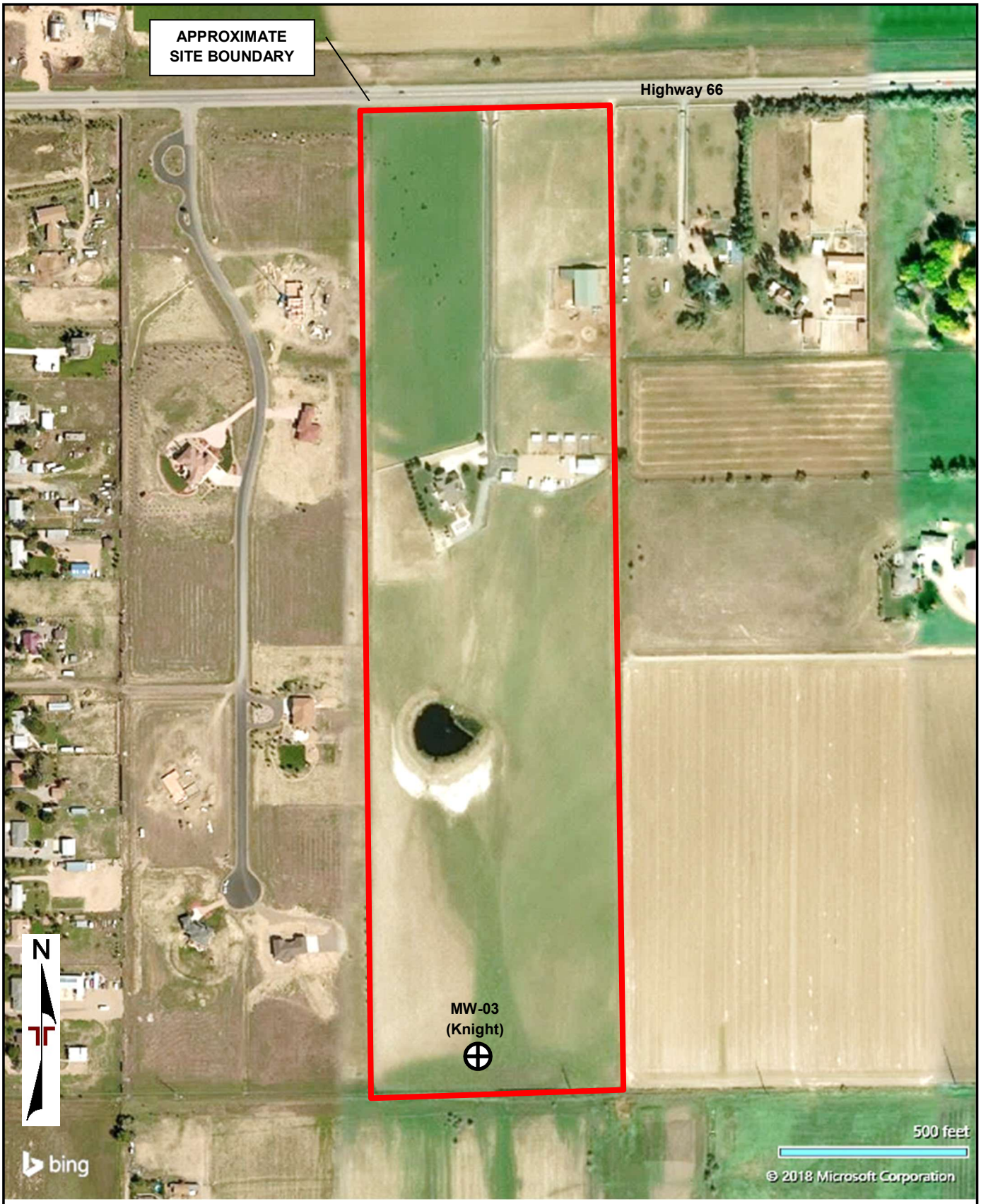


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

Project Manager: MJS	Project No. 22187033	Terracon 1831 Lefthand Cir Ste C Longmont, CO 80501-6768	SITE DIAGRAM Knight Pad Site Baseline Study State Highway 66 Weld County Road 3 Longmont, CO
Drawn by: CSG	Scale: AS SHOWN		
Checked by: JCG	File Name: 22187033		
Approved by: JCG	Date: 10/15/2018		

Exhibit

1

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager:	MJS
Drawn by:	CAC
Checked by:	MJS
Approved by:	JCG

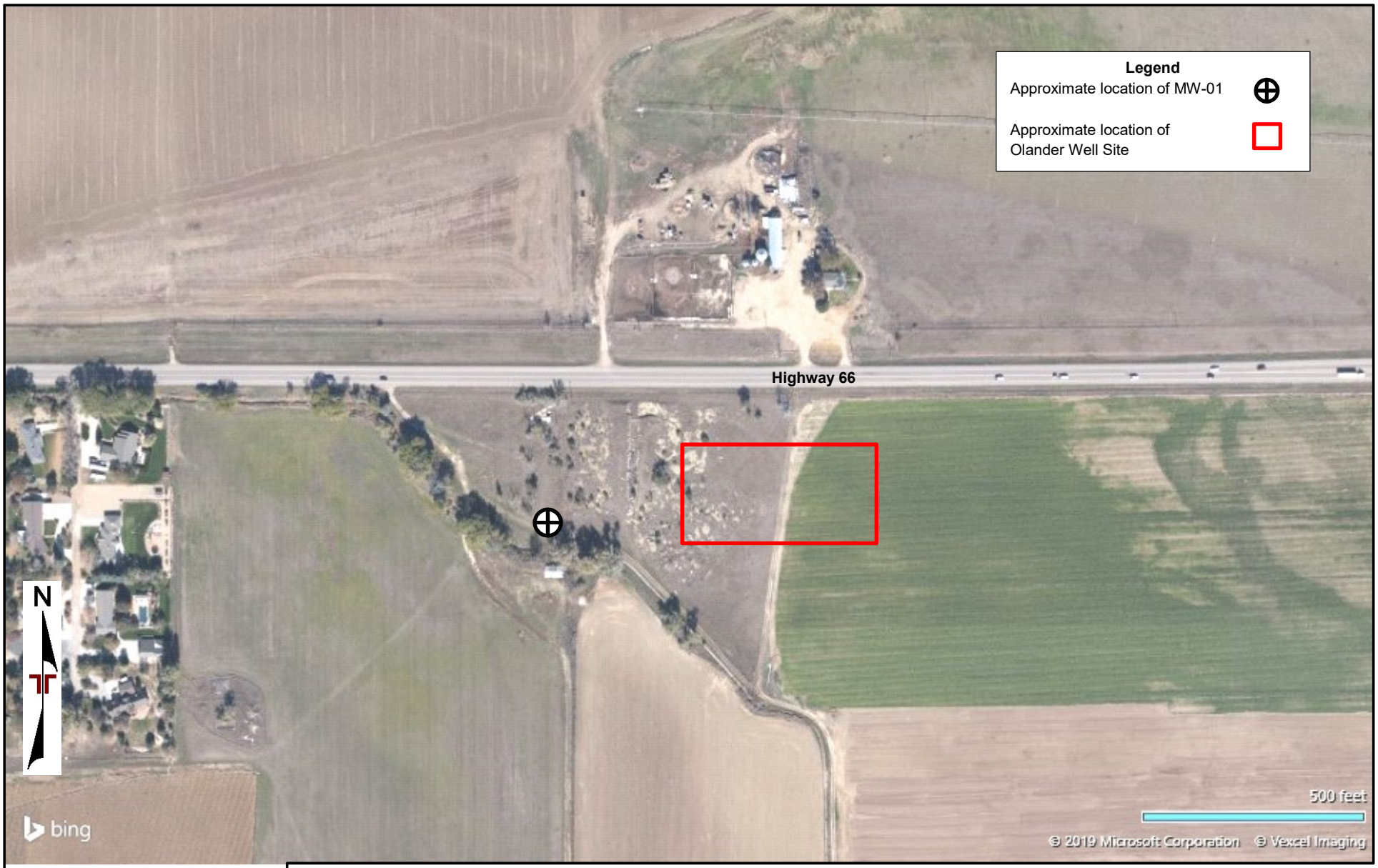
Project No.	22187053
Scale:	AS SHOWN
File Name:	SITE
Date:	1/8/2019

Terracon
1831 Lefthand Cir Ste C
Longmont, CO 80501-6768

SITE DIAGRAM

Union Reservoir Baseline Assessment
Weld County Road 28
Longmont, Colorado

Exhibit
2



AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager:	MJS
Drawn by:	CAC
Checked by:	MJS
Approved by:	JCG

Project No.	22187053
Scale:	AS SHOWN
File Name:	SITE
Date:	July 3, 2019

Terracon
1831 Lefthand Circle Suite C
Longmont, Colorado 80501

SITE DIAGRAM

Olander Well Site Baseline Sampling

1430 State Highway 66
Longmont, Colorado

Exhibit 3

APPENDIX B – GROUNDWATER ANALYTICAL SUMMARY TABLE

Table 1 - Groundwater Analytical Summary City of Longmont - Baseline Groundwater Monitoring
Project Numbers 22187033 22187053

			Volatile Organic Compounds						Semivolatile Organic Compounds		Other Organic Compounds				Inorganic Parameters									General Parameters
Parameter			Benzene	Ethylbenzene	p-Isopropyltoluene	Naphthalene	Toluene	Xylenes (Total)	Fluorene	Phenanthrene	Methane	Ethane	Carbon Dioxide	Ethylene	Arsenic, Dissolved	Barium, Dissolved	Boron, Dissolved	Copper, Dissolved	Lead, Dissolved	Nickel, Dissolved	Selenium, Dissolved	Chloride	Sulfate	Total Dissolved Solids (TDS)
CAS #			71-43-2	100-41-4		91-20-3	108-88-3	1330-20-7	86-73-7	85-01-8	74-82-8	74-84-0		74-85-1	7440-70-2	7439-89-6	7439-95-4					16887-00-6	14808-79-8	
COGCC Table 910-1[3]			0.005	0.7	---	---	0.56	1.4	---	---	---	---	---	---	---	---	---	---	--	---	---	76.21	757.63	---
			---	---	---	---	1[M]	10[M]	---	---	---	---	---	---	---	---	---	---	--	---	---	---	---	---
CDPHE Basic Standards for Groundwater			0.005	0.7	---	0.14	0.56	1.4	0.28	---	---	---	---	---	---	2	0.75	0.2		0.2	0.02	250	250	400-No Limit
Detection Level			0.001	0.001	0.001	0.005	0.001	0.003	0.0001	0.0005	0.0066	0.0062	20	0.0130	0.01	0.01	0.01	0.01	0.01	0.01	0.01			200
Wellsite	Sample ID	Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Olander Well Pad Site	MW-01	8/26/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0729**	**0.285**	ND	ND	ND	ND	**44.7**	**513**	**1,150**
		10/4/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0697**	**0.289**	ND	ND	ND	ND	**43**	**470**	**1,150**
		11/7/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0595**	**0.281**	ND	ND	ND	**0.0114**	**44.7**	**515**	**1,100**
		12/19/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0565**	**0.286**	ND	ND	ND	ND	**39.9**	**473**	**1,120**
		1/16/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0506**	**0.264**	ND	ND	ND	**0.0133**	**41.9**	**528**	**1,050**
		4/20/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**40.5**	**450**	**960**
		5/22/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**39.4**	**492**	**1,160**
		6/30/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**39.2**	**448**	**1,100**
		8/5/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**39.2**	**448**	**1,100**
		8/31/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**40.2**	**388**	**992**
		9/29/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**44.1**	**376**	**1,060**
		10/29/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	**0.0133**	--	--	--	--	--	--	--	**29.9**	**373**	**1,070**
		12/1/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**40.1**	**441**	**1,070**
		1/4/2021	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**43.4**	**482**	**1,160**
Knight Well Pad Site	MW-03	11/2/2018	ND	ND	ND	**0.000252**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.048**	**0.508**	ND	ND	ND	**0.0816**	**173**	**4,500**	**7,270**
		12/20/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.028**	**0.508**	ND	ND	ND	**0.0694**	**156**	**4,580**	**7,230**
		2/1/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0248**	**0.57**	ND	ND	ND	**0.0758**	**155**	**4,590**	**6,570**
		2/27/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.024**	**0.593**	ND	ND	ND	**0.0903**	**170**	**4,610**	**7,020**
		4/2/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25.3**	ND	ND	**0.0207**	**0.567**	ND	ND	**0.0121**	**0.0964**	**177**	**4,410**	**7,110**
		5/17/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0197**	**0.583**	ND	ND	**0.00747**	**0.0808**	**182**	**4,430**	**7,880**
		7/8/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0155**	**0.651**	ND	ND	ND	**0.077**	**163**	**4,430**	**6,930**
		8/26/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0155**	**0.589**	ND	ND	ND	**0.0833**	**175**	**4,840**	**7,340**
		10/4/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0257**	**0.601**	ND	**0.0073**	**0.0108**	**0.0774**	**161**	**4,840**	**6,360**
		11/7/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	**--**	**--**
		12/19/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**24.4**	ND	ND	**0.016**	**0.604**	ND	ND	ND	**0.0705**	**174**	**4,630**	**6,490**
		1/16/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**29.3**	ND	ND	**0.0157**	**0.594**	ND	ND	ND	**0.0765**	**167**	**4,720**	**6,790**
		4/15/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**162**	**4,300**	**6,540**
		5/22/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**165**	**4,390**	**5,760**
		6/30/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	**--**	**--**
		8/5/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	**--**	**--**
		8/31/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	**--**	**--**
		9/29/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	**--**	**--**
		10/29/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	**--**	**--**
		12/1/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	**--**	**--**
		1/4/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	**--**	**--**

Table 1 - Groundwater Analytical Summary City of Longmont - Baseline Groundwater Monitoring
Project Numbers 22187033 22187053

			Volatile Organic Compounds						Semivolatile Organic Compounds		Other Organic Compounds				Inorganic Parameters									General Parameters
Parameter			Benzene	Ethylbenzene	p-Isopropyltoluene	Naphthalene	Toluene	Xylenes (Total)	Fluorene	Phenanthrene	Methane	Ethane	Carbon Dioxide	Ethylene	Arsenic, Dissolved	Barium, Dissolved	Boron, Dissolved	Copper, Dissolved	Lead, Dissolved	Nickel, Dissolved	Selenium, Dissolved	Chloride	Sulfate	Total Dissolved Solids (TDS)
CAS #			71-43-2	100-41-4		91-20-3	108-88-3	1330-20-7	86-73-7	85-01-8	74-82-8	74-84-0		74-85-1	7440-70-2	7439-89-6	7439-95-4					16887-00-6	14808-79-8	
COGCC Table 910-1[3]			0.005	0.7	---	---	0.56	1.4	---	---	---	---	---	---	---	---	---	---	--	---	---	76.21	757.63	---
			---	---	---	---	1[M]	10[M]	---	---	---	---	---	---	---	---	---	---	--	---	---	---	---	---
CDPHE Basic Standards for Groundwater			0.005	0.7	---	0.14	0.56	1.4	0.28	---	---	---	---	---	---	2	0.75	0.2		0.2	0.02	250	250	400-No Limit
Detection Level			0.001	0.001	0.001	0.005	0.001	0.003	0.0001	0.0005	0.0066	0.0062	20	0.0130	0.01	0.01	0.01	0.01	0.01	0.01	0.01			200
Wellsite	Sample ID	Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Union Reservoir	MW-01	10/31/2018	ND	ND	**0.00122**	ND	ND	ND	**0.000058**	ND	ND	ND	ND	ND	ND	**0.0715**	**1.11**	**0.0167**	ND	**0.0105**	**0.0358**	**357**	**15,500**	**20,000**
		12/20/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0237**	**1.1**	ND	ND	ND	**0.0135**	**169**	**8,190**	**12,100**
		2/1/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0215**	**1.05**	ND	ND	ND	**0.0229**	**181**	**8,070**	**11,800**
		2/27/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0223**	**1.02**	ND	ND	ND	**0.0159**	**160**	**7,570**	**10,900**
		4/2/2019	ND	ND	ND	ND	ND	ND	ND	**0.0000513**	ND	ND	ND	ND	ND	**0.0241**	**0.948**	**0.0104**	ND	ND	**0.0464**	**220**	**8,500**	**13,300**
		5/17/2019	ND	ND	ND	ND	ND	ND	ND	**0.0000727**	ND	ND	ND	ND	ND	**0.0213**	**1.12**	ND	ND	**0.00258**	**0.0161**	**170**	**7,400**	**11,500**
		7/8/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0224**	**1.39**	ND	ND	ND	**0.0108**	**124**	**6,100**	**10,800**
		8/26/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0168**	**1.48**	ND	ND	ND	ND	**123**	**6,940**	**10,300**
		10/4/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0268**	**1.57**	ND	ND	ND	**0.0127**	**117**	**6,800**	**10,400**
		11/7/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.019**	**1.46**	ND	ND	ND	**0.021**	**125**	**6,720**	**10,200**
		12/19/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0158**	**1.13**	ND	ND	ND	**0.0697**	**172**	**7,990**	**10,500**
		1/16/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0147**	**1.05**	ND	ND	ND	**0.0755**	**202**	**8,450**	**11,600**
		4/20/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**163**	**7,530**	**9,960**
		5/22/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**117**	**7,040**	**9,040**
		6/30/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**117**	**6,110**	**9,240**
		8/5/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**117**	**6,110**	**9,240**
		8/31/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**106**	**6,600**	**3,570**
		9/29/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**106**	**6,370**	**9,950**
		10/29/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**91.7**	**8,030**	**10,000**
		12/1/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**136**	**6,890**	**9,540**
		1/4/2021	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**123**	**6,590**	**10,100**
	MW-02	10/31/2018	ND	ND	ND	ND	ND	ND	**0.0000647**	**0.000083**	ND	ND	ND	ND	ND	**0.0447**	**1.03**	ND	ND	ND	**0.465**	**569**	**14,800**	**19,700**
		12/20/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0159**	**0.866**	ND	ND	ND	**0.318**	**504**	**17,400**	**20,500**
		2/1/2019	ND	ND	ND	ND	ND	ND	ND	ND	**0.0108**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.311**	**535**	**14,200**	**19,400**
		2/27/2019	ND	ND	ND	ND	ND	ND	ND	**0.0000658**	ND	ND	ND	ND	ND	**0.0134**	**0.769**	ND	ND	ND	**0.344**	**516**	**13,900**	**20,100**
		4/2/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0158**	**0.727**	ND	ND	ND	**1.15**	**465**	**12,000**	**18,400**
		5/17/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0176**	**0.84**	**0.00544**	ND	**0.00429**	**0.577**	**480**	**13,000**	**18,800**
		7/8/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**20.5**	ND	ND	**0.0212**	**0.926**	ND	ND	ND	**0.455**	**491**	**11,900**	**19,700**
		8/26/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.017**	**1.05**	ND	ND	ND	**0.383**	**500**	**13,400**	**19,900**
		10/4/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0601**	**1.06**	**0.012**	**0.0051**	**0.0148**	**0.365**	**534**	**13,800**	**21,800**
		11/7/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25.6**	ND	ND	**0.0141**	**0.983**	ND	ND	ND	**0.367**	**521**	**13,500**	**19,500**
		12/19/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0113**	**0.861**	ND	ND	ND	**0.405**	**497**	**14,200**	**12,900**
		1/16/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**20.7**	ND	ND	**0.0116**	**0.837**	ND	ND	ND	**0.325**	**515**	**14,700**	**20,000**
		4/20/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**384**	**9,560**	**16,400**
		5/22/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**469**	**12,900**	**15,200**
		6/30/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	**21.1**	ND	--	--	--	--	--	--	--	**430**	**11,600**	**16,600**
		8/5/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	**21.1**	ND	--	--	--	--	--	--	--	**430**	**11,600**	**16,600**
		8/31/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	**20**	ND	--	--	--	--	--	--	--	**506**	**14,400**	**19,600**
		9/29/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**487**	**13,100**	**22,000**
		10/29/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**460**	**10,800**	**21,300**
		12/1/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**480**	**13,600**	**20,200**
		1/4/2021	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**512**	**13,600**	**21,600**

Table 1 - Groundwater Analytical Summary City of Longmont - Baseline Groundwater Monitoring
Project Numbers 22187033 22187053

			Volatile Organic Compounds						Semivolatile Organic Compounds		Other Organic Compounds				Inorganic Parameters									General Parameters
Parameter			Benzene	Ethylbenzene	p-Isopropyltoluene	Naphthalene	Toluene	Xylenes (Total)	Fluorene	Phenanthrene	Methane	Ethane	Carbon Dioxide	Ethylene	Arsenic, Dissolved	Barium, Dissolved	Boron, Dissolved	Copper, Dissolved	Lead, Dissolved	Nickel, Dissolved	Selenium, Dissolved	Chloride	Sulfate	Total Dissolved Solids (TDS)
CAS #			71-43-2	100-41-4		91-20-3	108-88-3	1330-20-7	86-73-7	85-01-8	74-82-8	74-84-0		74-85-1	7440-70-2	7439-89-6	7439-95-4					16887-00-6	14808-79-8	
COGCC Table 910-1[3]			0.005	0.7	---	---	0.56	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---	76.21	757.63	---
			---	---	---	---	1[M]	10[M]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
CDPHE Basic Standards for Groundwater			0.005	0.7	---	0.14	0.56	1.4	0.28	---	---	---	---	---	---	2	0.75	0.2		0.2	0.02	250	250	400-No Limit
Detection Level			0.001	0.001	0.001	0.005	0.001	0.003	0.0001	0.0005	0.0066	0.0062	20	0.0130	0.01	0.01	0.01	0.01	0.01	0.01	0.01			200
Wellsite	Sample ID	Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Union Reservoir	MW-03	10/31/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.101**	**2.95**	ND	ND	ND	**1.24**	**1,830**	**50,300**	**77,700**
		12/20/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**33.3**	ND	**0.0144**	**0.0281**	**2.07**	**0.0304**	ND	ND	**1.26**	**1,590**	**62,600**	**73,300**
		2/1/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**38.3**	ND	ND	**0.0263**	**2.12**	ND	ND	ND	**1.05**	**1,860**	**48,200**	**58,900**
		2/27/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25.3**	ND	ND	ND	ND	ND	ND	ND	**0.963**	**1,670**	**43,900**	**68,300**
		4/2/2019	ND	ND	ND	ND	ND	ND	**0.000054**	**0.000101**	ND	ND	**35**	ND	**0.0139**	**0.0269**	**1.85**	**0.0306**	ND	ND	**1.45**	**1,580**	**44,500**	**62,600**
		5/17/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**22.3**	ND	**0.00384**	**0.0243**	**2.12**	ND	ND	**0.00921**	**1.1**	**1,540**	**41,500**	**59,700**
		7/8/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**33.7**	ND	**0.011**	**0.0272**	**2.82**	**0.0224**	ND	**0.0129**	**1.19**	**1,540**	**41,700**	**66,000**
		8/26/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**35.1**	ND	ND	ND	**1.33**	ND	ND	ND	**0.713**	**1,560**	**49,700**	**70,200**
		10/4/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**24.7**	ND	ND	**0.0468**	**2.93**	ND	ND	ND	**1.46**	**1,600**	**47,500**	**72,100**
		11/7/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**50.4**	ND	ND	ND	**2.31**	ND	ND	ND	**1.15**	**1,620**	**44,700**	**57,400**
		12/19/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**46.8**	ND	**0.0101**	**0.0158**	**1.95**	**0.035**	ND	ND	**1.12**	**1,660**	**48,600**	**31,700**
		1/16/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**44.9**	ND	ND	ND	**1.85**	ND	ND	ND	**0.778**	**1,660**	**45,500**	**59,900**
		4/20/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	**1,510**	**39,200**	**52,200**
		5/22/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	**29.5**	ND	--	--	--	--	--	--	--	**1,500**	**43,500**	**30,500**
		6/30/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	**40**	ND	--	--	--	--	--	--	--	**1,500**	**40,700**	**40,400**
		8/5/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	**50.8**	ND	--	--	--	--	--	--	--	**1,570**	**42,800**	**50,200**
		8/31/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	**40**	ND	--	--	--	--	--	--	--	**1,680**	**49,600**	**76,900**
		9/29/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	**47.8**	ND	--	--	--	--	--	--	--	**1,630**	**44,400**	**70,000**
		10/29/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	**27.1**	**0.0144**	--	--	--	--	--	--	--	**1,600**	**36,800**	**58,800**
		12/1/2020	ND	ND	ND	ND	ND	ND	--	--	ND	ND	**22.4**	ND	--	--	--	--	--	--	--	**1,680**	**41,300**	**57,700**
		1/4/2021	ND	ND	ND	ND	ND	ND	--	--	ND	ND	**38.6**	ND	--	--	--	--	--	--	--	**1,700**	**38,700**	**53,800**

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

[1] Wells were observed to be destroyed. Unable to measure depths to water.
[2] The aluminum collar around the well casing was bent and the concrete surface completion was found separated, the well was not sampled.
The bentonite seal may be compromised; however, the analytical data does not indicate that the well is compromised.
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.
COGCC - Colorado Oil and Gas Conservation Commission
CDPHE - Colorado Department of Public Health and Environment
mg/L - milligrams per liter
ND - Parameter not detected above the laboratory detection limit (Detection Limit)
Bold indicates detected constituents
Yellow shading indicates constituents above COGCC Table 910-1 standards.
Red shading indicates constituents detected above CDPHE standards
M - Drinking water maximum contaminant level
-- Not Sampled
--- indicates no regulatory standard

APPENDIX C – ANALYTICAL REPORT AND CHAIN OF CUSTODY

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 11, 2021

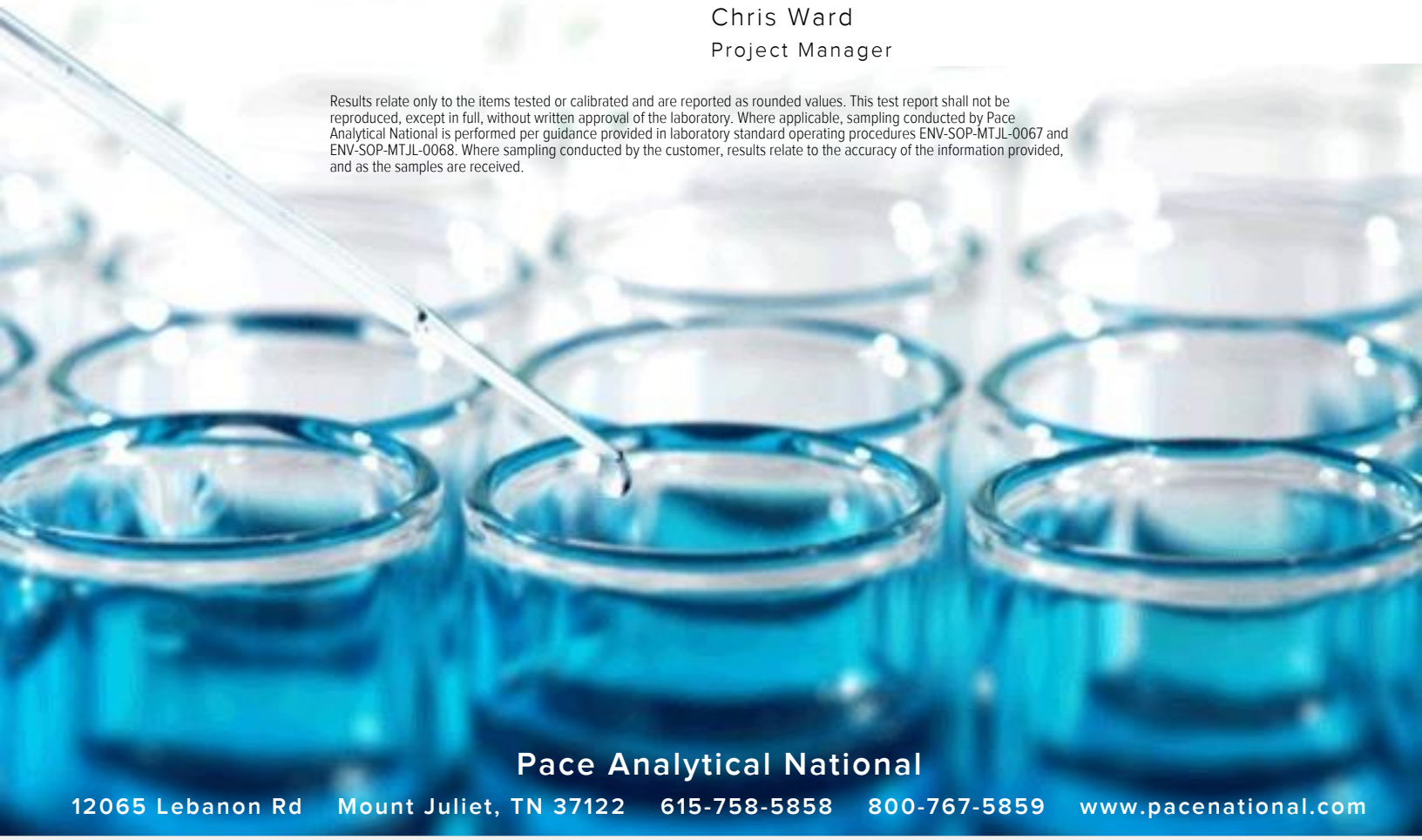
Terracon Consultants, Inc - Longmont, CO

Sample Delivery Group:	L1302633
Samples Received:	01/05/2021
Project Number:	
Description:	Union Reservoir-22187053

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

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

MW-03 (UNION) L1302633-01 GW

Collected by: Charles A. Covington
Collected date/time: 01/04/21 13:00
Received date/time: 01/05/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1601528	1	01/06/21 14:19	01/06/21 15:21	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1601392	1	01/06/21 12:48	01/06/21 12:48	SL	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1601138	100	01/07/21 09:03	01/07/21 09:03	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1601138	1000	01/07/21 14:36	01/07/21 14:36	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1601368	1	01/06/21 13:45	01/06/21 13:45	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1601459	1	01/06/21 15:01	01/06/21 15:01	JHH	Mt. Juliet, TN

MW-02 (UNION) L1302633-02 GW

Collected by: Charles A. Covington
Collected date/time: 01/04/21 13:50
Received date/time: 01/05/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1601528	1	01/06/21 14:19	01/06/21 15:21	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1601392	1	01/06/21 12:56	01/06/21 12:56	SL	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1601138	100	01/07/21 09:38	01/07/21 09:38	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1601138	500	01/07/21 09:55	01/07/21 09:55	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1601368	1	01/06/21 13:47	01/06/21 13:47	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1601459	1	01/06/21 15:21	01/06/21 15:21	JHH	Mt. Juliet, TN

MW-01 (UNION) L1302633-03 GW

Collected by: Charles A. Covington
Collected date/time: 01/04/21 13:40
Received date/time: 01/05/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1601528	1	01/06/21 14:19	01/06/21 15:21	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1601392	1	01/06/21 13:04	01/06/21 13:04	SL	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1601138	10	01/07/21 10:13	01/07/21 10:13	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1601138	100	01/07/21 10:30	01/07/21 10:30	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1601368	1	01/06/21 13:50	01/06/21 13:50	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1601459	1	01/06/21 15:42	01/06/21 15:42	JHH	Mt. Juliet, TN

MW-01 (OLANDER) L1302633-04 GW

Collected by: Charles A. Covington
Collected date/time: 01/04/21 15:00
Received date/time: 01/05/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1601528	1	01/06/21 14:19	01/06/21 15:21	CAT	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG1601392	1	01/06/21 13:13	01/06/21 13:13	SL	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1601138	5	01/07/21 11:22	01/07/21 11:22	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1601368	1	01/06/21 13:53	01/06/21 13:53	DAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1601459	1	01/06/21 16:02	01/06/21 16:02	JHH	Mt. Juliet, TN

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

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

Chris Ward

Chris Ward
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	53800		500	1	01/06/2021 15:21	WG1601528

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	38.6	T8	20.0	1	01/06/2021 12:48	WG1601392

Sample Narrative:

L1302633-01 WG1601392: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	1700		100	100	01/07/2021 09:03	WG1601138
Sulfate	38700		5000	1000	01/07/2021 14:36	WG1601138

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Methane	ND		0.0100	1	01/06/2021 13:45	WG1601368
Ethane	ND		0.0130	1	01/06/2021 13:45	WG1601368
Ethene	ND		0.0130	1	01/06/2021 13:45	WG1601368
Acetylene	ND		0.0208	1	01/06/2021 13:45	WG1601368

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Acetone	ND		0.0500	1	01/06/2021 15:01	WG1601459
Acrolein	ND		0.0500	1	01/06/2021 15:01	WG1601459
Acrylonitrile	ND		0.0100	1	01/06/2021 15:01	WG1601459
Benzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
Bromobenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
Bromodichloromethane	ND		0.00100	1	01/06/2021 15:01	WG1601459
Bromoform	ND		0.00100	1	01/06/2021 15:01	WG1601459
Bromomethane	ND		0.00500	1	01/06/2021 15:01	WG1601459
n-Butylbenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
sec-Butylbenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
tert-Butylbenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
Carbon tetrachloride	ND		0.00100	1	01/06/2021 15:01	WG1601459
Chlorobenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
Chlorodibromomethane	ND		0.00100	1	01/06/2021 15:01	WG1601459
Chloroethane	ND		0.00500	1	01/06/2021 15:01	WG1601459
Chloroform	ND		0.00500	1	01/06/2021 15:01	WG1601459
Chloromethane	ND		0.00250	1	01/06/2021 15:01	WG1601459
2-Chlorotoluene	ND		0.00100	1	01/06/2021 15:01	WG1601459
4-Chlorotoluene	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,2-Dibromo-3-Chloropropane	ND		0.00500	1	01/06/2021 15:01	WG1601459
1,2-Dibromoethane	ND		0.00100	1	01/06/2021 15:01	WG1601459
Dibromomethane	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,2-Dichlorobenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,3-Dichlorobenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,4-Dichlorobenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
Dichlorodifluoromethane	ND		0.00500	1	01/06/2021 15:01	WG1601459
1,1-Dichloroethane	ND		0.00100	1	01/06/2021 15:01	WG1601459

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
1,2-Dichloroethane	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,1-Dichloroethene	ND		0.00100	1	01/06/2021 15:01	WG1601459
cis-1,2-Dichloroethene	ND		0.00100	1	01/06/2021 15:01	WG1601459
trans-1,2-Dichloroethene	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,2-Dichloropropane	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,1-Dichloropropene	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,3-Dichloropropane	ND		0.00100	1	01/06/2021 15:01	WG1601459
cis-1,3-Dichloropropene	ND		0.00100	1	01/06/2021 15:01	WG1601459
trans-1,3-Dichloropropene	ND		0.00100	1	01/06/2021 15:01	WG1601459
2,2-Dichloropropane	ND	J4	0.00100	1	01/06/2021 15:01	WG1601459
Di-isopropyl ether	ND		0.00100	1	01/06/2021 15:01	WG1601459
Ethylbenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
Hexachloro-1,3-butadiene	ND		0.00100	1	01/06/2021 15:01	WG1601459
Isopropylbenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
p-Isopropyltoluene	ND		0.00100	1	01/06/2021 15:01	WG1601459
2-Butanone (MEK)	ND		0.0100	1	01/06/2021 15:01	WG1601459
Methylene Chloride	ND		0.00500	1	01/06/2021 15:01	WG1601459
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	01/06/2021 15:01	WG1601459
Methyl tert-butyl ether	ND	J4	0.00100	1	01/06/2021 15:01	WG1601459
Naphthalene	ND		0.00500	1	01/06/2021 15:01	WG1601459
n-Propylbenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
Styrene	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,1,1,2-Tetrachloroethane	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,1,2,2-Tetrachloroethane	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,1,2-Trichlorotrifluoroethane	ND		0.00100	1	01/06/2021 15:01	WG1601459
Tetrachloroethene	ND		0.00100	1	01/06/2021 15:01	WG1601459
Toluene	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,2,3-Trichlorobenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,2,4-Trichlorobenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,1,1-Trichloroethane	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,1,2-Trichloroethane	ND		0.00100	1	01/06/2021 15:01	WG1601459
Trichloroethene	ND		0.00100	1	01/06/2021 15:01	WG1601459
Trichlorofluoromethane	ND		0.00500	1	01/06/2021 15:01	WG1601459
1,2,3-Trichloropropane	ND		0.00250	1	01/06/2021 15:01	WG1601459
1,2,4-Trimethylbenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,2,3-Trimethylbenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
1,3,5-Trimethylbenzene	ND		0.00100	1	01/06/2021 15:01	WG1601459
Vinyl chloride	ND		0.00100	1	01/06/2021 15:01	WG1601459
Xylenes, Total	ND		0.00300	1	01/06/2021 15:01	WG1601459
(S) Toluene-d8	*108*		*80.0-120*		*01/06/2021 15:01*	WG1601459
(S) 4-Bromofluorobenzene	*98.1*		*77.0-126*		*01/06/2021 15:01*	WG1601459
(S) 1,2-Dichloroethane-d4	*97.7*		*70.0-130*		*01/06/2021 15:01*	WG1601459

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	21600		200	1	01/06/2021 15:21	WG1601528

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	ND	T8	20.0	1	01/06/2021 12:56	WG1601392

Sample Narrative:

L1302633-02 WG1601392: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	512		100	100	01/07/2021 09:38	WG1601138
Sulfate	13600		2500	500	01/07/2021 09:55	WG1601138

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Methane	ND		0.0100	1	01/06/2021 13:47	WG1601368
Ethane	ND		0.0130	1	01/06/2021 13:47	WG1601368
Ethene	ND		0.0130	1	01/06/2021 13:47	WG1601368
Acetylene	ND		0.0208	1	01/06/2021 13:47	WG1601368

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	ND		0.0500	1	01/06/2021 15:21	WG1601459
Acrolein	ND		0.0500	1	01/06/2021 15:21	WG1601459
Acrylonitrile	ND		0.0100	1	01/06/2021 15:21	WG1601459
Benzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
Bromobenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
Bromodichloromethane	ND		0.00100	1	01/06/2021 15:21	WG1601459
Bromoform	ND		0.00100	1	01/06/2021 15:21	WG1601459
Bromomethane	ND		0.00500	1	01/06/2021 15:21	WG1601459
n-Butylbenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
sec-Butylbenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
tert-Butylbenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
Carbon tetrachloride	ND		0.00100	1	01/06/2021 15:21	WG1601459
Chlorobenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
Chlorodibromomethane	ND		0.00100	1	01/06/2021 15:21	WG1601459
Chloroethane	ND		0.00500	1	01/06/2021 15:21	WG1601459
Chloroform	ND		0.00500	1	01/06/2021 15:21	WG1601459
Chloromethane	ND		0.00250	1	01/06/2021 15:21	WG1601459
2-Chlorotoluene	ND		0.00100	1	01/06/2021 15:21	WG1601459
4-Chlorotoluene	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,2-Dibromo-3-Chloropropane	ND		0.00500	1	01/06/2021 15:21	WG1601459
1,2-Dibromoethane	ND		0.00100	1	01/06/2021 15:21	WG1601459
Dibromomethane	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,2-Dichlorobenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,3-Dichlorobenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,4-Dichlorobenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
Dichlorodifluoromethane	ND		0.00500	1	01/06/2021 15:21	WG1601459
1,1-Dichloroethane	ND		0.00100	1	01/06/2021 15:21	WG1601459

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
1,2-Dichloroethane	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,1-Dichloroethene	ND		0.00100	1	01/06/2021 15:21	WG1601459
cis-1,2-Dichloroethene	ND		0.00100	1	01/06/2021 15:21	WG1601459
trans-1,2-Dichloroethene	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,2-Dichloropropane	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,1-Dichloropropene	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,3-Dichloropropane	ND		0.00100	1	01/06/2021 15:21	WG1601459
cis-1,3-Dichloropropene	ND		0.00100	1	01/06/2021 15:21	WG1601459
trans-1,3-Dichloropropene	ND		0.00100	1	01/06/2021 15:21	WG1601459
2,2-Dichloropropane	ND	J4	0.00100	1	01/06/2021 15:21	WG1601459
Di-isopropyl ether	ND		0.00100	1	01/06/2021 15:21	WG1601459
Ethylbenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
Hexachloro-1,3-butadiene	ND		0.00100	1	01/06/2021 15:21	WG1601459
Isopropylbenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
p-Isopropyltoluene	ND		0.00100	1	01/06/2021 15:21	WG1601459
2-Butanone (MEK)	ND		0.0100	1	01/06/2021 15:21	WG1601459
Methylene Chloride	ND		0.00500	1	01/06/2021 15:21	WG1601459
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	01/06/2021 15:21	WG1601459
Methyl tert-butyl ether	ND	J4	0.00100	1	01/06/2021 15:21	WG1601459
Naphthalene	ND		0.00500	1	01/06/2021 15:21	WG1601459
n-Propylbenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
Styrene	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,1,1,2-Tetrachloroethane	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,1,2,2-Tetrachloroethane	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,1,2-Trichlorotrifluoroethane	ND		0.00100	1	01/06/2021 15:21	WG1601459
Tetrachloroethene	ND		0.00100	1	01/06/2021 15:21	WG1601459
Toluene	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,2,3-Trichlorobenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,2,4-Trichlorobenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,1,1-Trichloroethane	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,1,2-Trichloroethane	ND		0.00100	1	01/06/2021 15:21	WG1601459
Trichloroethene	ND		0.00100	1	01/06/2021 15:21	WG1601459
Trichlorofluoromethane	ND		0.00500	1	01/06/2021 15:21	WG1601459
1,2,3-Trichloropropane	ND		0.00250	1	01/06/2021 15:21	WG1601459
1,2,4-Trimethylbenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,2,3-Trimethylbenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
1,3,5-Trimethylbenzene	ND		0.00100	1	01/06/2021 15:21	WG1601459
Vinyl chloride	ND		0.00100	1	01/06/2021 15:21	WG1601459
Xylenes, Total	ND		0.00300	1	01/06/2021 15:21	WG1601459
(S) Toluene-d8	*104*		*80.0-120*		*01/06/2021 15:21*	WG1601459
(S) 4-Bromofluorobenzene	*97.8*		*77.0-126*		*01/06/2021 15:21*	WG1601459
(S) 1,2-Dichloroethane-d4	*99.6*		*70.0-130*		*01/06/2021 15:21*	WG1601459

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	10100		100	1	01/06/2021 15:21	WG1601528

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	ND	T8	20.0	1	01/06/2021 13:04	WG1601392

Sample Narrative:

L1302633-03 WG1601392: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	123		10.0	10	01/07/2021 10:13	WG1601138
Sulfate	6590		500	100	01/07/2021 10:30	WG1601138

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Methane	ND		0.0100	1	01/06/2021 13:50	WG1601368
Ethane	ND		0.0130	1	01/06/2021 13:50	WG1601368
Ethene	ND		0.0130	1	01/06/2021 13:50	WG1601368
Acetylene	ND		0.0208	1	01/06/2021 13:50	WG1601368

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	ND		0.0500	1	01/06/2021 15:42	WG1601459
Acrolein	ND		0.0500	1	01/06/2021 15:42	WG1601459
Acrylonitrile	ND		0.0100	1	01/06/2021 15:42	WG1601459
Benzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
Bromobenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
Bromodichloromethane	ND		0.00100	1	01/06/2021 15:42	WG1601459
Bromoform	ND		0.00100	1	01/06/2021 15:42	WG1601459
Bromomethane	ND		0.00500	1	01/06/2021 15:42	WG1601459
n-Butylbenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
sec-Butylbenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
tert-Butylbenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
Carbon tetrachloride	ND		0.00100	1	01/06/2021 15:42	WG1601459
Chlorobenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
Chlorodibromomethane	ND		0.00100	1	01/06/2021 15:42	WG1601459
Chloroethane	ND		0.00500	1	01/06/2021 15:42	WG1601459
Chloroform	ND		0.00500	1	01/06/2021 15:42	WG1601459
Chloromethane	ND		0.00250	1	01/06/2021 15:42	WG1601459
2-Chlorotoluene	ND		0.00100	1	01/06/2021 15:42	WG1601459
4-Chlorotoluene	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,2-Dibromo-3-Chloropropane	ND		0.00500	1	01/06/2021 15:42	WG1601459
1,2-Dibromoethane	ND		0.00100	1	01/06/2021 15:42	WG1601459
Dibromomethane	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,2-Dichlorobenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,3-Dichlorobenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,4-Dichlorobenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
Dichlorodifluoromethane	ND		0.00500	1	01/06/2021 15:42	WG1601459
1,1-Dichloroethane	ND		0.00100	1	01/06/2021 15:42	WG1601459

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
1,2-Dichloroethane	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,1-Dichloroethene	ND		0.00100	1	01/06/2021 15:42	WG1601459
cis-1,2-Dichloroethene	ND		0.00100	1	01/06/2021 15:42	WG1601459
trans-1,2-Dichloroethene	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,2-Dichloropropane	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,1-Dichloropropene	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,3-Dichloropropane	ND		0.00100	1	01/06/2021 15:42	WG1601459
cis-1,3-Dichloropropene	ND		0.00100	1	01/06/2021 15:42	WG1601459
trans-1,3-Dichloropropene	ND		0.00100	1	01/06/2021 15:42	WG1601459
2,2-Dichloropropane	ND	J4	0.00100	1	01/06/2021 15:42	WG1601459
Di-isopropyl ether	ND		0.00100	1	01/06/2021 15:42	WG1601459
Ethylbenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
Hexachloro-1,3-butadiene	ND		0.00100	1	01/06/2021 15:42	WG1601459
Isopropylbenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
p-Isopropyltoluene	ND		0.00100	1	01/06/2021 15:42	WG1601459
2-Butanone (MEK)	ND		0.0100	1	01/06/2021 15:42	WG1601459
Methylene Chloride	ND		0.00500	1	01/06/2021 15:42	WG1601459
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	01/06/2021 15:42	WG1601459
Methyl tert-butyl ether	ND	J4	0.00100	1	01/06/2021 15:42	WG1601459
Naphthalene	ND		0.00500	1	01/06/2021 15:42	WG1601459
n-Propylbenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
Styrene	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,1,1,2-Tetrachloroethane	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,1,2,2-Tetrachloroethane	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,1,2-Trichlorotrifluoroethane	ND		0.00100	1	01/06/2021 15:42	WG1601459
Tetrachloroethene	ND		0.00100	1	01/06/2021 15:42	WG1601459
Toluene	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,2,3-Trichlorobenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,2,4-Trichlorobenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,1,1-Trichloroethane	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,1,2-Trichloroethane	ND		0.00100	1	01/06/2021 15:42	WG1601459
Trichloroethene	ND		0.00100	1	01/06/2021 15:42	WG1601459
Trichlorofluoromethane	ND		0.00500	1	01/06/2021 15:42	WG1601459
1,2,3-Trichloropropane	ND		0.00250	1	01/06/2021 15:42	WG1601459
1,2,4-Trimethylbenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,2,3-Trimethylbenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
1,3,5-Trimethylbenzene	ND		0.00100	1	01/06/2021 15:42	WG1601459
Vinyl chloride	ND		0.00100	1	01/06/2021 15:42	WG1601459
Xylenes, Total	ND		0.00300	1	01/06/2021 15:42	WG1601459
(S) Toluene-d8	*103*		*80.0-120*		*01/06/2021 15:42*	WG1601459
(S) 4-Bromofluorobenzene	*97.1*		*77.0-126*		*01/06/2021 15:42*	WG1601459
(S) 1,2-Dichloroethane-d4	*99.4*		*70.0-130*		*01/06/2021 15:42*	WG1601459

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1160		20.0	1	01/06/2021 15:21	WG1601528

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Free Carbon Dioxide	ND	T8	20.0	1	01/06/2021 13:13	WG1601392

Sample Narrative:

L1302633-04 WG1601392: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	43.4		5.00	5	01/07/2021 11:22	WG1601138
Sulfate	482		25.0	5	01/07/2021 11:22	WG1601138

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Methane	ND		0.0100	1	01/06/2021 13:53	WG1601368
Ethane	ND		0.0130	1	01/06/2021 13:53	WG1601368
Ethene	ND		0.0130	1	01/06/2021 13:53	WG1601368
Acetylene	ND		0.0208	1	01/06/2021 13:53	WG1601368

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Acetone	ND		0.0500	1	01/06/2021 16:02	WG1601459
Acrolein	ND		0.0500	1	01/06/2021 16:02	WG1601459
Acrylonitrile	ND		0.0100	1	01/06/2021 16:02	WG1601459
Benzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
Bromobenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
Bromodichloromethane	ND		0.00100	1	01/06/2021 16:02	WG1601459
Bromoform	ND		0.00100	1	01/06/2021 16:02	WG1601459
Bromomethane	ND		0.00500	1	01/06/2021 16:02	WG1601459
n-Butylbenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
sec-Butylbenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
tert-Butylbenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
Carbon tetrachloride	ND		0.00100	1	01/06/2021 16:02	WG1601459
Chlorobenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
Chlorodibromomethane	ND		0.00100	1	01/06/2021 16:02	WG1601459
Chloroethane	ND		0.00500	1	01/06/2021 16:02	WG1601459
Chloroform	ND		0.00500	1	01/06/2021 16:02	WG1601459
Chloromethane	ND		0.00250	1	01/06/2021 16:02	WG1601459
2-Chlorotoluene	ND		0.00100	1	01/06/2021 16:02	WG1601459
4-Chlorotoluene	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,2-Dibromo-3-Chloropropane	ND		0.00500	1	01/06/2021 16:02	WG1601459
1,2-Dibromoethane	ND		0.00100	1	01/06/2021 16:02	WG1601459
Dibromomethane	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,2-Dichlorobenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,3-Dichlorobenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,4-Dichlorobenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
Dichlorodifluoromethane	ND		0.00500	1	01/06/2021 16:02	WG1601459
1,1-Dichloroethane	ND		0.00100	1	01/06/2021 16:02	WG1601459

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
1,2-Dichloroethane	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,1-Dichloroethene	ND		0.00100	1	01/06/2021 16:02	WG1601459
cis-1,2-Dichloroethene	ND		0.00100	1	01/06/2021 16:02	WG1601459
trans-1,2-Dichloroethene	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,2-Dichloropropane	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,1-Dichloropropene	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,3-Dichloropropane	ND		0.00100	1	01/06/2021 16:02	WG1601459
cis-1,3-Dichloropropene	ND		0.00100	1	01/06/2021 16:02	WG1601459
trans-1,3-Dichloropropene	ND		0.00100	1	01/06/2021 16:02	WG1601459
2,2-Dichloropropane	ND	J4	0.00100	1	01/06/2021 16:02	WG1601459
Di-isopropyl ether	ND		0.00100	1	01/06/2021 16:02	WG1601459
Ethylbenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
Hexachloro-1,3-butadiene	ND		0.00100	1	01/06/2021 16:02	WG1601459
Isopropylbenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
p-Isopropyltoluene	ND		0.00100	1	01/06/2021 16:02	WG1601459
2-Butanone (MEK)	ND		0.0100	1	01/06/2021 16:02	WG1601459
Methylene Chloride	ND		0.00500	1	01/06/2021 16:02	WG1601459
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	01/06/2021 16:02	WG1601459
Methyl tert-butyl ether	ND	J4	0.00100	1	01/06/2021 16:02	WG1601459
Naphthalene	ND		0.00500	1	01/06/2021 16:02	WG1601459
n-Propylbenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
Styrene	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,1,1,2-Tetrachloroethane	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,1,2,2-Tetrachloroethane	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,1,2-Trichlorotrifluoroethane	ND		0.00100	1	01/06/2021 16:02	WG1601459
Tetrachloroethene	ND		0.00100	1	01/06/2021 16:02	WG1601459
Toluene	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,2,3-Trichlorobenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,2,4-Trichlorobenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,1,1-Trichloroethane	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,1,2-Trichloroethane	ND		0.00100	1	01/06/2021 16:02	WG1601459
Trichloroethene	ND		0.00100	1	01/06/2021 16:02	WG1601459
Trichlorofluoromethane	ND		0.00500	1	01/06/2021 16:02	WG1601459
1,2,3-Trichloropropane	ND		0.00250	1	01/06/2021 16:02	WG1601459
1,2,4-Trimethylbenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,2,3-Trimethylbenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
1,3,5-Trimethylbenzene	ND		0.00100	1	01/06/2021 16:02	WG1601459
Vinyl chloride	ND		0.00100	1	01/06/2021 16:02	WG1601459
Xylenes, Total	ND		0.00300	1	01/06/2021 16:02	WG1601459
(S) Toluene-d8	*105*		*80.0-120*		*01/06/2021 16:02*	WG1601459
(S) 4-Bromofluorobenzene	*97.3*		*77.0-126*		*01/06/2021 16:02*	WG1601459
(S) 1,2-Dichloroethane-d4	*99.8*		*70.0-130*		*01/06/2021 16:02*	WG1601459

Method Blank (MB)

(MB) R3610741-1 01/06/21 15:21

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

L1302221-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1302221-02 01/06/21 15:21 • (DUP) R3610741-3 01/06/21 15:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	12.0	15.0	1	22.2	P1	5

L1302710-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1302710-01 01/06/21 15:21 • (DUP) R3610741-4 01/06/21 15:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	897	927	1	3.22		5

Laboratory Control Sample (LCS)

(LCS) R3610741-2 01/06/21 15:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8670	98.5	77.4-123	

Method Blank (MB)

(MB) R3610214-2 01/06/21 10:43

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

Sample Narrative:

BLANK: Endpoint pH 4.5

L1302229-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1302229-01 01/06/21 11:06 • (DUP) R3610214-4 01/06/21 11:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	33.4	34.8	1	4.01		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1302633-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1302633-04 01/06/21 13:13 • (DUP) R3610214-7 01/06/21 13:23

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

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

Method Blank (MB)

(MB) R3610586-1 01/07/21 00:56

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

L1302229-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1302229-01 01/07/21 02:40 • (DUP) R3610586-3 01/07/21 02:58

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	15.6	15.1	1	2.73		15
Sulfate	8.34	8.35	1	0.193		15

L1302236-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1302236-01 01/07/21 04:59 • (DUP) R3610586-6 01/07/21 05:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	40.3	39.8	1	1.35		15
Sulfate	17.7	18.0	1	1.60		15

Laboratory Control Sample (LCS)

(LCS) R3610586-2 01/07/21 01:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.6	99.1	80.0-120	
Sulfate	40.0	40.2	101	80.0-120	

L1302229-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1302229-01 01/07/21 02:40 • (MS) R3610586-4 01/07/21 03:15 • (MSD) R3610586-5 01/07/21 03:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	15.6	65.1	65.2	99.1	99.3	1	80.0-120			0.196	15
Sulfate	50.0	8.34	59.0	59.0	101	101	1	80.0-120			0.000339	15

L1302236-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1302236-01 01/07/21 04:59 • (MS) R3610586-7 01/07/21 05:34

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	40.3	88.0	95.3	1	80.0-120	
Sulfate	50.0	17.7	67.2	98.9	1	80.0-120	

Method Blank (MB)

(MB) R3610226-2 01/06/21 13:17

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

L1302633-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1302633-01 01/06/21 13:45 • (DUP) R3610226-3 01/06/21 14:16

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

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

(LCS) R3610226-1 01/06/21 13:03 • (LCSD) R3610226-4 01/06/21 14:22

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Methane	0.0678	0.0619	0.0642	91.3	94.7	85.0-115			3.65	20
Ethane	0.129	0.118	0.123	91.5	95.3	85.0-115			4.15	20
Ethene	0.127	0.117	0.121	92.1	95.3	85.0-115			3.36	20
Acetylene	0.208	0.189	0.195	90.9	93.7	85.0-115			3.12	20

Method Blank (MB)

(MB) R3611032-3 01/06/21 09:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0113	0.0500
Acrolein	U		0.00254	0.0500
Acrylonitrile	U		0.000671	0.0100
Benzene	U		0.0000941	0.00100
Bromobenzene	U		0.000118	0.00100
Bromodichloromethane	U		0.000136	0.00100
Bromoform	U		0.000129	0.00100
Bromomethane	U		0.000605	0.00500
n-Butylbenzene	U		0.000157	0.00100
sec-Butylbenzene	U		0.000125	0.00100
tert-Butylbenzene	U		0.000127	0.00100
Carbon tetrachloride	U		0.000128	0.00100
Chlorobenzene	U		0.000116	0.00100
Chlorodibromomethane	U		0.000140	0.00100
Chloroethane	U		0.000192	0.00500
Chloroform	U		0.000111	0.00500
Chloromethane	U		0.000960	0.00250
2-Chlorotoluene	U		0.000106	0.00100
4-Chlorotoluene	U		0.000114	0.00100
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500
1,2-Dibromoethane	U		0.000126	0.00100
Dibromomethane	U		0.000122	0.00100
1,2-Dichlorobenzene	U		0.000107	0.00100
1,3-Dichlorobenzene	U		0.000110	0.00100
1,4-Dichlorobenzene	U		0.000120	0.00100
Dichlorodifluoromethane	U		0.000374	0.00500
1,1-Dichloroethane	U		0.000100	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
1,1-Dichloroethene	U		0.000188	0.00100
cis-1,2-Dichloroethene	U		0.000126	0.00100
trans-1,2-Dichloroethene	U		0.000149	0.00100
1,2-Dichloropropane	U		0.000149	0.00100
1,1-Dichloropropene	U		0.000142	0.00100
1,3-Dichloropropane	U		0.000110	0.00100
cis-1,3-Dichloropropene	U		0.000111	0.00100
trans-1,3-Dichloropropene	U		0.000118	0.00100
2,2-Dichloropropane	U		0.000161	0.00100
Di-isopropyl ether	U		0.000105	0.00100
Ethylbenzene	U		0.000137	0.00100
Hexachloro-1,3-butadiene	U		0.000337	0.00100

Method Blank (MB)

(MB) R3611032-3 01/06/21 09:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Isopropylbenzene	U		0.000105	0.00100
p-Isopropyltoluene	U		0.000120	0.00100
2-Butanone (MEK)	U		0.00119	0.0100
Methylene Chloride	U		0.000430	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.0000993	0.00100
Styrene	U		0.000118	0.00100
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100
1,2,3-Trichlorobenzene	U		0.000230	0.00100
1,2,4-Trichlorobenzene	U		0.000481	0.00100
1,1,1-Trichloroethane	U		0.000149	0.00100
1,1,2-Trichloroethane	U		0.000158	0.00100
Trichloroethene	U		0.000190	0.00100
Trichlorofluoromethane	U		0.000160	0.00500
1,2,3-Trichloropropane	U		0.000237	0.00250
1,2,3-Trimethylbenzene	U		0.000104	0.00100
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
Vinyl chloride	U		0.000234	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*105*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.8*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*94.6*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3611032-1 01/06/21 08:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.0250	0.0232	92.8	19.0-160	
Acrolein	0.0250	0.0297	119	10.0-160	
Acrylonitrile	0.0250	0.0264	106	55.0-149	
Benzene	0.00500	0.00494	98.8	70.0-123	

Laboratory Control Sample (LCS)

(LCS) R3611032-1 01/06/21 08:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromobenzene	0.00500	0.00442	88.4	73.0-121	
Bromodichloromethane	0.00500	0.00548	110	75.0-120	
Bromoform	0.00500	0.00606	121	68.0-132	
Bromomethane	0.00500	0.00495	99.0	10.0-160	
n-Butylbenzene	0.00500	0.00445	89.0	73.0-125	
sec-Butylbenzene	0.00500	0.00494	98.8	75.0-125	
tert-Butylbenzene	0.00500	0.00511	102	76.0-124	
Carbon tetrachloride	0.00500	0.00461	92.2	68.0-126	
Chlorobenzene	0.00500	0.00530	106	80.0-121	
Chlorodibromomethane	0.00500	0.00518	104	77.0-125	
Chloroethane	0.00500	0.00536	107	47.0-150	
Chloroform	0.00500	0.00537	107	73.0-120	
Chloromethane	0.00500	0.00352	70.4	41.0-142	
2-Chlorotoluene	0.00500	0.00464	92.8	76.0-123	
4-Chlorotoluene	0.00500	0.00485	97.0	75.0-122	
1,2-Dibromo-3-Chloropropane	0.00500	0.00487	97.4	58.0-134	
1,2-Dibromoethane	0.00500	0.00537	107	80.0-122	
Dibromomethane	0.00500	0.00520	104	80.0-120	
1,2-Dichlorobenzene	0.00500	0.00548	110	79.0-121	
1,3-Dichlorobenzene	0.00500	0.00524	105	79.0-120	
1,4-Dichlorobenzene	0.00500	0.00541	108	79.0-120	
Dichlorodifluoromethane	0.00500	0.00381	76.2	51.0-149	
1,1-Dichloroethane	0.00500	0.00514	103	70.0-126	
1,2-Dichloroethane	0.00500	0.00479	95.8	70.0-128	
1,1-Dichloroethene	0.00500	0.00545	109	71.0-124	
cis-1,2-Dichloroethene	0.00500	0.00494	98.8	73.0-120	
trans-1,2-Dichloroethene	0.00500	0.00558	112	73.0-120	
1,2-Dichloropropane	0.00500	0.00501	100	77.0-125	
1,1-Dichloropropene	0.00500	0.00510	102	74.0-126	
1,3-Dichloropropane	0.00500	0.00520	104	80.0-120	
cis-1,3-Dichloropropene	0.00500	0.00602	120	80.0-123	
trans-1,3-Dichloropropene	0.00500	0.00534	107	78.0-124	
2,2-Dichloropropane	0.00500	0.00678	136	58.0-130	J4
Di-isopropyl ether	0.00500	0.00524	105	58.0-138	
Ethylbenzene	0.00500	0.00527	105	79.0-123	
Hexachloro-1,3-butadiene	0.00500	0.00602	120	54.0-138	
Isopropylbenzene	0.00500	0.00518	104	76.0-127	
p-Isopropyltoluene	0.00500	0.00510	102	76.0-125	
2-Butanone (MEK)	0.0250	0.0253	101	44.0-160	
Methylene Chloride	0.00500	0.00569	114	67.0-120	

Laboratory Control Sample (LCS)

(LCS) R3611032-1 01/06/21 08:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
4-Methyl-2-pentanone (MIBK)	0.0250	0.0267	107	68.0-142	
Methyl tert-butyl ether	0.00500	0.00654	131	68.0-125	J4
Naphthalene	0.00500	0.00466	93.2	54.0-135	
n-Propylbenzene	0.00500	0.00482	96.4	77.0-124	
Styrene	0.00500	0.00514	103	73.0-130	
1,1,1,2-Tetrachloroethane	0.00500	0.00621	124	75.0-125	
1,1,2,2-Tetrachloroethane	0.00500	0.00491	98.2	65.0-130	
Tetrachloroethene	0.00500	0.00556	111	72.0-132	
Toluene	0.00500	0.00516	103	79.0-120	
1,1,2-Trichlorotrifluoroethane	0.00500	0.00473	94.6	69.0-132	
1,2,3-Trichlorobenzene	0.00500	0.00557	111	50.0-138	
1,2,4-Trichlorobenzene	0.00500	0.00528	106	57.0-137	
1,1,1-Trichloroethane	0.00500	0.00499	99.8	73.0-124	
1,1,2-Trichloroethane	0.00500	0.00529	106	80.0-120	
Trichloroethene	0.00500	0.00525	105	78.0-124	
Trichlorofluoromethane	0.00500	0.00499	99.8	59.0-147	
1,2,3-Trichloropropane	0.00500	0.00518	104	73.0-130	
1,2,3-Trimethylbenzene	0.00500	0.00490	98.0	77.0-120	
1,2,4-Trimethylbenzene	0.00500	0.00484	96.8	76.0-121	
1,3,5-Trimethylbenzene	0.00500	0.00462	92.4	76.0-122	
Vinyl chloride	0.00500	0.00435	87.0	67.0-131	
Xylenes, Total	0.0150	0.0164	109	79.0-123	
(S) Toluene-d8			*103*	*80.0-120*	
(S) 4-Bromofluorobenzene			*99.1*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*97.8*	*70.0-130*	

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J4	The associated batch QC was outside the established quality control range for accuracy.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA

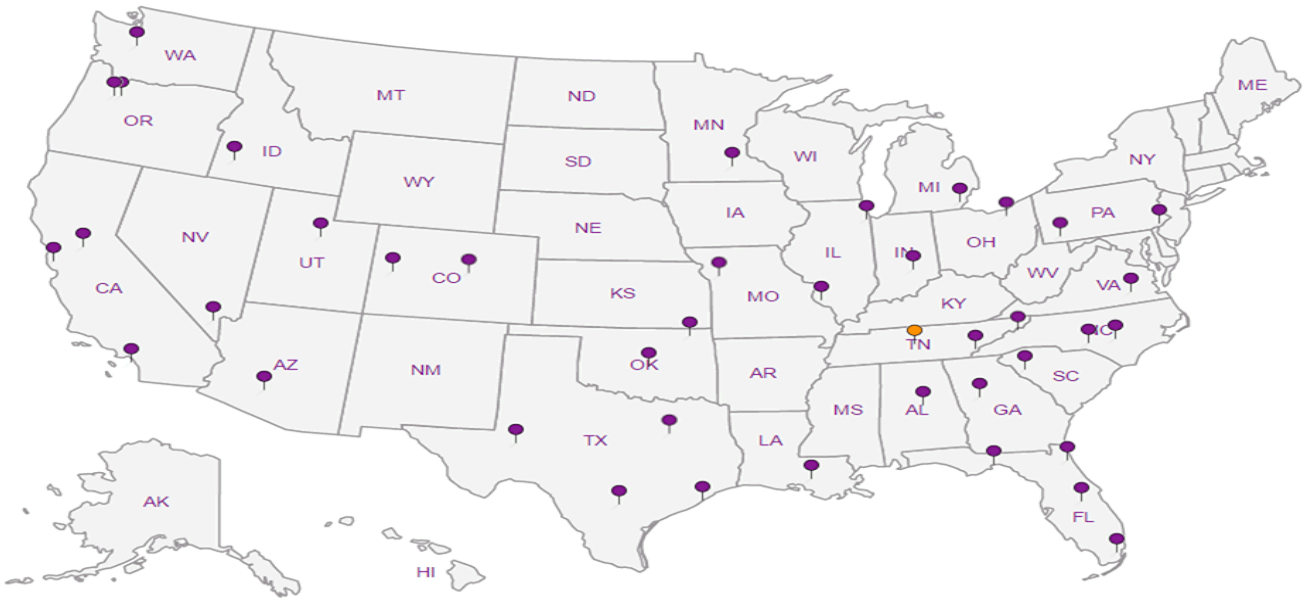
Third Party Federal Accreditations

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

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

Our Locations

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



Terracon - Longmont
12831 Lefthand Circle, Suite C
Longmont, CO 80501

Billing Information: **Same as Address**

Pres Chk

Report to: Mike Skridulis

Email To: mjskridulis@terracon.com

Project Description: **Union Reservoir**

City/State Collected: Longmont, CO

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

Client Project # **22187053**

Lab Project #

Collected by (print): Charles A. Covington

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N___ Y X

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

Quote #

Date Results Needed: STANDARD

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	VOC8260 (2) 40ml Amber wHCl	Diss. Methane, Ethane, Ethylene (2) 40ml	CO2 - 125ml HDPE No Pres	Cl, S04, TDS - 250ml HDPE No Pres	Remarks	Sample # (lab only)
MW-03 (Union)	Grab	GW	-	1/4/21	1300	6	X	X	X	X		-01
MW-02 (Union)	Grab	GW	-	1/4/21	1350	6	X	X	X	X		-02
MW-01 (Union)	Grab	GW	-	1/4/21	1340	6	X	X	X	X		-03
MW-01 (Olander)	Grab	GW	-	1/4/21	1500	6	X	X	X	X		-04

Invoice:
Customer : PNDCO
Phone : (615)758-5858
SAT Del : N
Date : 11Nov20
Weight : 10 LBS
COD :
DV :
0.00
Shipping : 0.00
Special : 0.00
Handling : 0.00
Total : 0.00
Svcs: STANDARD OVERNIGHT
TRCK: 9296 5246 1950

Chain of Custody Page 1 of 2

Pace Analytical®
National Center for Testing & Innovation

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

L# L1302633
D028

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

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__UPS X FedEx __ Courier __ _____

Tracking # 9296 5246 1950

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	1/4/21	1700	FEDEX
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 1.9-1.8 °C Bottles Received: 24

Date: 1/5 Time: 0530

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK